

Eurasian Studies in Business and Economics 9
Series Editors: Mehmet Huseyin Bilgin · Hakan Danis

Mehmet Huseyin Bilgin · Hakan Danis
Ender Demir · Ugur Can *Editors*

Consumer Behavior, Organizational Strategy and Financial Economics

Proceedings of the 21st Eurasia Business
and Economics Society Conference



 Springer

Eurasian Studies in Business and Economics 9

Series editors

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Preface

This is the ninth issue of the Springer's series Eurasian Studies in Business and Economics, which is the official book series of the Eurasia Business and Economics Society (EBES, <http://www.ebesweb.org>). This issue includes selected papers presented at the 21st EBES Conference that was held on January 12–14, 2017, at the Department of Finance, Budapest University of Technology and Economics (BME), Budapest, Hungary, with the support of the Istanbul Economic Research Association. Distinguished colleague Prof. Peter Szilagyi, CEU Business School, Hungary, and the University of Cambridge, UK, joined the conference as the keynote speaker. All accepted papers for the issue went through a peer-review process and benefited from the comments made during the conference as well.

During the conference, participants had many productive discussions and exchanges that contributed to the success of the conference where 185 papers by 343 colleagues from 46 countries were presented. In addition to publication opportunities in EBES journals (*Eurasian Business Review* and *Eurasian Economic Review*, which are also published by Springer), conference participants were given an opportunity to submit their full papers for this issue.

Theoretical and empirical papers in the series cover diverse areas of business, economics, and finance from many different countries, providing a valuable opportunity to researchers, professionals, and students to catch up with the most recent studies in a diverse set of fields across many countries and regions.

The aim of the EBES conferences is to bring together scientists from business, finance, and economics fields, attract original research papers, and provide them publication opportunities. Each issue of the Eurasian Studies in Business and Economics covers a wide variety of topics from business and economics and provides empirical results from many different countries and regions that are less investigated in the existing literature. The current issue covers fields such as:

- (i) CONSUMER BEHAVIOR
- (ii) ORGANIZATIONAL STRATEGY
- (iii) FINANCIAL ECONOMICS
- (iv) INDUSTRIAL AND PUBLIC POLICY

Although the papers in this issue may provide empirical results for a specific country or regions, we believe that the readers would have an opportunity to catch up with the most recent studies in a diverse set of fields across many countries and regions and empirical support for the existing literature. In addition, the findings from these papers could be valid for similar economies or regions.

On behalf of the series editors, volume editors, and EBES officers, I would like to thank all presenters, participants, board members, and the keynote speaker, and we are looking forward to seeing you at the upcoming EBES conferences.

Istanbul, Turkey

Ender Demir

Eurasia Business and Economics Society

EBES is a scholarly association for scholars involved in the practice and study of economics, finance, and business worldwide. EBES was founded in 2008 with the purpose of not only promoting academic research in the field of business and economics but also encouraging the intellectual development of scholars. In spite of the term “Eurasia,” the scope should be understood in its broadest terms as having a global emphasis.

EBES aims to bring worldwide researchers and professionals together through organizing conferences and publishing academic journals and increase economics, finance, and business knowledge through academic discussions. To reach its goal, EBES benefits from its executive and advisory boards which consist of well-known academicians from all around the world. Every year, with the inclusion of new members, our executive and advisory boards became more diverse and influential. I would like to thank them for their support.

EBES conferences and journals are open to all economics, finance, and business scholars and professionals around the world. Any scholar or professional interested in economics, finance, and business is welcome to attend EBES conferences. Since 2012, EBES has been organizing three conferences every year: one in late May or early June, one in January, and one in late September or early October. Since our first conference, around 9132 colleagues from 92 different countries have joined our conferences and 5240 academic papers have been presented. Also, in a very short period of time, *EBES has reached 1713 members from 84 countries.*

Since 2011, EBES has been publishing two academic journals. One of those journals, *Eurasian Business Review—EABR*, is in the fields of industry and business, and the other one, *Eurasian Economic Review—EAER*, is in the fields of economics and finance. Both journals are published thrice a year, and we are committed to having both journals included in SSCI as soon as possible. Both journals have been published by *Springer* since 2014 and are currently indexed in the *Emerging Sources Citation Index* (Thomson Reuters), *SCOPUS*, *EconLit*, *Google Scholar*, *EBSCO*, *ProQuest*, *ABI/INFORM*, *Business Source*, *International Bibliography of the Social*

Sciences (IBSS), OCLC, Research Papers in Economics (RePEc), Summon by ProQuest, and TOC Premier.

Furthermore, since 2014 Springer has started to publish the conference proceedings series (*Eurasian Studies in Business and Economics*) which includes selected papers from the EBES conferences. Please note that the 10th, 11th, 12th, 13th, 14th, 15th, 16th, and 17th EBES Conference Proceedings are accepted for inclusion in the Thomson Reuters' *Conference Proceedings Citation Index*. The 18th and subsequent conference proceedings are in progress.

On behalf of the EBES officers, I sincerely thank you for your participation and look forward to seeing you at our future conferences. In order to improve our future conferences, we welcome your comments and suggestions. Our success is only possible with your valuable feedback and support.

I hope you enjoy the conference and Budapest, Hungary!

With my very best wishes,

Jonathan Batten, PhD
President

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Part I
Consumer Behavior

The Influence of Sales Stimulation Methods on the Behaviour of Consumers While Making the Decision on Purchase of Products in the Latvian Market



Anda Batraga, Valerijs Praude, Jelena Šalkovska, and Oksana Afoniceva

Abstract The purpose of this research is the determination the extent of influence of various stimulation methods on the behaviour of consumers while making the decision on purchase of products in the Latvian market. In the course of the research approaches to development and realization of sales' stimulation process were used which were described in scientific literature and the results of empirical researches that were made under the leadership of the authors. In the article the following research methods were used: abstract literature analysis, Latvian residents' questionnaire (1320 respondents), and the correlation analysis. As a result the model for developing and realization of sales promotion process was made, the extent of influence of various stimulation methods on the behaviour of consumers while making the decision on purchase of products in the Latvian market was determined based on the correlation analysis. The results of the research let the authors to make conclusion and develop recommendations for producers and sellers of foodstuff for process of developing and realization of sales' stimulation for these products in the Latvian market. The results of the research have as well as theoretical as practical meaning not only for Latvian market subjects, but also for foodstuff market subjects in other countries.

Keywords Purchase · Consumer · Foodstuff · Sales promotion · Consumer's behaviour

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1 Introduction

Nowadays the market is experiencing a high saturation, which is expressed both in consumer growth and in the increase in the supply of relevant market products and services. Market saturation forms the conditions for constant competition for a company. The competition develops not only for market share and making and retaining turnover and profit; the main competition basis is the consumer, its attention, attraction and retaining for one's good and/or service. In order to attract consumer's attention, companies use several marketing tools. One of which is sales promotion. Promotion of sales is an integral part of modern marketing communication tool, which has now become one of determinative tools for the attraction of consumers' attention.

The purpose of this research is the determination the extent of influence of various stimulation methods on the behaviour of consumers while making the decision on purchase of products in the Latvian market. We put forward the following hypotheses:

1. The quality and price of a product are determinants of the purchase of Latvian food products.
2. There is no difference between women and men choosing and buying food.
3. The promotion of sales as one of the main criteria for the selection of food products will be chosen by consumers with average and low-income levels.
4. Consumer loyalty cannot be created with sales promotion tools.

In order to achieve the objective, to prove or reject the proposed hypothesis, we stipulated the following tasks:

1. To get an insight into the nature, role and objectives of sales promotion, based on academic and specialized literature.
2. To analyse and develop a sales promotion implementation scheme on the basis of the obtained theoretical and practical knowledge.
3. To conduct a survey of Latvian population on the impact of sales promotion on consumer perception, process of making a purchase decision and creation of loyalty to food products.
4. To approve or reject the proposed hypotheses, to draw conclusions and suggestions on the impact of sales promotion on consumer behaviour and decision-making process, based on theoretical and research results.

As research methods of the study, mainly primary and secondary data collection methods are used, as well as theoretical literature analysis, secondary data analysis and investigation. The quantitative method of primary data collection is questioning. The study period covers the period from 2010 to 2015.

2 Theoretical Aspects of Sales Promotions

Sales promotions are particularly effective if they are part of an integrated communications strategy. The customers' perception of the relative value of various promotions depend largely on their cultural values and differences, which lead to certain types of sales promotion being very successful in one country but failing in another (Doole and Lowe 2008). European and US consumers make more than 50% of their purchase decisions at the point-of-sale. Therefore, POS sales promotion and advertising expenditures constitute an increasingly higher percentage of overall promotional expenditures worldwide (Lascu 2006).

Along with growing internet sales and technology development, consumers no longer always buy in store (Hathaway 2014) however, retail stores play a huge role in attracting consumers, as it is reflected in companies' performance. It is important for any company which is engaged in sales, both in domestic and international context, to understand what strategy and tactics should be chosen in targeting consumer audiences. It is essential in decision making both in local and in international market, but the latter is the case when one should also think about adaptation of marketing mix (Pūķe and Batraga 2016) and promotion methods. For example, promotion is the marketing strategy element with the second highest degree of adaptation among the marketing strategy elements—70% (Batraga and Pūķe 2015). These arguments should be taken into account, as we consider the specific impact of sales promotions on Latvian market.

Sales promotions are becoming an increasingly important instrument of the communication mix (Pelsmacker et al. 2007). While sales promotion has been part of the marketing process for a long time, its role and importance in the integrated marketing communications program of a company has increased dramatically (Belch and Belch 2007).

Sales promotion is a mode of short-term marketing communication with a view to stimulate the product brand purchase and sale with a variety of marketing techniques (Praude and Šalkovska 2015). It follows from the definition that sales promotion has several main characteristics. First of them is the short term, for example, coupons valid only for a short time; some lottery that takes place only within a certain period of time or a price discount offered for a short time period. Another relevant feature is the motivation to make a purchase (sales promotion techniques affect consumer behaviour with information on and conditions of sale, as well as cause impulsive needs to make a purchase). Finally sales promotion is characterized by an invitation to make a purchase (sales promotion techniques include recommendations to buy certain products immediately, while they are active).

Sales promotion has certain advantages, such as attractiveness and awareness as well as relatively low costs. Attractiveness and awareness mean that marketing communication attracts consumers with important and advantageous information, thus creating an additional value of the product in the eyes of the buyers. The relatively low costs mean that short-term marketing activities do not require such significant one-time investments as advertising does.

Sales promotion also has disadvantages. Firstly, it cannot be used in building a steady positive image of the brand and/or company image and for attracting loyal consumers. Next, the use of unfair practices cannot be avoided (for example, by offering an artificial price discount, lottery, etc.). Moreover, all the techniques can be promptly used by the competitors, for example, by reacting to price discounts, coupons etc., and finally, just like advertisement, sales promotion techniques stimulate the use of unhealthy products.

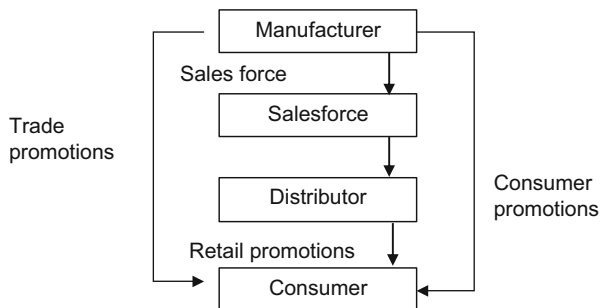
Taking into account the above-mentioned characteristics, the advantages and disadvantages, sales promotion is mostly expedient to be used to achieve a powerful and prompt consumer reaction; to stimulate product sales in the conditions of decrease of demand, when the product is on maturity or decline stage of the lifecycle and for creating integrated marketing communications, namely, planning sales promotion activities together with advertisements, and other modes of communication.

There are four distinct directions in applying sales promotion. It can be used for stimulating the manufacturer’s sales force as well as the trader’s sales to consumers. Manufacturer’s sales can also be enhanced through sales promotion to stimulate distributors and consumers. The relationship between the target audiences of sales promotion is shown in Fig. 1. In this article we advert to sales promotion in relations “foodstuff manufacturer and trader—individual consumer”.

A range of factors affects the development of sales promotion (Wells et al. 2008; Shimp 2007; Kotler and Keller 2006). Thus, escalating product sales make the companies look for new and efficient consumer stimulation techniques. Since the differences among products/brands offered in the market are gradually diminishing, companies use sales promotion to draw consumers’ attention to the product/brand. Another trend suggests that an increasing number of companies use sales stimulation and, in order to keep up with the competitors and not to lose their customers, are forced to allocate more marketing budget resources to these techniques. The distributors, in their turn, request more flexible prices from the manufacturers, as otherwise it is difficult or even impossible to sell a large amount of the product.

Moreover, the efficiency of advertisement has declined due to high costs, legal restrictions and the difficulties of perception of a large amount of information. The development of sales promotion is also affected by the fact that the number of the target audiences (young people with active lifestyle, etc.) that take purchase

Fig. 1 Target audiences of product/brand sales promotion. Source: Developed by the authors based on Pelsmacker et al. (2007)



decisions at the place of sale of the product/brand has increased. Besides, under the situation when there is a huge number and range of products/brands offered in the market, the customers' loyalty to an individual product/brand is decreasing and the focus on the attractive offers is growing. Research shows that the efficiency of sales promotion substantially increases if it is used together with advertising. If the product exposition in a shopping unit is associated with current TV advertisement, it provides an increase in revenues of 15% while well-presented exhibition without advertisements would be less effective (Totten and Block 1994). Intensive distribution of samples and discount coupons along with advertising provides for better results compared to the situations when the advertisement is not reinforced with sales promotion offers.

Despite the popularity of sales promotion, there are still many unsolved problems. As a result of the conducted research, we have detected a list of weaknesses in the organization of sales promotion by Latvian food manufacturers and traders. To start with, the companies plan and implement certain sales promotion modes without adapting them to the preferences of the target audience. Along with that, sales promotion objectives are usually not precisely defined and sales promotion adjustments to other modes of integrated marketing communication are not grounded. Finally, the companies make hardly any complex sales promotion valuations and do not conduct researches in this field either. We suggest the following scheme for the development and implementation of sales promotion (Fig. 2).

As can be seen, the process of sales promotion development and implementation process consists of six stages, between which there is not only a certain sequence, but also a feedback.

According to the distinct stages, a research was conducted on foodstuff sales promotion development, implementation and valuation of from consumers' perspective. The study had two objectives. The objective from the theoretical perspective was to examine the justification of the proposed scheme (Fig. 2). The practical objective was to offer to the companies a study sample, which can be used when planning, implementing and evaluating sales promotion activities.

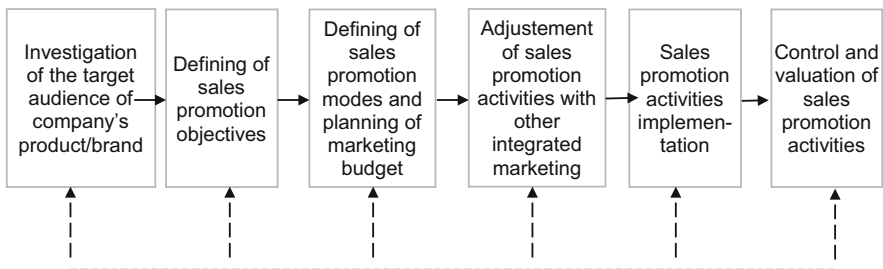


Fig. 2 Stages of sales stimulation development and implementation. Source: Developed by the authors based on Totten and Block (1994)

3 Research Methodology

We chose interrogation as the main method of research of sales promotion activities in foodstuff market. Interrogation is a quantitative research method of structured data collection, based on consolidation of information on individuals, groups and/or organizations (Miller and Brewer 2003). Interrogation is based on a set of questions, as the result of which the researcher can obtain primary data on "respondent's" convictions, attitude, behaviour, thoughts, knowledge and expectations in the given area of researched. Namely by means of interrogation it is possible to achieve the objective of the investigation and to verify the suggested hypotheses.

In scope of the investigation, an individual electronic distance written interrogation of respondents has been conducted. Electronic interrogation method was chosen based on the need to interrogate a large number of respondents. Electronic interrogation format speeds up data collection process, making it easier, faster and at lower investigation costs. Among other things, electronic interrogations have flexible content and design creation opportunities; for example, audio and video materials can be added to the questionnaire that in turn can attract extra attention of respondents and interest to participate. During analysis, electronic interrogation results are easier to be organized, structured and analysed (Berger 2011).

When developing, collecting and analysing electronic interrogations, one should also consider the disadvantages of these methods, which are related to three main aspects: coverage, privacy and control. On the one hand, respondents' human factor, which may result in false answers, should be kept in mind, but on the other hand the researcher must provide for the respondent's confidentiality and privacy by choosing safe and pre-tested internet sites. The mentioned aspects are emphasized by Malhotra (2007). The interrogation we conducted was distributed only through verified websites; among other things, during the analysis respondents' questionnaires will be tested for suitability of the respondents for the given investigation (Berger 2011; Neuman 2007; Miller and Brewer 2003).

A total of 1320 respondents participated in the interrogation on buyers' behaviour in sales promotion during sales promotion activities, including 1199 females and 121 male aged 18–77 years (all of them buyers of foodstuff in Latvian retail networks). In order to achieve the objective and to prove or refute the suggested hypotheses we interrogated the target audience, which differed by age, income level, marital status, interests, lifestyle and personal characteristics. The interrogation was conducted using a variety of forums—recipes, beauty, handicrafts, family and child care, auto enthusiasts, sports enthusiasts, healthy lifestyle proponents, construction and repair, dating, and others. The distribution of respondents by age groups is shown in Table 1.

One can see that the largest group of interrogated respondents is aged from 26 to 35 years old—32.26%, the second largest group is from 36 to 45 years old—21.82%, the third group—the youngest respondents aged 18–25 years old, or 20%. The average age of the respondents amounted to 37 years old, which is a sufficiently good Latvian consumers' age in terms of the purchasing power with a stable and

Table 1 Distribution of respondents by age groups

Age group	Number of respondents	Frequency, %
18–25	264	20
26–35	426	32.26
36–45	288	21.82
46–55	224	16.96
56–65	96	7.27
66 and up	22	1.69
Total	1320	100

Source: Developed by the authors

Table 2 Distribution of the level of respondents' monthly income after tax

Income level (euros)	Number of respondents	Frequency, %
Less than 200.00	153	11.6
200.01–400.00	327	24.68
400.01–600.00	270	0.5
600.01–800.00	237	18
800.01–1000.00	155	11.7
1000.01–1500.00	101	7.7
1500.01–2000.00	37	2.8
More than 2000.00	40	3
Total	1320	100

Source: Developed by the authors

Table 3 Distribution of respondents by marital status

Marital status	Number of respondents	Frequency, %
Living single	195	14.8
Living with parents	127	9.6
Living in civil marriage, no children	288	21.8
Living in civil marriage with a child/children	318	24.1
Married, no children	87	6.6
Married with a child/children	303	23
Living single with a child/children	2	0.2
Total	1320	100

Source: Developed by the authors

sustainable consumer behaviour and purchase decision-making behaviour. Table 2 shows the level of the respondents' personal income. The largest group of respondents by personal income is from 200.01 to 400.00 euros per month, the second largest group is from 600.01 to 800 euros per month.

Overall, the average income level of the respondents exceeds the state minimum salary. We also obtained data on the marital status of the respondents (see Table 3). According to the data of Table 3, the majority of respondents live with their civil partner with or without children; 23% of respondents are married and live with a

child or children. Respondents’ age and lifecycle stage show specific values and attitude, based on rational and well-considered purchase decision-making behaviour. The analysis was carried out according to the sales promotion organization scheme, we have developed (Fig. 2). The investigation is not just of theoretical but also of practical significance, as by using this sample the companies can make their own research before planning and implementation of sales promotions.

4 Investigation of Consumers’ Target Audience

To determine the specific characteristics of the target audience, including the attitude to sales promotion activities, the impact of demographic, social and economic factors on purchase decision-making, etc., the respondents were asked the following questions:

1. Do you purchase foodstuff during sales promotion activities?
2. What categories of foodstuff would you like to buy during sales promotion activities?

At the same time, correlation calculations were made between the respondents’ gender and foodstuff purchases during sales promotion activities; between respondents’ marital status and foodstuff purchases during sales promotion activities and between respondents’ income and foodstuff purchases during sales promotion activities. To answer question 1, the respondents needed to assess the factors influencing foodstuff purchase by a 10-point scale. The interrogation results are shown in Table 4.

According to Table 4, when choosing foodstuff the consumers mainly are not guided by emotions; they consider product quality, price factor as well as sales promotion activities to be the decisive factors. Brand and the country of origin are less significant when purchasing foodstuff.

95% of respondents answered in the affirmative on the question 2 that is the evidence of sales promotion measures popularity in the target audience. The buyers that do not pay attention to sales promotion activities (5%) consider product quality and other characteristics to be the crucial factor. They emphasize that during sales

Table 4 Foodstuff purchase influencing factors

Range	Influencing factors
1	Product quality—average score 8.9 of 10
2	Price—7.8
3	Sales promotion activities—7.5
4	Foodstuff ecology—7.2
5	Company/brand—6.9
6	Country of origin—5.3
7	Emotions/mood—4.35

Source: Developed by the authors

promotion activities mostly products with low quality are offered; among other things, the short shelf life has been highlighted, as well as a large retail margin that is typical for sales promotion activities, due to which they are not expedient, and the fact that the same product can be purchased at different prices in different sales outlets that affects the purchase decision-making during sales promotion activities.

The answers to question 2 show that the buyers purchase a variety of foodstuff during sales promotion activities. In addition, the majority of the respondents (26.2%) purchase goods from all product categories, 14.3% mentioned dairy products, 13.5%—meat products and 13.1%—processed fruit and vegetable and canned products (Fig. 3).

It can be concluded that the purchased foodstuff structure shown in Fig. 3 is largely dependent on the organization of sales promotion, its mode and expediency that should to be considered in the process of planning of these activities.

To process the results of the interrogation, the correlation between the characteristics of the target audience and its behaviour during the implementation of sales promotion activities was calculated, taking into account that the main factors influencing consumer behaviour in foodstuff market are the demographic (age, gender), social (marital status) and economic (income) ones (according to the investigation we have conducted). As it can be seen from Table 5, we found a close correlation between the consumer’s gender and purchases during sales promotion activities.

In the correlation between the factors influencing foodstuff purchase, it has been revealed that males and females in selection and purchase of products behave the same way regarding the purchase, the frequency of foodstuff purchases and the

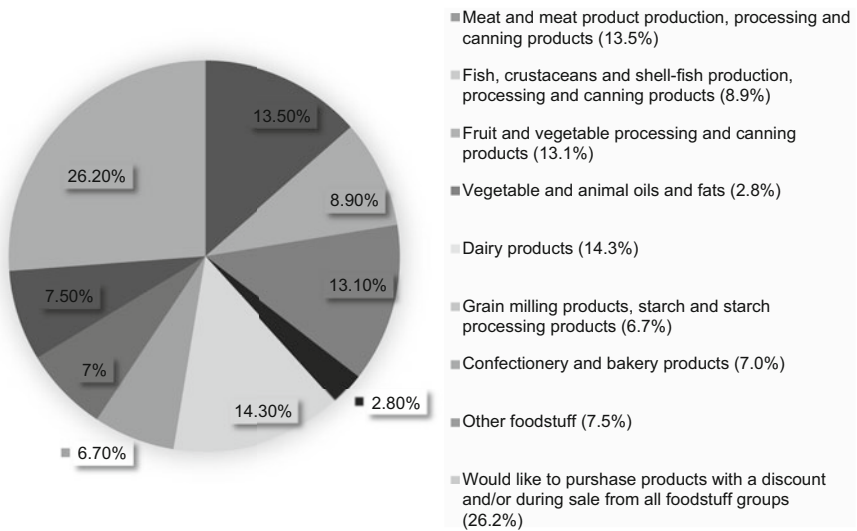


Fig. 3 Foodstuff categories, purchased during sales promotion activities. Source: Developed by the authors

Table 5 Correlation between respondents' gender and foodstuff purchases during sales promotion activities

		Respondent's gender (Male = 1, Female = 2)	Do you purchase products during sales promotion?
Respondent's gender (Male = 1, Female = 2)	Pearson correlation	1	-0.084
	Sig. (2-tailed)		0.002
	N	1320	1320
Do you purchase products during sales promotion?	Pearson correlation	-0.084	1
	Sig. (2-tailed)	0.002	
	N	1320	1320

Source: Developed by the authors

Table 6 Correlation between buyers' income and foodstuff purchase during sales promotion activities

		Do you purchase foodstuff during discount time and/or sales?	Please specify your monthly income, -euros (after tax)?
Do you purchase food- stuff during discount time and/or sales	Pearson correlation	1	0.043
	Sig. (2-tailed)		0.117
	N	1320	1320
Please specify your monthly income, -euros (after tax)?	Pearson correlation	0.043	1
	Sig. (2-tailed)	0.117	
	N	1320	1320

Source: Developed by the authors

amount of spontaneous purchases. There is a difference between the criteria of foodstuff selection of males and females, and their significance. When purchasing foodstuff, males pay less attention to the product price and sales promotion activities offered, but more attention is paid to the quality of the product and the country of origin.

Processing the results of the interrogation, it has been found out that there is no correlation between income level of the buyer and foodstuff purchases during sales promotion activities (Table 6).

This means that, regardless of income level, in general, respondents willingly bought foodstuff during sales promotions. There are a number of factors why the respondents like to buy foodstuff during the promotion. As the main determinants of product purchase during sales promotion activities, the respondents mentioned the possibility to obtain financial benefit, the opportunity not to overpay for the products and save family budget. Sales promotion provides an opportunity not only to buy favourite products cheaper, but also gives the opportunity to try a variety of new products, that the other time they would not have purchased due to a relatively high

price. The buyers emphasize that it is often possible to buy high quality products at an affordable price during sales promotion activities.

It has been revealed that there are two groups of buyers. The first group chooses not only familiar products, but also would willingly purchase unfamiliar and newly designed products during sales promotion activities. By contrast, the second group would choose the products, they have planned to purchase, when sales promotion is applied, but would not purchase new and unfamiliar products.

Interrogation as a method of research of consumers target audience should be complemented with other methods—analysis of customer cards, the analysis of marketing database (if any), and discussions in focus groups.

Based on the information obtained about the target audience characteristics, the companies are able to define specific sales promotion objectives according to the situation and to plan specific sales promotion modes according to the product categories. They can also diversify sales promotion activities between consumer segments within the target audience and coordinate sales promotion organization with the other strategic and tactical marketing activities.

5 Defining of Product Sales Promotion Objectives and Mode Chose

To specify the objectives of sales promotion, in the research process the following questions were raised:

3. Do you buy more than one product from foodstuff category during sales promotion activities?
4. Do sales promotion activities motivate you to make unintentional product purchases?
5. Do sales promotion activities stimulate to choose certain products amongst equivalent products?
6. Do you purchase new, unfamiliar foodstuff when some sales promotion activities are applied?
7. Would you continue to make repeated purchases of the new product if it meets your needs?

In response to question 3, the majority of respondents (53.5%) admitted that sales promotion activities do not affect the amount of purchase of one type of foodstuff, but a relatively large number of respondents (44.6%) say that they purchase more than one kind of product during sales promotion activities. Only 1.9% of respondents replied that they never buy the foodstuff that sales promotion activities are applied to. It means that sales promotion activities stimulate the growth of market share of the respective foodstuff.

In response to question 4, the majority of respondents (61.6%) admitted that foodstuff sales promotion activities affect their choices and encourage to make unplanned purchases. 21.4% of respondents emphasized that sales promotions do not affect their behaviour, that is, at the time of purchase they are unable to influence and stimulate the quantity of unplanned purchases. In turn, 17% of respondents could not answer the question on the impact of sales promotions on unplanned purchases. This means that sales promotion activities stimulate product/brand testing.

In response to question 5, the majority of respondents 64.9% confirmed the stimulating effect of sales promotion activities on product purchase amongst equivalent products. 10.5% responded negatively, while for 24.5% of respondents it was difficult to ground their behaviour. It means that sales promotion activities stimulate the increase of a product/brand usage intensity and attracting of the buyers away from the competitors.

When assessing the answers to question 6, we found that the respondents are likely to buy new unfamiliar products during sales promotions. As previously stated, sales promotions reduce purchase risk and encourage to purchase new products. 72% of the interrogated respondents willingly purchase new products during sales promotions and only 28% do not want to take a risk.

If some new and unfamiliar product satisfies the needs of the consumer, then the majority of consumers would be ready to continue to buy this product in the future. The responses to question 7 showed that 73.2% of the respondents continue to use the new product they have tried if it meets their needs, and only 11.2% are not ready to use the new product. It should be noted that 15.5% of the respondents emphasize that the key factor is the price of the product after the sales promotion activities are over. If the price is not too high, they would continue to buy the new product; however, if the price is higher compared to other equivalent products, they would resist to make a repeated purchase of the new product. Thus, a well-grounded organization of sales promotion activities stimulates the attraction of customers to a new product/brand.

The study results are quite in accordance with the advantages of sales promotion activities put forward by Pelsmacker et al. (2007) and empirical experience as described by Egan (2007).

After processing and analysis of questions 3–7 of the interrogation, we concluded that sales promotion activities, provided that they are properly organized and the characteristics of the target audience are taken into account, can provide a motivation for testing a product/brand as well as intensive use of the product/brand. Moreover, they can attract consumers to a new product/brand; attract competitors' consumers and facilitate the increasing of the market share.

During the planning process of each sales promotion activity the specific objectives should be précised and implemented in accordance with both the company's objectives and the needs of the target audience. It is also important to define the appropriate modes of sales promotion for a certain target audience and to reconcile them with the stipulated objectives. For this purpose the respondents have been

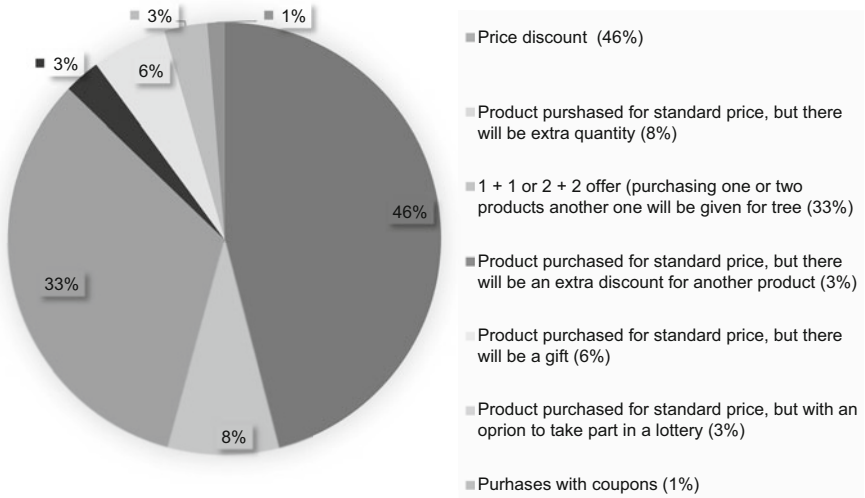


Fig. 4 Choice of the mode of sales promotion. Source: Developed by the authors

asked the question: What type of sales promotions would you give preference to, when purchasing foodstuff? The results of the interrogation are presented in Fig. 4.

According to Fig. 4, the interrogated respondents amongst other modes of sales promotion prefer discounts (46%); 33% of respondents willingly buy products which are accompanied by free products. The interest is less in sales promotion modes when one can buy the product at a standard price, but in bigger volume, as well as with a gift and opportunity to participate in lotteries. Coupon-based sale is a very unpopular sales promotion mode for foodstuff. When purchasing foodstuff, customers need an obvious, immediate, most of all, significant benefit. Therefore, as the main advantage of sales promotion the respondents consider the opportunity to save money and/or receive additional free product unit or quantity. The opportunity to receive a gift, an additional discount or to win a valuable prize the respondents consider to be less affective as it does not meet the above-mentioned purchasing criteria. Sales promotion priorities are also affected by the traditionally developed consumers’ attitude (for example, coupons have not “assimilated” amongst Latvians), by lack of confidence (lottery), etc. On the one hand, when planning sales promotion modes, one should take into account consumers’ preferences, but on the other hand, it makes sense to explore the problem deeper: an adverse reaction may be addressed not to a certain mode of sales promotion, but rather to its entire organization.

Summarizing the results of the given investigation as well as other authors’ opinions (Kracklauer et al. 2004) we recommend linking the objectives of sales promotion activities to specific modes of sales promotions that are both of theoretical and practical importance. This interrelation is reflected in Table 7.

Table 7 Interrelation between sales promotion objectives and sales promotion modes

No.	Sales promotion objectives	Sales promotion modes
1	Product/brand testing motivation	Communication in the store (catalogues, booklets etc.) Coupons offer Bonuses for purchase (gifts) Discounts Remuneration to loyal consumers Product demonstration in the outlets Free product trials Free delivery of products
2	Product/brand intensive use motivation	Coupons offer Set of products for a favourable price Communication in the store (catalogues, booklets, consultations) Discounts Product demonstration in the outlets Competitions, lotteries Wholesale buying stimulation Client cards
3	Attraction of consumers to a new product/brand	Distribution of samples Coupons offer Partial compensation of expenses after sale Bonuses for purchases (gifts) Discounts Product demonstration in the outlets Client cards
4	Attraction of competitors' consumers	Distribution of samples Coupons offer Set of products for a favourable price Discounts Competitions, lotteries Free product trials Free delivery of products Wholesale buying stimulation Client cards Communication in the outlets
5	Increase of market share	Coupons offer Set of products for a favourable price Discounts Remuneration to loyal consumers Wholesale buying stimulation Client cards Communication in the outlets

Source: Developed by the authors based on Shimp (2007) and Totten and Block (1994)

The choice of a specific sales promotion mode and its linking to sales promotion objective which is set forward is dependent on market situation, the target audience characteristics, on the product/brand characteristics, product category, marketing budget and other factors.

6 Coordination of Sales Promotion Activities with Other Marketing Activities

One of the factors that determine the efficiency of marketing communications is cyclic and interaction-oriented communication, which includes the dialogue with consumers, brand loyalty etc. Integrated marketing communication ensures full potential in order to achieve sales targets (Dmitrijeva and Batraga 2012). The sales promotion program should be coordinated with other marketing activities of the company. We see that nowadays one of the most important company's objectives in *Relationship Marketing* development is not only the attraction of consumers, but also their retention and preservation, which means raising the level of loyalty. Therefore sales promotion activities should be coordinated with the company's loyalty program (LP), which in turn is closely connected with *Consumer Relationship Management* (CRM) program. To find out the relation between the sales promotion program and the level of consumer loyalty, as well as the influencing factors, we studied the answers to the following questions:

8. Are you loyal to foodstuff companies/brands/products?
9. What companies/brands/products are you loyal to?
10. If the product/brand you are loyal to has a Standard price, but an equivalent product/brand has a lower price as a result of sales promotion activities, would you buy this product?
11. Could you become a loyal consumer of the new product/brand you bought under the influence of sales promotion activities?

We calculated the correlation between the demographic and economic factors, affecting consumers' behaviour, and loyalty to the company/brands/products.

The responses to question 8 show that 58.7% of the respondents consider themselves to be loyal to a variety of foodstuff/brands/companies; 17.9% say that they are not loyal, and for 23.4% of interrogated persons it was "difficult to say". In essence, it can be concluded that loyalty coefficient is very high. By analysing the answers to the open question 9, it was found that there is a relatively high level of loyalty to Latvian foodstuff/brands/companies. Among the manufacturers, the following companies were mentioned: *Latvijas maiznieks*, *Hanzas maiznīca*, *Limbažu piens*, *Rīgas piensaimnieks*, *Spilva*, *Ķekavas gaļas kombināts*, etc. Amongst brands and foodstuff the respondents mentioned the brands *Kārums*, *Druva*, *Eksporta sviests*, *Holandes siers* etc. It should be noted that the highest level of loyalty is to dairy products, meat products and bakery product categories. Imported products/brands dominate in other foodstuff categories. However, it is insufficient to reveal consumer loyalty level just in present situation in order to make conclusions on the stability of loyalty. As the result of the analysis of responses to question 10 it was found out that 42.8% of the interrogated respondents that so far have been loyal are ready to give up purchasing the product/brand, if during sales promotion activities they would be offered another equivalent product. Only 23.1% of respondents would remain loyal to their products/brands, while 34.1% were unable to give an unambiguous response to this question. This is the evidence of the large impact of

Table 8 Correlation between respondent's income level and loyalty to foodstuff

		Please specify your monthly income, -euros (after tax)?	Are you loyal to familiar/certain foodstuff manufacturers (brands)?
Please specify your monthly income, -euros (after tax)?	Pearson correlation	1	0.118
	Sig. (2-tailed)		0
	N	1320	1320
Are you loyal to familiar/certain foodstuff manufacturers (brands)?	Pearson correlation	0.118	1
	Sig. (2-tailed)	0	
	N	1320	1320

Source: Developed by the authors

sales promotion activities on consumer's behaviour. If the respondents are given an appropriate attractive offer, their loyalty may change. The analysis of responses to question 11 shows that there is a possibility that a new, previously unknown product/brand, that the consumer chooses during sales promotion activities, could further become the choice of product/brand the customer is loyal to. The majority of respondents (68%) answered in the affirmative to this question, 24.9% responded negatively, while for 7.1% of respondents it was difficult to say.

It has been revealed that loyalty to foodstuff/brand does not depend on consumers' age and gender, however, there is a tight correlation between the buyers' income level and their loyalty to foodstuff/brands (Table 8). According to Table 8, it can be seen that correlation coefficient is statistically significant with a probability bigger than 0.99 or significance level less than 0.01. The higher the income, the greater opportunity of loyalty to foodstuff brands is.

When planning sales promotion activities and modes and setting specific objectives, one should take into account that this is just one of the integrated marketing communication (IMC) modes. Researches show that the efficiency of sales promotion largely depends on its successful integration with the other forms of IMC (Praude and Šalkovska 2015; Kracklauer et al. 2004).

For example, an efficient sales promotion integration could be with the advertisement of an according product/brand advertising in printed press, with content marketing on the internet, with the sponsorship of the events, where representatives of the target audience take part, with public relations in social networks, etc. The more attention will be paid to these issues as early as during sales promotion planning process, the more efficient its implementation in practice will be.

7 Implementation and Evaluation of Sales Promotion Activities

In order to evaluate the implementation of sales promotion activities, we developed and asked the respondents open questions and one question with already formulated affirmations that the respondents needed to answer by scale ““disagree, partly agree,

agree, totally agree”.” Summarizing the answers to open questions, conclusions on both positive and negative evaluation of sales promotion activities can be made that companies should take into account in their practice. For example, the consumers noted that there is often only the percentage of discount indicated in special offers while it would be preferable to specify the price of the product before and after the discount.

The consumers expect from marketing staff a more serious attitude towards sales promotion offers and a better preparedness. To schedule their purchases, the consumers would like to receive timely notification of planned sales promotion activities. Sometimes the product, related to sales promotion activities, is either not available in the outlets or is available, but the price is not imputed into the cash register system, that complicates purchase decision-making and develops a negative attitude towards foodstuff sales promotion activities in general.

Consumers pay attention that sales promotion activities are sometimes not so advantageous, as they would like them to be. On the one hand, there is an offer highlighted in the outlets, but the consumers do not perceive it as special, they do not see any additional benefit and purchase motivation. The outlets should take into account the fact that the consumers do not pay attention to disadvantageous promotional offers, such as a small discount for products.

The majority of the interrogated respondents believe that foodstuff sales promotion is based on mass approach, but individual and personal offers would be more desirable. The respondents also emphasize that sales promotion activities are mainly applied to the staple food, targeting in particular the price-sensitive consumers, but it would be desirable to implement a variety of activities, such as extending the product range, or special offer for healthy foodstuff with a higher quality.

A small group of respondents has negative attitude towards sales promotion activities just due to unsuitability of the products. There is an opinion that the main purpose of sales promotion is to get rid of obsolete or unwanted products with a short shelf life or poor quality. In the consumers' opinion, the seasonal factor should be used in sales promotions. Moreover, the foodstuff produced in Latvia should be more involved in sales promotion activities. In addition to advantageous discounts, the consumers would like to have more information about product characteristics and features. If the product is new or unfamiliar in the market, the consumers would like to have the product tasting and additional information on cooking and/or consumption.

The previously conducted research on topical MC trends/directions in the case of Latvia confirmed that a dialogue with consumers is important (Dmitrijeva and Batraga 2012). This would provide for presenting appropriate information which, in turn, would lead to the loyalty to a brand. Based on the condition that there is a correlation between sales promotion application and consumers' loyalty, found by Dahlen et al. (2010) at the end of the interrogation of the study, the respondents were asked to evaluate a number of affirmations on sales promotion activities (Table 9).

The majority of the interrogated respondents (51.4%) agreed or totally agreed that foodstuff sales promotion activities is an efficient way to save money, but regarding the possibility to save time spent on purchases only 32.8% of the respondents agreed

Table 9 Respondents' valuation of sales promotion activities

No	Affirmation	Respondents' valuation, %			
		Disagree %	Partly agree %	Agree %	Totally agree %
1	Foodstuff sales promotion activities is an efficient way to save money	8.0	40.5	39.0	12.5
2	Foodstuff sales promotion activities is an efficient way to save time spent for purchases	21.4	45.8	28.2	4.6
3	Foodstuff sales promotion activities are helpful in purchase decision-taking	12.5	43.0	39.6	4.9
4	Foodstuff sales promotion activities influence the choice of foodstuff	12.6	43.6	36.1	7.7
5	During foodstuff sales promotions it is possible to try new foodstuff that one would not buy for standard price	4.8	23.7	51.0	20.5
6	During foodstuff sales promotions it is possible to buy products of rather high quality	7.9	39.2	43.2	9.7
7	During foodstuff sales promotions it is possible to make according food stock	18.9	37.3	33.8	10.0
8	In the outlets I always pay attention to foodstuff sales promotion activities	7.6	29.3	39.0	24.1
9	Before foodstuff purchases I visit the website, look through the booklets, newspapers, have a look at sales promotion offers	27.7	32.6	25.9	13.8

Source: Developed by the authors

or totally agreed while 45.8% partly agreed or disagreed. It means that the companies should improve organization of sales promotion events, paying attention to product placement, booklets and other information. 44.5% of the interrogated respondents totally agreed or agreed that the foodstuff sales promotion activities are helpful in purchase decision-making and 43.8% of the respondents—that it helps to choose the appropriate product. However, as many consumers (respectively 43.0% and 43.6%) only partially agree with such affirmations. This points to the necessity to improve sales promotion planning, including the importance of the list of products, grounding of discount percentage etc. The majority of respondents, interrogated within the investigation (71.5%) totally agreed or agreed that during foodstuff sales promotions it is possible to try new foodstuff and/or buy relatively high-quality products (52.9%), because it is expedient. It is a positive valuation; however, it does not mean that there is no need to improve the implementation of this objective. Still, there is a problem related to the diversity of sales promotion modes—i.e., not limiting promotion activities to discounts, but to offer foodstuff tastings and gifts, to distribute samples by mail, to provide a wide range of information by e-mail, etc. Relatively few respondents (43.8%) agreed and completely agreed that it is possible to make an according food stock during foodstuff sales promotion. To some extent, the wish to make a stock does not depend on marketing activities, but if the company wants to achieve bigger revenues, it is necessary to improve sales promotion

activities further. For example, respectively 27.7% and 32.6% of the respondents disagreed and only partly agreed that, to get prepared for foodstuff purchase during sales promotion activities, they visit the website, look through the booklets and newspapers and have a look at the outlets.

We should also take into account the fact revealed by Hathaway (2014) in his research that nowadays that 54% of consumers, when being in the store, use their mobile devices to compare the prices of goods. Consequently, the retailers should choose the mode of sales promotion thoroughly in order to achieve the consumer's purchase decision. The decisions on foodstuff purchase are still mostly taken in the store and sales promotions and the decision can as well be influenced by POS advertising. The result of the experiment, conducted by Chandon et al. (2009) is interesting. It is concluded in the research that in-store attention is limited and that higher attention can increase consideration and choice of new brands. Therefore, it can be concluded that more attention should be paid to the content of sales promotion.

The consumers' valuations show the efficiency of sales promotion activities. This evaluation may be supplemented with quantitative calculations of efficiency indicators, such as product/brand/product category volume before and after sales promotion activities; frequency of purchases, based on the data from client cards before and after sales promotion activities; average purchase amount, based on the data from client cards in natural and monetary terms before and after sales promotion activities and the number of receipts from certain product/brand/product category purchases before and after sales promotion activities. The comparison of the results by the mentioned indicators before and after sales promotion activities in combination with consumers' valuations provides for objective assessment of sales promotion planning and organization and allows introducing the necessary corrections in the further process. This is the way the feedback works (Fig. 1).

8 Conclusion

Sales promotion is one of the most popular IMC modes, which remains topical in the implementation of promotion program of the companies, however, when planning and implementing sales promotion activities, the companies make a lot of mistakes that reduce their efficiency, for example, limit the activities just to price discounts, insufficiently develop sales promotion content, etc. To eliminate the mistakes, we suggest that when planning and implementing sales promotion activities, it is expedient for the companies to use the scheme we offer (Fig. 2), showing the sequence of sales promotion development and implementation stages and feedback between the stages. An empirical investigation on the planning, implementation and valuation of sales promotion activities from the consumers' standpoint approved of the rationale for the proposed scheme.

The result of the empirical investigation can also be used by other companies—food manufacturers and traders when planning, implementing and evaluating sales

promotion activities as well as by the companies of other sectors, provided that certain adjustments in accordance with the specific character of the sector and the target audience are introduced. The hypothesis, relevant to the above-stated findings, that the determinants of the purchase of Latvian food products are the quality of the product and the price was completely proved: the consumers do not choose food products based on emotions, but consider product quality and price factor as determinant. However, the hypothesis that there are no differences between men and women choosing and buying food has been proven partly. When choosing and purchasing products, men and women act in the same way before and after the purchase, regarding both the frequency of purchase of food and the amount of spontaneous purchases made. Yet, there is a difference between the selection criteria for men and women and their importance.

The hypothesis that sales promotion as one of the main criteria for choosing food products is chosen by consumers with average and low-income levels was rejected, as regardless of income level, respondents generally were keen to buy food during promotion. The hypothesis that sales promotion tools cannot create consumer loyalty has been proven partly, as 42.8% of respondents are ready to refuse to buy a product/brand they have been being loyal to if a similar product is offered at promotional events. A weak and unstable loyalty was observed in the sector.

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Consumers' Behavior in Decision-Making in Foodstuff Purchasing Process



Jelena Šalkovska, Valerijs Praude, Anda Batraga, and Oksana Afoniceva

Abstract The purpose of this research is developing of model of market segmentation for food consumers, as well as determination the extent of influence of various factors influencing the behavior of the Latvian consumers while making the decision on purchase of these goods. In the course of the research approaches to market segmentation of food products consumers were used, as well as statistical data for Latvian food product market, described in literature, also the results of empirical researches. As a result the model of market segmentation for food consumers was developed, the extent of influence of various factors influencing the behavior of the Latvian consumers was determined based on the correlation analysis. The results of the research let the authors to make conclusion and develop recommendations for producers and sellers of food products for possible effective marketing impact on the Latvian food product consumers. The results of the research have as well as theoretical as practical meaning not only for Latvian market subjects, but also for food product market subjects in other countries.

Keywords Purchase · Consumer · Foodstuff · Consumers' behavior · Market segmentation

1 Introduction

Food products are an integral component of consumption for each person; it is the need that a person will always satisfy first. Companies make their offer directly based on consumer's demand for food products. In Latvian food industry competition of similar products dominates; in particular, saturation of offers is peculiar for

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the sector which causes additional difficulties in attracting consumer attention to a particular product. Nowadays one of the main tasks of the company and marketing is the consumer himself, researching and analyzing their needs and problems. The companies need to segment the market as precisely as possible, to analyze consumer's decision-making process, and, based on that, it is possible to outstand from the saturated environment of equivalent products.

The purpose of this research is developing of model of market segmentation for food consumers, as well as determination the extent of influence of various factors influencing the behavior of the Latvian consumers while making the decision on purchase of these goods. The following hypotheses have been put forward in the study: (1) in foodstuff category, meat processing products are the most demanded ones; (2) there is a statistically significant correlation between consumers' marital status foodstuff purchase decision-making; (3) there is a statistically significant correlation between consumers' incomes and foodstuff purchase decision-making.

Based on the stipulated objectives and hypotheses, the authors have set the following tasks:

1. To analyze the components, influencing consumer behavior and purchasing decision-making process, based on academic and specialized literature.
2. To research and analyze the consumer food products purchasing habits; to determine food product market segmentation model; to investigate consumer behavior affecting factors and consumer behavior in purchasing decision-making process.
3. To conduct an interrogation of Latvian population on the impact of sales promotion on the perception of the consumer and purchasing decision-making process.
4. To confirm or reject the proposed hypotheses as well as to draw conclusions and proposals, based on the research results.

As research methods of the study mainly primary and secondary data collection methods are used, as well as theoretical literature analysis, secondary data analysis and investigation. The quantitative method of primary data collection is questioning.

2 Foodstuff Market Segmentation Model

Marketing concept evolution is in line with market development trends and performance orientation change. Today's market is characterized by close interaction between the actors that appears in the form of efficient communication, information exchange and co-ordination of activities in order to achieve mutually beneficial objectives. Therefore, a relatively new marketing concept is developing—*Relationship Marketing*, that is widely described in literature (Berry et al. 1983; Webster et al. 2005; Kotler et al. 2011) and is applicable in practice (Kracklauer et al. 2004). Based on the literature, we have concluded that *Relationship Marketing* is establishing, retention and development of company's relationship and continuous

performance, coordinated with suppliers, customers, and other market actors in order to achieve mutually beneficial objectives. *Relationship Marketing* is consumer-oriented marketing, where a significant part of decision-making on marketing mix components (product, price, place and promotion) is passed to the consumer and he or she is involved in cooperation with companies (especially through websites). The difficulties, related to implementing a relationship marketing strategy within a retail context are noted by Pressey and Mathews (2000). The necessity of meaningful relationship with the consumers was emphasized in the researches by Gummesson (2002), Hougaard and Bjerre (2002). According to Gummesson (2002), relationship marketing is a marketing based on Interaction with networks of relationship. The authors of the article agree that relationship marketing is the base of consumer's behavior, including decision-making process is buying foodstuff. So, relationship marketing is focused on long-term cooperation between companies and consumers. Consequently, the objective is to offer long-term values to the customers and to satisfy their needs in long-term. Therefore, relationship marketing requires from all company units coordinated marketing activities in customer service.

Summarizing the opinions of the authors of literature on consumer relations development (Webster et al. 2005; Bruhn 2003; Ackfeldt and Wong 2006), we come to the conclusion that it is reasonably to highlight the following levels of consumer relations:

- Basic level: the companies sell products, but do not care about long-term communication with the consumers,
- Unilateral reaction level: the companies sell products and suggest to the consumers to notify about all questions that arise in product consumption process,
- Bilateral reaction level: the companies sell products and then carry out a dialogue with the consumers, express their interest in the complaints, problems and choices and react to them,
- Active communication level: the companies sell products and then maintain active communication with the consumers, related to existing and new products, including problems, development opportunities, etc.
- Partnership level: the company not only sells products, but also involves the consumers in product development and the sales process in order to increase the value of products, using internet marketing and other interactive opportunities.

A gradual transition from a lower to a higher level means the improvement of *relationship marketing*. According to Praude (2011), Praude and Šalkovska (2015), relationship marketing requires a well-grounded market segmentation, which in essence is market segmentation by groups of consumers according to their needs, performance in the market and attitude towards marketing activities. Namely, market segmentation is the base for defining the target market (the company need to cooperate with and to and satisfy their needs). Market segmentation process, including its methods, principles and criteria, is widely described in literature (Kotlers and Keller 2006; Dibb and Simkin 1996; Best 2005). However, in the opinion of the authors of the article, when offering a complex of segmentation criteria (demographic, social, economic, psychological, etc.) we do not sufficiently address to

practical recommendations for the company, such as what criteria preference should be given to in a particular situation, taking into account the characteristics of the product/brand/company/market. It should also be noted that only segmentation techniques from company's standpoint are suggested in theory and used in practice, that is to say, the manufacturer/trader segments the market in order to attract consumers for already offered products. *Relationship Marketing* is intended to make market segmentation to adapt to the needs of consumers in the process of interaction.

We investigated consumers' behavior in foodstuff purchasing process. In order to reveal market segmentation and consumers' choice criteria, a pilot study initially has been carried out. For this purpose, in 2015, a discussion within a focus group was organized and an interrogation of experts was conducted. The focus group consisted of 60 Latvian foodstuff consumers. In the beginning of 2016, food manufacturers and sales representatives, as well as marketing specialists (a total of ten people) were involved in experts' interrogation where they responded to the questions of the authors of the article in written. Summarizing the results of the discussion and the expertize, the researchers have concluded:

1. in market segmentation aspect the companies have a distinct emphasis on demographic (gender and age), social (marital status) and economic (income) criteria;
2. trading companies are additionally recommended to take into account consumers' behavior in purchasing process, that is, their habits (to make/not to make a purchase list), planned/unplanned purchase portion, and purchase frequency;
3. Eight bestsellers in foodstuff category have been highlighted (Table 4);
4. foodstuff purchase determining factors from consumer's standpoint have been ranged (Table 5).

Based on the analysis of literature and the pilot study, the authors of the article have developed a market segmentation model according to *Relationship Marketing* concept (Fig. 1). A foodstuff market segmentation model, organized according to relationship marketing concept, has been proposed. It means that, unlike traditional approach, market segmentation is based on consumer's needs. Only after these needs are revealed, one can define which demographic, social and other characteristics distinguish a specific target audience from another target audience with different needs.

We have carried out an empirical research based on the model developed (Fig. 1), putting forward the following hypotheses (H):

- H1—in foodstuff category, meat processing products are the most demanded ones;
- H2—there is a statistically significant correlation between consumers' marital status foodstuff purchase decision-making;
- H3—there is a statistically significant correlation between consumers' incomes and foodstuff purchase decision-making.

The objective of the empirical research was to verify the hypothesis H1–H3, that is, to approve/partially approve/reject them.

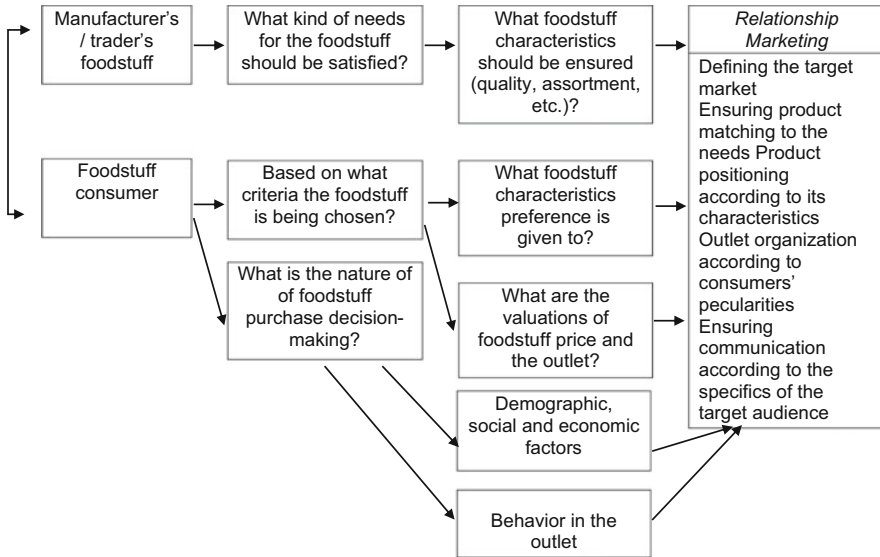


Fig. 1 Foodstuff market segmentation according to Relationship Marketing concept. Source: Developed by the authors based on Best (2005) and Kotler et al. (2011)

3 Methodological Grounds and Data of the Empirical Research

We have chosen consumers' interrogation as the empirical research method. Interrogation is an integral part of quantitative research methods and structured data collection method based on the gathering of information about individuals, groups of people and/or organizations. According to Neuman (2007), interrogation is based on a set of questions, as the result of which the researcher can obtain primary data on respondent's' convictions, attitude, behavior, thoughts, knowledge and expectations in the given researched area. In the opinion of the authors of the article, namely by means of interrogation it is possible to achieve the objective of the investigation and to verify the suggested hypotheses. In scope of the research, an individual electronic distance written interrogation of respondents has been conducted, using a variety of forums—recipes, beauty, handicrafts, family and child care, auto enthusiast, sports enthusiast, healthy lifestyle proponents, construction and repair, dating and other.

Electronic interrogation method was chosen based on the need to interrogate a large number of respondents. Electronic interrogation format speeds up data collection process, making it easier, faster and at lower investigation costs. Among other things, electronic interrogations have flexible content and design creation opportunities, for example, audio and video materials can be added to the questionnaire that in turn can attract extra attention of respondents and interest to participate. During analysis, electronic interrogation results are easier to be organized, structured and

analyzed. This view has been supported by Berger (2011), Miller and Brewer (2003). To ensure accurate and detailed results, the authors analyzed the data, collected by means of interrogation, analytically by using SPSS. A total of 1320 respondents participated in the interrogation on buyers' behavior in sales promotion during sales promotion activities, including 1199 females and 121 male aged 18–77 years (all of them buyers of foodstuff in Latvian retail networks). In order to achieve the objective and to prove or refute the suggested hypotheses the authors interrogated the target audience, which differed by age, income level, marital status, interests, lifestyle and personal characteristics. The distribution of respondents by age groups is shown in Table 1.

According to the results of Table 1, the largest group of interrogated respondents is aged from 26 to 35 years old—32.26%, the second largest group is from 36 to 45 years old—21.82%, the third group—the youngest respondents aged 18–25 years old, or 20%. The average age of the respondents amounted to 37 years old.

This is a characteristic Latvian consumers' purchasing power age with a stable and sustainable consumer behavior in the process of purchase decision-making. Table 2 reflects the level of respondents' income level. According to the data of Table 2, the largest group of respondents by personal income is from 200.01 to 400.00 euros per month, the second largest group is from 600.01 to 800 euros per

Table 1 Distribution of respondents by age groups

Age group (years old)	Number of respondents	Percentage of respondents
18–25	264	20
26–35	426	32.26
36–45	288	21.82
46–55	224	16.96
56–65	96	7.27
66 and up	22	1.69
Total	1320	100

Source: Developed by the authors

Table 2 Distribution of respondents by income level (after tax, per month)

Income level (EUR)	Number of respondents	Percentage of respondents
Less than 200.00	153	11.6
200.01–400.00	327	24.68
400.01–600.00	270	0.5
600.01–800.00	237	18
800.01–1000.00	155	11.7
1000.01–1500.00	101	7.7
1500.01–2000.00	37	2.8
More than 2000.00	40	3
Total	1320	100

Source: Developed by the authors

Table 3 Distribution of respondents by marital status

Marital status	Number of respondents	Percentage of respondents
Living single	195	14.8
Living with parents	127	9.6
Living in civil marriage, no children	288	21.8
Living in civil marriage with a child/children	318	24.1
Married, no children	87	6.6
Married with a child/children	303	23
Living single with a child/children	2	0.2
Total	1320	100

Source: Developed by the authors

month. Overall, the respondents have an average income level that exceeds the state minimum salary in Latvia. Respondents' income may indicate the possibility to choose foodstuff and at the time of purchase not to rely on economic factors only, but to evaluate sales promotion activities from various aspects. Table 3 shows the data on respondents' marital status.

According to the data of Table 3, the majority of respondents live with their civil partner with or without children; 23% of respondents are married and live with a child or children. Respondents' age and lifecycle stage show specific values and attitude, based on rational and well-considered purchase decision-making behavior.

4 Findings of Empirical Research of Consumers' Behavior in Foodstuff Purchasing Before Purchase on Purchase Stage

In order to investigate consumer's behavior before the purchase of foodstuff, the respondents were asked to assess their demand for foodstuff groups by 5-point scale (0-never buy, 1-very seldom, 5-very often). According to the data of Table 4, the most demanded and purchased foodstuff groups are dairy products, meat and meat product production, processing and canning products and fruit and vegetable processing and canning products. Less purchased foodstuff groups are grains, confectionery and bakery products. The lowest demand is for fish, crustaceans and shell-fish processing and canning products, as well as for vegetable and animal oils and fats. On the one hand, the most demanded and purchased foodstuff rating shows the change of respondents' consumption habits, based on the increase of demand for healthier products. On the other hand, the needs may change and therefore trading companies, together with the manufacturers, need to carry out researches in this field (followed by offering new products, brands and communications).

Table 4 Respondents' most demanded foodstuff groups

Range	Foodstuff groups
1	Dairy products (average score—4.3 of 5)
2	Meat and meat product production, processing and canning products (4.2)
3	Fruit and vegetable processing and canning products (4.1)
4	Grain milling products, starch and starch processing products (3.9)
5	Confectionery and bakery products (3.5)
6	Fish, crustaceans and shell-fish processing and canning products (3.2)
7	Vegetable and animal oils and fats (2.9)
8	Other foodstuff (2.2)

Source: Developed by the authors

Table 5 Foodstuff purchase influencing factors

Range	Influencing factors
1	Product quality (average score—8.9 of 10)
2	Product price (8.6)
3	Discounts and other promotion activities (8.3)
4	Product ecology (7.8)
5	Brand recognition (6.7)
6	Country of origin of the product (5.3)
7	Emotions (4.9)

Source: Developed by the authors

Answering to the question on foodstuff purchase influencing factors, the respondents considered product quality, price factor, as well as sales promotion and product ecology to be the crucial factors. The respondents were offered to evaluate all factors by 10-point scale (0—the factor does not have influence at all; 10—crucial factor). Brand and the country of origin are less decisive factors when purchasing foodstuff. There is a small difference between product quality and price as product selection criteria. Thus, consumers pay attention to the ratio “price-quality”. Investigating correlation between general foodstuff purchase influencing factors, it has been revealed that there is a certain difference between the choice of males and females. For example, males pay less attention to the product price and sales promotion activities offered. More attention is paid to the quality of the product, its brand and the country of origin (Table 5).

In order to investigate the consumers' behavior in product purchase decision-making process, the following questions were asked: How many times a week do you purchase foodstuff? Do you make a product list of products before buying? Do you make the purchase decision individually or after another person's consent? What is the approximate portion of spontaneous purchases in possible purchase volume? The authors conclude that the respondents make foodstuff purchases, based on a variety of habits, preceding the purchase decision-making: 12.4% (164) of respondents make up a complete product list before purchasing, but 48.5% (640) of

respondents make a shopping list, noting only the major necessary products. Amongst the respondents, there are 39.1% that do not make a shopping list, that shows that in foodstuff purchasing process the respondents select, compare, evaluate and take the decision to purchase the product directly in the outlet.

Prior to foodstuff purchase, the majority of respondents (47.9%) make decision on final product selection, listening to the recommendations of their relatives while 10.4% of respondents pay attention to the recommendations of friends and acquaintances, 6% listen to the doctor's recommendations and 6.6% listen to food experts' recommendations. A relatively large number of respondents—29.1%—make foodstuff purchase decisions individually. These results show that word-of-mouth communication has a great role in purchase decision-making process.

Regarding the purchased foodstuff, 5.2% of the interrogated respondents buy only the items that were planned, but 94.8% of respondents make unexpected (spontaneous) purchases during foodstuff purchasing. 37% of them make spontaneous purchases, the portion of which in total volume of purchases accounts for 10–30%. 28.2% of the respondents make up to 10% of spontaneous purchases while for 16.5% of respondents, spontaneous foodstuff purchases can reach up to 50% of the total purchase volume. 3.5% of interrogated respondents have noted that nearly always foodstuff purchases occur spontaneously. This means that placement of goods in the outlet, customer service and internal communication in the store play an important role in foodstuff purchasing process. In the authors' opinion, integrated marketing communications and especially content marketing in internet are of great importance.

Analyzing the buyers' behavior at the purchase stage, the authors have calculated the correlation between making a list prior to purchase by the respondents and the quantity of spontaneously purchased foodstuff (Table 6).

According to the data of Table 6, the correlation coefficient is statistically significant with a probability greater than 0.99 or significance level less than 0.01. This means that there is a statistically significant correlation between the foodstuff list, made by the respondents, and the quantity of spontaneously purchased foodstuff. If the respondents make up a complete or incomplete product list prior to

Table 6 Correlation between making a foodstuff list and the quantity of spontaneous purchases

		Do you usually make a list before foodstuff purchase?	Please assess the approximate portion of spontaneous purchases in total purchase volume
Do you usually make a list before foodstuff purchase?	Pearson correlation	1	0.276
	Sig. (2-tailed)		0
	N	1320	1320
Please assess the approximate portion of spontaneous purchases in total purchase volume	Pearson correlation	0.276	1
	Sig. (2-tailed)	0	
	N	1320	1320

Source: Developed by the authors

purchase, they make a less quantity of spontaneous purchases during purchasing process.

There is also a tight correlation between the respondents' foodstuff purchase frequency and its impact on spontaneous, unplanned purchases (Table 7).

According to the data of the Table 7, the correlation coefficient is statistically significant with a probability greater than 0.99 or significance level less than of 0.01. This means that the more frequently the respondents purchase foodstuff, the more often they make spontaneous and unplanned purchases.

The quantity of spontaneous purchases made by respondent is also affected by age and income level. In Table 8 one can see the correlation between respondent's age and the quantity of spontaneous purchases that create a close relationship between these indicators: the older the respondent is, the less spontaneous purchases he or she makes. This can be explained both with the respondent's financial situation and the personal characteristics and lifecycle stage.

The quantity of spontaneous and unplanned purchases also depends on respondent's personal income level.

According to the data of the Table 9, the correlation coefficient is statistically significant with a probability greater than 0.95 or significance level less than of 0.05.

Table 7 Correlation between foodstuff purchase frequency and the quantity of spontaneous purchases

		Purchase frequency	Assess the average portion of spontaneously purchased foodstuff in your purchases
Purchase frequency	Pearson correlation	1	0.276
	Sig. (2-tailed)		0
	N	1320	1320
Assess the average portion of spontaneously purchased foodstuff in your purchases	Pearson correlation	0.276	1
	Sig. (2-tailed)	0	
	N	1320	1320

Source: Developed by the authors

Table 8 Correlation between respondent's age and the quantity of spontaneous purchases

		Respondent's age	Assess the average portion of spontaneously purchased foodstuff in your purchases
Respondent's age	Pearson correlation	1	-0.116
	Sig. (2-tailed)		0
	N	1320	1320
Assess the average portion of spontaneously purchased foodstuff in your purchases	Pearson correlation	-0.116	1
	Sig. (2-tailed)	0	
	N	1320	1320

Source: Developed by the authors

Table 9 Correlation between respondent's income level and the quantity of spontaneous purchases

		Please specify your monthly income, -euros (after tax)	Assess the average portion of spontaneously purchased foodstuff in your purchases
Please specify your monthly income, euros (after tax)	Pearson correlation	1	0.066
	Sig. (2-tailed)		0.016
	N	1320	1320
Assess the average portion of spontaneously purchased foodstuff in your purchases	Pearson correlation	0.066	1
	Sig. (2-tailed)	0.016	
	N	1320	1320

The higher the respondent's income is, the bigger is the quantity of spontaneous purchases he makes.

As the result of the research it can be concluded that one hypothesis (H1) have been partly approved, as not only meat, but also dairy products have been marked as the most demanded foodstuff groups, but amongst purchase selection criteria product quality and price where the dominating ones. Two hypotheses (H2 and H3) have been approved entirely. The results of the research are significant and can be applied in practice, in marketing planning, by coordinating manufacturers, traders and other market actors and attracting consumers within *Relationship Marketing* communications.

5 Conclusions

Food manufacturers and traders should use *Relationship Marketing* concept, which provides a focus on consumer needs based on market segmentation, target market identification and interaction with the consumer. Within *Relationship Marketing* concept the companies should pay attention to researches on the most demanded foodstuff categories and satisfaction of consumers' needs by involving them in cooperation with the company. Within *Relationship Marketing* concept the companies should pay attention to researches on foodstuff selection criteria and to take them into account when planning marketing activities.

Foodstuff consumers' behavior in the market (including the pre-purchase and the purchase stage) is mainly determined by the following factors: demographics (gender, age); social (marital status); economic (income). In foodstuff outlets consumers' purchase volume, purchase frequency and proportions between planned and unplanned purchases should be analyzed and taken into account in marketing activities. There is a statistically significant correlation between demographic, social and economic factors of consumer's behavior in the market and purchase decision-making in the outlets.

Market segmentation and target market definition is not an end in itself, but rather the basis for marketing activity within *Relationship Marketing* concept in the field of product development and sales, pricing, customer service and communication. Involving consumers in this activity is mandatory. Improving market segmentation, the companies can plan a gradual transition from basic consumer relation level to the higher level.

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Content Analysis of Greek Medical Tourism Websites for a Successful Implementation of an E-Marketing Strategy



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Abstract The growing international demand for top medical services in combination with consumers' constant research for competitive prices in such services, has led to the growth of medical and health tourism in Greece, mainly because of the country's Mediterranean climate and its qualified health experts. In accordance with the above, the use of the Internet enables the Greek medical community to expand its marketing and advertising outside its borders. In this paper, the authors try to form a data base of the medical tourism providers in Greece and then they proceed with a website evaluation of the medical tourism providers in order to investigate and appraise their internet appearance. The results of the website evaluation can in turn lead to useful practical results with the aim of providing a successful e-marketing strategy implementation of the medical tourism providers.

Keywords Medical tourism · ICTs in tourism · Web evaluation · Medical tourism marketing · Tourism distribution channels

1 Introduction

Although Greece's climatic and geographical characteristics favor the development of medical tourism, however it has been very recently prioritized in the political agenda and the data on medical tourist flows are poor. The Greek medical tourist sector is unable to follow the rest of the well-established destinations in terms of ICTs integration (Katsoni et al. 2016). The aim of this research is first to develop of a database of Greek medical tourism providers for the first time in the country and then to propose a comprehensive evaluation framework for medical tourism websites.

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The rest of the article is organized as follows. First we discuss medical tourism in Greece, then we introduce the role of ICTs in medical tourism as well as the role of the e-medical tourism facilitators and providers. Then we present our proposed evaluation framework by evaluating the web sites of 107 medical tourism providers using as methodological tool, 29 criteria drawn from the international literature along with our findings, and in the final section we discuss concluding remarks and present future directions for further research.

2 Literature Review

2.1 Medical Tourism in Greece

Greece had 26.5 million tourist arrivals in 2015, ranked ninth in Europe, mainly because of its cultural and natural advantages and high tourist infrastructures and expertise (HSA 2016). Although medical tourism has a significant impact on countries' national economy, empirical results clearly demonstrate that medical tourism is highly underdeveloped in Greece. According to Medical Tourism Association (2011, p. 7), "medical tourism refers to people who live in one country and travel to another country in order to receive medical, dental and surgical care, . . . because of affordability, better access to care or a higher level of quality of care". A survey by Mckinsey & Company in Athens (Mckinsey 2011, p. 59) confirms that, "Greek hospitals haven't yet established official agreements with top international hospitals, which could enhance the international medical profile of the country".

2.2 ICTs and Web-Evaluation Strategies for an Online Medical Tourism Marketing Strategy

The role of internet as an effective and innovative distribution channel for tourism services is seriously acknowledged by the tourism industry, and ICTs are incorporated in the marketing strategy of medical tourism as a result of the globalization of health services. However, lack of technical knowledge from medical tourists and medical tourism companies for promoting the medical tourism product has led in the emergence of new medical tourism intermediaries (Katsoni et al. 2016). The latter show a multifunction activity that is as brokers between international patients and hospital networks, as advisers, evaluators and negotiators between the consumer/patient and the medical tourism providers, and also as typical travel agents. They can be either specialized travel agencies, electronic medical tourism guides (e.g. treatmentabroad.net) and specialized e-journals (e.g. International Medical Travel Journal- imtjonline.com) or hotels' networks, offering special services for medical tourists. As the medical providers' internet appearance is crucial, their

website performance becomes a very important aspect of their marketing strategy. Evaluation is considered the process through which website owners achieve the harmonization of the site to customers' needs and requirements (De Marsico and Levaldi 2004). Evaluation involves concepts such as quality, truthfulness, and accuracy as well as the use of criteria and standards that enable one to appraise the extent to which particulars are accurate, effective, economical, or satisfying (Dragulanescu 2002). The growth of e-Commerce renders a company's success depends on its website quality (Mich et al. 2003). The quality of the various website attributes (e.g. content, structure, navigation, human engineering, user interface, and usability, internet marketing strategies) influence users' opinion as well as the perception of the related organization's identity (Susser and Ariga 2006; Sigala 2003). The evaluation criteria used in the present study, are discussed in the methodology section below.

3 Methodology

We used a combination of content analysis methods to explore, compare and analyze the Greek medical tourism websites based in Greece. This study uses a Quantitative Research method which means that statistical tools have been used in order to extract results (Christou 2011). It also means that the questionnaire that was set can only be answered with 'yes or no' replies from the researchers. The Comparative Content Analysis method is also used, due to the fact that the above mentioned websites are compared and analyzed by examining the information available to their visitors (Weber 1990). The authors followed a two-step procedure:

In the first step the authors had to identify all providers that are based in Greece and market medical tourism products and services to both domestic and international medical tourists. The identification process started from October 2015 until January 2016, by conducting repeated Internet searches to identify medical tourism providers with head offices or affiliate offices in Greece. The authors made a clear distinction between medical tourism services and health and wellness tourism services provided; the findings of the latter are discussed in another paper. In total 107 Greek medical tourism providers were identified and data of the identified medical tourism providers and their location in Greece were gathered. This led to the development of a database of Greek medical tourism providers for the first time.

When conducting Internet searches the authors used the most popular medical tourism services in the major search engines as discussed by Lunt and Carrera (2010), that is Plastic Surgery, Dental Surgery, Cardiologic Surgery, Bariatric Surgery, Orthopedic Surgery, IVF Transplantation, Ophthalmic Surgery, General Checkups; therefore, we used such phrases as "medical tourism Greece", "medical Greece", "plastic surgery Greece", "dental surgery Greece", "cardiac surgery Greece", "bariatric surgery Greece", "orthopedic surgery Greece", "IVF Greece", "organ transplantation Greece", "eye surgery Greece", "checkups Greece" "stem cell tourism Greece", "transplant tourism Greece", and "global health care Greece".

The authors also used Google News Greece and Use of Google Alerts in order to identify the above mentioned terms in newspaper articles describing Greek medical travel businesses marketing medical travel, excluding the ones that had expired websites, non-functioning email accounts and not responding or disconnected phone service.

In the second step, content analysis was used to study the websites of the remaining medical tourism providers. Content analysis was performed by analyzing printed versions of company websites. Detailed information was recorded for each category of analysis. Information extracted through content analysis was fact-checked and feedback was solicited from the research team. Our evaluation framework included the completion of questionnaires with the aim to examine and compare the above mentioned websites by using criteria that already exist in the scientific literature, modified to fit the needs of our research. The combination of four criteria mentioned below provides a holistic view of the current Greek medical tourism websites:

- **General website information:** About us section, FAQs section, Photo gallery, Downloadable material, Maps, Weather information, External links, Last updated date of the website, Site map, Logo existence, Languages support.
- **Information about services provided by each provider:** Air tickets, Visa, Ground transportation, Insurance, Hotel booking, direct hotel booking, Sightseeing, Medical records transfer, Pre/Post care services, International mobile phones, Translation services.
- **Website interactivity and contact information:** Email, Phone number, Postal address, Social media links, Newsletters, Information request forms, Patients' testimonials.
- **Medical tourism exclusive information:** Hospital names, Hospital credentials, Available procedures, estimated cost, Medical staff CVs.

The above criteria, as well as their origin in the relevant literature review are analyzed thoroughly below. The last stage involved the actual statistical analysis using SPSS v.17.

- About us section = "The purpose of the website, general information about the services provided" (Mason and Wright 2011, p. 171).
- FAQs section = "Questions regarding common matters." This is a very useful tool as the patient can get quick answers to his questions without having to communicate with the provider (Sobo et al. 2011, p. 125).
- Photo gallery = "Photos taken by the provider regarding its facilities, services or even satisfied patients" (Giannopoulos and Mavragani 2011, p. 722).
- Downloadable material = "Material such as travel guides, useful articles, video files, informative leaflets" (Giannopoulos and Mavragani 2011, p. 723).
- Maps = "For tourists that visit Greece for the first time or patients who wish to know the exact location of the facilities so they can make the appropriate arrangements" (Tanrisevdi and Duran 2011, p. 727).

- Weather information = “Information regarding the weather conditions so the patients can visit the country prepared” (Tanrisevdi and Duran 2011, p. 755).
- External links = “Links that are relevant either with the provided services or with touristic information” (Cormany and Baloglu 2011, p. 711).
- Last updated date of the website = “The exact date when the website was last updated. If the website hasn’t been updated for a long time, it might not be considered as trustworthy” (Cormany and Baloglu 2011, p. 711).
- Site map = “A way for the website’s visitor to take a glance at the website’s content” (Sobo et al. 2011, p. 125).
- Logo existence = “The provider’s own logo which makes visitors remember the website” (Sobo et al. 2011, p. 125).
- Languages support = “The languages each website supports” (Panagopoulos et al. 2011, p. 703).
- Air tickets = “Information regarding issuing air tickets” (Cormany and Baloglu 2011, p. 712).
- Visa = “Visa related issues information” (Gan and Frederick 2011, p. 171).
- Ground transportation = “Information regarding tourists transportation while in the country” (Cormany and Baloglu 2011, p. 712).
- Insurance = “Information regarding public and/or private insurance plans” (Mason and Wright 2011, p. 171).
- Hotel booking = “Information regarding available hotels near the provider’s facilities” (Cormany and Baloglu 2011, p. 712).
- Direct hotel booking = “The website provides an application to book directly a hotel within its website.” This way, the visitor doesn’t have to visit another website to make his hotel booking (Panagopoulos et al. 2011, p. 703).
- Sightseeing = “Information regarding sightseeing services” (Cormany and Baloglu 2011, p. 712).
- Medical records transfer = “Information regarding the ways of transferring each patient’s medical records” (Cormany and Baloglu 2011, p. 712).
- Pre/Post care services = “Information regarding pre medical care and post medical care services” (Gan and Frederick 2011, p. 171).
- International mobile phones = “Information regarding the use of international mobile phones” (Cormany and Baloglu 2011, p. 712).
- Translation services = “Information regarding the translation services provided from the health provider” (Cormany and Baloglu 2011, p. 712).
- Email = “Existence of a valid email address” (Cormany and Baloglu 2011, p. 711).
- Phone number = “Contact number of the provider” (Cormany and Baloglu 2011, p. 711).
- Postal address = “Postal Address of the provider” (Cormany and Baloglu 2011, p. 711).
- Social media links = “Links to the social media platforms of the provider” (Cormany and Baloglu 2011, p. 711).
- Newsletters = “The ability to sign up for a newsletter” (Giannopoulos and Mavragani 2011, p. 723).

- Information request forms = “The existence of a contact form so the visitors can request further information on the services provided” (Cormany and Baloglu 2011, p. 711).
- Patients’ testimonials = “Comments from patients that have used the provider for an operation, checkup or a medical service” (Cormany and Baloglu 2011, p. 711).
- Hospital names = “A list of all the hospital names the provider cooperates with” (Gan and Frederick 2011, p. 171).
- Hospital credentials = “The credentials of the hospitals that the provider cooperates with” (Cormany and Baloglu 2011, p. 711).
- Available procedures = “A list of all the available procedures provided” (Cormany and Baloglu 2011, p. 711).
- Estimated cost = “An estimated cost for each service” (Cormany and Baloglu 2011, p. 711).
- Medical staff CVs = “Detailed CVs of the medical staff” (Mason and Wright 2011, p. 171).

4 Results

Of the 107 medical tourism providers criterion (Table 1 below), about us presented in percentage 70.1% and 29.9% of providers not included in their web site. 38.3% of web site medical tourism providers includes Frequently Asked Questions and 61.7% does not. Of the 107 providers 71 (66.4%) have at their site photo gallery and 33 medical tourism providers (33.6%) haven’t at their site photo gallery. To downloadable material holds 27.1% of providers that include in their site while the remaining 72.9% did not have this option. Of the 107 medical tourism providers, 79 (73.8%) in the site have maps while 28 (26.2%) have no maps. Based on the criterion weather information from 107 web site, 4.7% had the choice to customers and 95.3% had not. 65.4% includes external links while the rate of 34.6% did not include it. 99.1% of the providers of medical tourism in their site the last updated date stated while the percentage of 0.09% medical tourism providers not reported. The site map has 18.7% of providers instead of 81.3% were not in the site map. In 97 (90.7%) of the site have on their logo while only 10 (9.3%) had no logo. The choice of languages on site medical tourism providers include 100%.

On the Table 2 below, the following elements can be observed: 13.1% of the medical tourism providers offer the service of issuing air tickets while 93 providers, that is, 86.9% do not offer the specific service. 8 out of 107 providers, that is, 7.5%, offer precise information concerning the process of issuing a visa, while the remaining 92.5% do not provide the specific service. From the 107 medical tourism providers that were studied, 29 which consist the 27.1% of the total number include information in their site regarding the transportation of patients and their families to the hospital, airport or hotel, while the remaining 72.9% offer no such feature.

Table 1 General website information

		Frequency	Percent
About us			
Valid	Yes	41	70.10%
	No	66	29.90%
	Total	107	100.00%
Frequently asked questions			
Valid	Yes	71	38.30%
	No	36	61.70%
	Total	107	100.00%
Photo gallery			
Valid	Yes	29	66.40%
	No	78	33.60%
	Total	107	100.00%
Downloadable material			
Valid	Yes	79	27.10%
	No	28	72.90%
	Total	107	100.00%
Maps			
Valid	Yes	5	73.80%
	No	102	26.20%
	Total	107	100.00%
Weather information			
Valid	Yes	70	4.70%
	No	37	95.30%
	Total	107	100.00%
External links			
Valid	Yes	1	65.40%
	No	106	34.60%
	Total	107	100.00%
Last updated date			
Valid	Yes	20	0.90%
	No	87	99.10%
	Total	107	100.00%
Site map			
Valid	Yes	97	18.70%
	No	10	81.30%
	Total	107	100.00%
Logo			
Valid	Yes	107	90.70%
	No	0	9.30%
	Total	107	100.00%
Languages			
Valid	Yes	20	100%
	No	87	0%
	Total	107	100.00%

Table 2 Information about services provided by each provider

		Frequency	Percent
Air tickets			
Valid	Yes	14	13.1%
	No	93	86.9%
	Total	107	100.00%
Visa			
Valid	Yes	8	7.5%
	No	99	92.5%
	Total	107	100.00%
Group transportation			
Valid	Yes	29	27.1%
	No	78	72.9%
	Total	107	100.00%
Insurance			
Valid	Yes	12	11.2%
	No	95	88.8%
	Total	107	100.00%
Hotel booking			
Valid	Yes	44	41.1%
	No	163	58.9%
	Total	107	100.00%
Direct booking			
Valid	Yes	5	4.7%
	No	102	95.3%
	Total	107	100.0%
Sightseeing			
Valid	Yes	29	27.1%
	No	78	72.9%
	Total	107	100.00%
Transfer of medical records			
Valid	Yes	20	18.7%
	No	87	81.3%
	Total	107	100.00%
Pro/Pre care services			
Valid	Yes	24	22.4%
	No	83	77.6%
	Total	107	100.00%
International mobile phones			
Valid	Yes	4	3.7%
	No	103	96.3%
	Total	107	100.00%
Translation services			
Valid	Yes	20	100%
	No	87	0%
	Total	107	100.00%

The survey that was conducted indicated that only 11.2% of the providers offer insurance, that is, cooperate with an insurance company in order to facilitate patients. On the contrary, a major 88.8% do not include the particular service in their side. Hotel booking is offered by 41.1% of the providers while the remaining 58.9% do not render the service. The direct booking service is offered by only a 4.7% of the sites whereas the majority of them, namely, 95.3%, do not render this service. Guided tour services are provided by a minor 27.1% whereas a large percentage, 72.9%, do not offer the particular service. Similarly, the majority of the sites surveyed, 81.3%, do not provide transfer of medical records, a service offered by a small percentage, only 18.7%. The pro/pre care services, that is the care of the patient before and after a surgery or medical treatment, is included only by a 22.4% of the providers' sites while the larger percentage, namely, 77.6% do not offer such a service. In addition, only a 3.7%, that is, 4 out of the 107 sites surveyed supply their patients with mobile phones to be used during their stay in the country where the medical services will be offered, whereas the remaining 103 (96.3%) do not render such a service. Translation services are offered by 20 of the sites, namely, 18.7% while the majority of the providers, 81.3%, do not feature the particular service in their sites.

In Table 3, the majority of the providers, namely 90 out of 107 that were studied, a number that consists the 84.1% of the total percentage, offer an email address and only a minor 15.9% features no email address in their sites. A large 92.5%, that is, 99 sites provide phone numbers while the remaining 8, that is 7.5%, do not offer such a contact number. A 90.7% of the sites surveyed, namely, 97 out of the 107, include a post address contrary to the remaining 9.3%. Social media links are provided by 75 sites (70.1%) while a small number, 29.9% do not render the service. A small percentage, namely, 21.5% feature a newsletter in their sites while a major 78.5% do not offer such an option. The majority of the providers, in particular, 86.9%, include an info request form in their sites while the remaining 13.3% do not offer it. Finally, Patient testimonials are provided by 37.4% of the health providers contrary to the 62.6% of the sites which do not render the specific service.

As we see in Table 4 below, 85 out of the 107 providers, that is 79.4%, include the names of the affiliated hospitals while a minor 20.6% do not provide such information. A 36.4% include details concerning hospital certificates whereas, 63.3% do not feature similar information on their sites. The estimated cost of the surgeries, medical treatments, hotels or air tickets is presented in only 18.7% of the surveyed sites, contrary to the remaining 81.3% that do not include it. A considerable percentage, namely, 72.9% feature the resumes of doctors and nurses in their sites in order to further inform every patient. However, a minor percentage, 27.1% do not offer such an option. From the total number of the providers studied, 10 (9.3%) were portals, 11 (10.3%) were medical facilitators, 60 (56.1%) were clinics and 26 (24.3%) were private doctors. In the study conducted, the variable, available procedures, refers to the operative treatments offered to patients and to the percentage of the providers that offer the specific services. Plastic surgery services are offered by 39.3% of the health providers while the remaining 60.7% do not render such treatments. Dental surgery services are provided by 41.1% whereas the greater 58.9% do not include such an

Table 3 Website interactivity and contact information

		Frequency	Percent
Email			
Valid	Yes	90	84.1%
	No	17	15.9%
	Total	107	100.00%
Phone number			
Valid	Yes	99	92.5%
	No	8	7.5%
	Total	107	100.00%
Postal address			
Valid	Yes	97	90.7%
	No	10	9.3%
	Total	107	100.00%
Social media links			
Valid	Yes	75	70.1%
	No	32	29.9%
	Total	107	100.00%
Newsletter			
Valid	Yes	23	21.5%
	No	84	78.5%
	Total	107	100.00%
InfoRequest form			
Valid	Yes	93	86.9%
	No	14	13.1%
	Total	107	100.00%
Patients testimonials			
Valid	Yes	40	37.4%
	No	67	62.6%
	Total	107	100.00%

options. A 19.6% render cardiologic surgery services, contrary to the majority of the health providers, namely 80.4%, who do not offer any such option. Bariatric surgery is provided by 22.4% while the greater percentage of 77.6% does not include the particular surgery. Orthopedic surgery is featured in the sites of 25.2% of the providers while the majority, 74.8% do not offer such services. IVF has gained the largest percentage in Greece, namely, 45.8% of the providers who offer it while the remaining 53.2% do not include it. Transplantation services are provided only by 19.6% whereas 80.4% do not offer such an option. Ophthalmic surgery services are renders by 20.6%, contrary to a major 79.4% that do not include such a treatment. The sites of the providers offer checkup services only by 22.4% whereas the majority, 77.6% do not provide similar services.

Table 4 Medical tourism exclusive information

		Frequency	Percent
Hospital names			
Valid	Yes	85	79.4%
	No	22	20.6%
	Total	107	100.00%
Hospitals' credentials			
Valid	Yes	39	36.4%
	No	68	63.6%
	Total	107	100.00%
Estimated cost			
Valid	Yes	20	18.5%
	No	87	80.6%
	Total	107	100.00%
Medical staff CVs			
Valid	Yes	78	72.9%
	No	29	27.1%
	Total	107	100.00%
Provider			
Valid	Portal	10	9.3%
	Medical	11	10.3%
	Clinic	60	56.1%
	Private	26	24.3%
	Total	107	100.00%
Plastic surgery			
Valid	Yes	42	39.3%
	No	65	60.7%
	Total	107	100.00%
Dental surgery			
Valid	Yes	44	41.1%
	No	63	58.9%
	Total	107	100.00%
Cardiologic surgery			
Valid	Yes	21	19.6%
	No	86	80.4%
	Total	107	100.00%
Bariatric surgery			
Valid	Yes	24	22.4%
	No	83	77.6%
	Total	107	100.00%
Orthopedic surgery			
Valid	Yes	27	25.2%
	No	80	74.8%
	Total	107	100.00%

(continued)

Table 4 (continued)

		Frequency	Percent
IVF			
Valid	Yes	49	45.8%
	No	58	54.2%
	Total	107	100.00%
Transplantation			
Valid	Yes	21	19.6%
	No	86	80.4%
	Total	107	100.00%

5 Discussion

Greece is a suitable destination to develop medical tourism due to its climate, its location, its well-trained professionals etc., however its development is much smaller than this of other similar countries. The results of this study confirm this assertion. Apart from the fact that Greece does not have a specific marketing strategy towards medical tourism, there are not enough businesses that promote and evolve medical tourism. There were only 107 medical tourism providers with internet appearance found in our sample of the whole country. Also, the businesses that want to attract medical tourists through the web are not fully developed towards this niche market hence there is a significant need for improvement, as it was found from the analysis of our results.

In the methodology section of this study the authors have categorized the criteria of the evaluation into four groups. The results of this study will be discussed according to those groups.

5.1 General Website Information

Most of the websites show a very positive image to their visitors by having an ‘about us’ section. This makes the medical tourist aware of the company as well as what it represents and its values. Also, the majority of the websites has a photo gallery and interactive maps which familiarizes the user with the facilities and the destination. A brand name is present to almost every website as most of them own their personal logo. Another attribute present in many websites is the existence of external links. These links are either advertisements—from which each provider gets paid for, or useful information for medical tourists.

However, the FAQs section appears to be non-existent in many of the websites that have been evaluated. This might make a website less attractive to a visitor as he would have to call or email the provider for a simple question that could have been included in such a section. Downloadable material and weather conditions are also attributes that are not mentioned in most of the websites even though, they can make

a website look updated and richer. Lastly, almost none of the websites has a last updated date or a site map. These attributes might seem 'too technical' to a user but they make the websites look more trustworthy.

5.2 Information About Services Provided by Each Provider

The available services Greek providers offer definitely need improvement. Medical tourism can benefit both the health and tourism sectors of each country. However, none of those sectors comprehend its importance as shown in this study's statistics. For example, not many of the medical tourism websites, that have been evaluated, have a hotel or a flight booking service. In fact, most of them include only general information about such services and do not offer direct bookings by implementing small applications (widgets) in their websites. Also, not many of the websites have visa information, insurance information, international mobiles information, medical records transfer services, sightseeing services and pre/post care services. Those are all information and services which are very attractive to a future medical tourist. For example, other medical tourism websites abroad, even offer all-inclusive packages with all of the above services in very competitive prices.

Lastly, translation services are not as present as they should be. Most of the providers mention that their doctors and general staff can speak in English but they do not mention other languages or translation services. Therefore, for example, even though a website might be translated in German, a German medical tourist might have to contact and communicate with the provider in English.

5.3 Website Interactivity and Contact Information

As this is probably the most important attribute a medical tourism website can have, most of the evaluation percentages are high in this category. Most of the providers provide an email, a phone number, their physical address as well as an information request form. Also, many of the providers have social media pages from which they interact with their visitors. This percentage can be improved however, as this is an almost free and efficient way to advertise products and services.

However, as we can see, the patients' testimonials percentage is low. This is one of the most important attributes that should be in such web pages as it adds credibility to the provider.

Lastly, the newsletter percentage is also low which might indicate that the website doesn't update its content regularly with relevant medical news.

5.4 *Medical Tourism Exclusive Information*

This category might sound mandatory for each provider, however statistics show that there is not enough emphasis on the relevant attributes. An excellent example would be the 18.5% of the estimated cost attribute. This means that the majority of the websites does not include one of the most important factors that a medical tourist thinks about—the price. In addition, not many of the providers include in their websites hospitals' credentials which make the services less reliable. However, most of the websites include their staff's CVs which means that they want to advertise their personnel's skills and abilities.

6 Conclusions

In this article, we offered a systematic database for Greek medical tourism providers for the first time in the Greek scientific community. Then, we proposed a comprehensive evaluation framework for medical tourism providers' websites. The proposed framework is based on the medical tourism website evaluation by the authors and consists of four main categories. Each category consists of a variety of attributes which are examined individually. The proposed evaluation model is generic, open, and standardized as it can be applied for evaluating websites of various medical tourism providers' categories. This information can be used to help website designers and managers to improve the corresponding website attributes taking into account customers' needs and preferences, thus promoting an effective e-marketing strategy of the medical tourism providers.

There are several limitations in our recent study, as it is confined only to description attributes. By expanding or modifying the evaluation questionnaire (for example by using Likert scaling) we can be able to rate performance indicators and to analyze each given provider's website sample specific features.

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Smartphone Adoption: Design of Factors Within the Framework of Theory of Consumption Values



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Abstract After the initial feature mobile phone adoption, there is a widespread smartphone proliferation. The Theory of Consumption Values (TCV) is a marketing theory that explains purchase behavior of consumer goods and services. The framework consists of functional, social, epistemic, hedonic, and conditional values; the latter being functional and/or social values present only in a specific situation. TCV is used in mobile device adoption literature disproportionately more often than in other fields. However, virtually all TCV studies focused on smartphones are qualitative. The aim of this research is to design factors which could be later used in quantitative studies. These factors are identified using principal component analysis. With regards to the results, there were five factors identified for functional values, six factors for social values, three factor for epistemic values, four factors for hedonic values, and seven factors for conditional values.

Keywords Adoption · Smartphone · Theory of consumption values

1 Introduction

According to Kotler et al. (2017, p. 23), “[s]martphones are ever-present, always on, finely targeted and highly personal.” According to Hollensen (2016, p. 542), “[s]martphones make up an increasing share of mobile devices.” With the rise of the

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smartphone penetration on the market, the need for the explanation what are the consumers' motives to own one has arisen. In literature, there exist several studies presenting reasons to buy and use smartphones.

The reason why users need to engage in using smartphones during their leisure time was researched in several studies. One of the main questions that tried to solve and answer was the identification what were the very essential features smartphones offer that influence the users' decision making.

Jung (2014) looked at the benefits one can gain by using a smartphone. As the research showed there were few that could be mention: sense of confidence, amusement (by spending free time during the day), sense of comfort by using a smartphone and restorative as well. When they looked into the functions frequently used on smartphones they found that the very first reason is the core product description: the communication function. Smartphones were more and more used as a tool to be in touch and stay connected through different types of mobile messengers and nowadays more and more important presence on various social networks. Other very important function according to Jung (2014) influencing the decision to own a smartphone was the information search function. Because of these mentioned the usage of a smartphone led to improved socialization, more productive daily life and to the satisfaction of so acquired information. The study showed a strong connection between leisure time and restorative. The users showed important habit of using a smartphone to entertain themselves.

Kim et al. (2013) integrated and extended the traditional theoretical and conceptual behavioural constructs which utilised the cognitive-affective-conative stages framework which went beyond users' intention to use mobile technology and identified the mobile users' engagement motivations' impact which would keep the engaging behaviour while using a smartphone. The results showed that users' engagement was strongly beyond intention and this lead to their future behaviour. They identified three sub-elements of motivations which influenced the users: utilitarian, hedonic, and social motivations. They results confirmed that users have three stages of attitude: cognitive, affective, and conative. Users' satisfaction was increased by users' motivation to engage in using a smartphone. The other factor influencing the users' satisfaction was their social motivation. This study supported why "hedonic and social" motivations were highly related to their continued engagement intention.

In addition, Yeh et al. (2016) found that consumer value and the users' identification with a specific brand predicted a positive brand loyalty. They found emotional value the most significant in creating a brand loyalty toward specific smartphone producer. Other were brand identification, functional value and followed by social value. The interesting outcome of their study was that the effect of functional value on brand loyalty did not change as age decreased which implied insignificant effect of age differences.

Rahim et al. (2016) investigated the factors influencing purchase intention of a smartphone among university students in Malaysia. They focused at the identification of a possible relationship between product features, brand name, social influence, product sacrifice and purchase intention of smartphones. As they confirmed, product features were significantly and positively related to purchase intention of smartphones. Other relevant findings were: there was a significant and positive relationship between brand name and purchase intention and a significant and positive relationship between social influence and purchase intention of smartphones as well. The surprising result of their study among university students was the fact that they were not willing to sacrifice anything with a high value to them to buy a smartphone. To conclude the purchase intention of buying smartphones according to this study was positively related to specific product features, brand name and social influence.

When it comes to social values and perceived ease of use, Habu et al. (2017) found that they did not have a direct nor indirect effect on smartphone purchase intention among Malaysian working professionals. However, perceived usefulness, economic value and brand image had an indirect effect on smartphone purchase intention in their study. Lay-Yee et al. (2013) also tried to identify the factors affecting the customer intentions to buy a smartphone. They found that most of the smartphone users placed the product features as the highest priority when buying a smartphone. After that came convenience as the second consideration based on their research. They stressed also the importance of a brand in influencing the customer's decision to buy a smartphone. Social influence also had a significant impact on smartphone users purchase decision, where users were referring to friends, family, and other relevant people for them. It also had less impact on affecting the purchase decision as compared to the other selected variables tested in this study.

This paper does not use any Technology Acceptance Model-inspired model but it utilizes the Theory of Consumption Values. The Theory of Consumption Values (Sheth et al. 1990) provides a framework to categorize customer's motives for buying:

- functional values—values related to utility,
- social values—values related to being highly valued by others,
- epistemic values—values related to learning,
- hedonic values—values related to pleasure,
- conditional values—functional and/or social values present only in some situation.

The aim of the paper is to create constructs within the Theory of Consumption Values that could be used for future quantitative research of smartphone adoption. The rest of the paper is organized in the following way: In the next section, there is a description what data were collected and how, and how they were analyzed. In the following section, results of the analysis are presented. The last section offers conclusions.

2 Data and Methodology

Following the framework of Saunders et al. (2012), the following choices were made: the philosophy was chosen to be positivism, the approach was selected to be induction, the methodological choice was mono method quantitative, the strategy was survey, and the time horizon was set to be cross-sectional.

Data were collected using a paper-based questionnaire in 2013. There were 277 respondents, of them 69 were men, 207 were women and one respondent did not provide the information. They were 19–25-years old, average being 20.7. Respondents were students of University of Economics in Bratislava, Slovakia; Prešov University, Slovakia and Pavol Jozef Šafárik University, Slovakia. Overall, 174 respondents owned a smartphone.

Statements for the values were rated on a 1–6 Likert scale, 1 meant fully agree and 6 meant fully disagree; there was no central value in order to avoid the central fixation bias. The questionnaire per se is not provided, and statements are not explicitly mentioned in this section but wording and order of the statements will be provided in Tables 1, 2, 3, 4 and 5 in the next section.

With regards to the data analysis, principal component analysis with VARIMAX rotation is used to generate factors for each value. It is possible that a different rotation method (such as OBLIMIN, QUARTIMAX, EQUAMAX, PROMAX) would lead to different results but VARIMAX rotation was used because the created factors should be later used for a regression, so orthogonality is of essence. SPSS is used for data analysis.

Table 1 Rotated component matrix for functional values

Smartphones	Component				
	1	2	3	4	5
are convenient	0.300	−0.225	0.595	−0.086	−0.094
are unreliable	0.056	0.563	−0.309	0.198	−0.088
difficult to use	−0.287	0.574	0.173	0.205	0.059
are too expensive	−0.109	0.138	0.202	0.594	0.387
are trouble free	0.030	0.005	0.730	−0.121	−0.033
don't have adequate battery life	−0.031	−0.040	−0.120	−0.078	0.774
are too big to carry around	−0.032	0.413	−0.096	0.175	0.499
have difficult-to-use keyboards	−0.026	0.686	−0.227	−0.059	0.248
have screens that are too small	−0.205	0.644	0.065	−0.125	−0.081
save time	0.484	−0.049	0.569	0.147	−0.138
are good time killers	0.032	−0.116	−0.086	0.738	−0.149
improve job performance	0.629	0.204	0.292	0.074	−0.130
deprive me of my privacy	0.169	0.229	−0.244	0.621	0.049
help increase social networks	0.470	−0.210	0.059	0.294	0.307
keep people in touch with friends and family	0.717	−0.157	0.072	0.014	0.071
keep people organized	0.723	−0.071	−0.019	−0.064	−0.110
provide instant information	0.710	−0.204	0.127	0.047	0.008

Table 2 Rotated component matrix for social values

	Component					
	1	2	3	4	5	6
Children (12 and under)	-0.160	0.003	0.072	0.217	0.435	0.567
Teenagers	0.192	-0.050	-0.043	0.241	0.772	0.038
People in their 20s	0.551	0.023	-0.024	0.213	0.638	-0.102
People in their 30s	0.444	0.542	0.027	0.095	0.354	-0.256
People in their 40s	0.156	0.859	0.082	0.066	0.070	-0.062
People in their 50s	-0.076	0.842	0.149	-0.022	-0.068	0.158
People 60 and over	-0.249	0.636	0.340	-0.100	-0.227	0.207
College students	0.719	0.007	-0.081	0.067	0.275	0.063
Salespeople	0.654	0.135	0.011	0.056	0.062	0.074
Unemployed people	-0.104	0.157	0.739	0.053	0.031	0.038
Sole proprietors (small business owners)	0.451	0.035	0.525	-0.094	0.262	0.137
Business travelers	0.671	-0.077	0.214	0.093	0.072	-0.044
Skilled laborers	0.237	-0.116	0.524	0.310	-0.038	-0.392
Musicians	0.144	0.114	0.363	0.286	0.067	-0.070
Factory workers	0.024	0.147	0.640	0.199	-0.199	0.283
Retired people	-0.272	0.170	0.579	-0.109	-0.037	0.311
Business managers	0.788	-0.074	-0.089	0.153	0.034	-0.079
Wealthy people	0.463	-0.039	-0.170	0.383	-0.271	-0.124
Disabled persons	0.196	0.072	0.244	0.095	-0.111	0.678
Highly educated people	0.406	0.186	0.045	0.444	-0.163	0.178
Gamers	0.067	-0.044	0.103	0.692	0.295	-0.083
Mac users	0.086	-0.101	0.028	0.740	0.093	0.096
People wearing designers shoes	0.092	0.092	0.115	0.635	0.113	0.106

3 Results

Rotated component matrix for functional values is provided in Table 1. Based on eigenvalues, five factors were created.

Based on the correlation coefficients from Table 1, it is possible to name these factors:

1. Efficacy
2. Impracticality
3. Comfortability
4. Problematic aspects of ownership
5. Low comfort

Rotated component matrix for social values is provided in Table 2. Based on eigenvalues, six factors were created.

Based on the correlation coefficients from Table 2, it is possible to name these factors:

Table 3 Rotated component matrix for hedonic values

	Component			
	1	2	3	4
I enjoy the aesthetic appearance of a smart phone	0.234	-0.001	0.798	0.146
I have fun when using a smart phone	0.308	-0.133	0.777	0.028
I worry when I use smart phone	0.018	0.665	-0.043	-0.123
I feel happy when I use smart phone	0.681	0.073	0.413	-0.128
I feel clever when I use smart phone	0.777	0.170	0.266	-0.140
I feel safe when using a smart phone	0.686	0.190	0.210	-0.091
I feel content when using a smart phone	0.696	-0.046	0.421	0.074
I feel angry when using a smart phone	0.081	0.732	0.034	0.013
I feel disappointed when using a smart phone	0.108	0.830	0.042	0.020
I feel confident when using a smartphone	0.766	0.071	0.116	0.199
I feel restless when using a smartphone	0.270	0.759	0.058	0.009
I feel independent when using a smart phone	0.763	0.067	0.074	0.075
I feel more able than others when I use a smart phone	0.790	0.186	0.003	0.114
I feel clumsy when using a smart phone	0.046	0.793	-0.060	0.200
I feel stressed when using a smart phone	0.081	0.827	-0.034	0.168
I feel nostalgic because of my smart phone	0.381	0.555	-0.189	0.101
I feel a sense of belonging when I use my smart phone	0.621	0.241	-0.037	0.361
I feel proud when I use my smart phone	0.753	0.070	0.078	0.325
I feel impatient waiting for the smart phone to do things	0.189	0.019	0.158	0.723
I feel frustrated because of the difficult learning curve	0.106	0.619	-0.070	0.421
I feel trapped because I am restricted to the functions on the smart phone	0.018	0.514	-0.004	0.582

Table 4 Rotated component matrix for epistemic values

	Component		
	1	2	3
Settle disagreements with friends	0.426	0.211	0.038
Get more information about something that sparks my curiosity	0.580	0.504	-0.062
See how smart phones work	0.401	0.520	0.037
Get more in-depth information about items in the news	0.555	0.489	-0.217
Download new applications to see what other people are talking about	0.540	0.449	0.082
Listen to educational audio recordings	0.006	0.034	0.717
Improve skills with applications that help me practice something	0.159	0.747	0.126
Stimulate the mind by playing puzzle or number games	0.035	0.543	0.499
To try out new applications in hope for finding something new and fantastic	0.311	0.599	0.413
Download and read classic literature	-0.086	0.592	-0.089
Explore the capabilities of the smart phone device	0.328	0.590	0.190
Visit social networking sites to satisfy curiosity about friends' activities	0.785	-0.036	0.309
Ping friends for advice	0.768	0.092	-0.166
Surf the web for entertainment	0.697	-0.013	0.438

Table 5 Rotated component matrix for conditional values

	Component						
	1	2	3	4	5	6	7
<i>Using voice communication</i>							
Near a television	0.064	0.038	0.182	0.070	0.253	0.687	0.106
Near a computer	0.283	0.060	0.137	0.137	0.305	0.679	0.133
Near a video game console	0.062	-0.004	0.252	0.102	0.066	0.827	-0.040
Inside your home	0.444	0.154	0.072	0.189	0.360	0.310	0.494
Outside of your home	0.254	0.163	-0.045	0.276	0.666	0.220	0.287
Away from office	0.317	0.228	0.017	0.220	0.581	0.304	0.238
Commuting	0.266	0.103	0.109	0.135	0.839	0.178	0.003
Traveling	0.234	0.136	0.075	0.161	0.787	0.116	-0.083
<i>Using text-based communication</i>							
Near a television	0.761	0.095	0.286	0.125	0.181	0.081	0.055
Near a computer	0.715	0.028	0.376	0.027	0.168	0.215	-0.026
Near a video game console	0.444	-0.041	0.436	-0.013	-0.017	0.469	-0.341
Inside your home	0.791	0.239	0.007	0.247	0.150	0.053	0.223
Outside of your home	0.747	0.225	-0.133	0.242	0.193	0.131	0.173
Away from office	0.777	0.229	-0.093	0.283	0.174	0.112	0.109
Commuting	0.713	0.225	-0.052	0.273	0.430	0.019	-0.172
Traveling	0.617	0.276	-0.075	0.323	0.431	-0.053	-0.103
<i>Accessing entertainment</i>							
Near a television	0.103	-0.032	0.685	0.438	0.148	0.035	0.178
Near a computer	0.050	0.028	0.778	0.317	0.006	0.132	0.139
Near a video game console	-0.046	-0.063	0.716	0.201	-0.008	0.417	-0.108
Inside your home	0.292	0.171	0.338	0.543	0.104	0.016	0.458
Outside of your home	0.216	0.221	0.133	0.720	0.195	0.120	0.217
Away from office	0.244	0.292	0.088	0.751	0.123	0.184	0.134
Commuting	0.276	0.243	0.119	0.727	0.226	0.131	-0.114
Traveling	0.262	0.323	-0.060	0.722	0.260	0.015	-0.117
<i>Web surfing</i>							
Near a television	0.299	0.443	0.604	-0.094	0.137	0.005	0.089
Near a computer	0.013	0.291	0.768	-0.219	0.055	0.085	-0.012
Near a video game console	-0.076	0.220	0.659	-0.046	-0.062	0.358	-0.049
Inside your home	0.242	0.631	0.345	0.059	-0.050	0.090	0.417
Outside of your home	0.147	0.781	0.136	0.233	0.166	0.018	0.214
Away from office	0.229	0.778	0.101	0.237	0.064	0.119	0.198
Commuting	0.225	0.754	0.104	0.254	0.183	0.025	-0.188
Traveling	0.098	0.797	0.058	0.251	0.195	-0.065	-0.143

1. Wealthy people
2. 30+ years old
3. Low income
4. Niche groups
5. 12–29 years old
6. Children and disabled

Rotated component matrix for hedonic values is provided in Table 3. Based on eigenvalues, four factors were created.

Based on the correlation coefficients from Table 3, it is possible to name these factors:

1. Positive feelings connection with smartphone usage
2. Negative feelings connection with smartphone usage
3. Fun and aesthetics
4. Limitations of technology

Rotated component matrix for epistemic values is provided in Table 4. Based on eigenvalues, three factors were created.

Based on the correlation coefficients from Table 4, it is possible to name these factors:

1. Retrieving information from & about friends and from other sources
2. Learning about smartphones and applications
3. Education

Rotated component matrix for conditional values is provided in Table 5. Based on eigenvalues, seven factors were created.

Based on the correlation coefficients from Table 5, it is possible to name these factors:

1. Text-based communication everywhere
2. Web surfing without a cable connection
3. Entertainment and web surfing with cable connection
4. Entertainment and web surfing without cable connection
5. Voice communication out of home
6. Voice communication with cable connection
7. Voice communication inside home

With regards to the results, it is interesting that within functional values (Table 1) high- and low-comfort-related statements created two factors (3 and 5), not one with correlation coefficients with opposite signs for the two groups. Generally, the same thing can be observed within hedonic values (Table 3), the first two factors are positive and negative feelings in connection with smartphone usage. This may link to what Kano et al. (1984) identified as different consumer satisfaction driver types. Namely, must-be features are expected by default; when they are not present, a consumer is dissatisfied, and when they are present, a consumer is only neutral, i.e. not overly satisfied. Low-comfort-related statements from Table 1 and negative

feelings connected to smartphone usage from Table 3 seem to fit the must-be features, i.e. when they are low/absent, a user is neutral. Another type is a delighter/exciter, i.e. a feature that makes a product attractive when present but does not cause a dissatisfaction when missing. This seems to be the case of high-comfort-related statements in Table 1 and of positive feelings connected to smartphone usage in Table 3.

There exists also a one-dimensional satisfaction driver type—when a feature is missing, a consumer is dissatisfied, and when it is present, a consumer is satisfied. Epistemic values (Table 4) were split into three groups that do not involve positive and negative aspects of the same thing but this can be also due to available statements. These values are rather delighter/exciter, not the one-dimensional driver type.

Having a sample of respondents of a certain age may be a limitation. Specifically, it may have possibly influenced the factors calculated for social values (Table 2). Two (of six) factors are 12–29 years old and 30+ years old; the first factor describes the respondents (as mentioned in the second section, they were 19–25-years old, average being 20.7), and the second factor describes people older than them. If respondents were older, it is possible that there would three factors that could be described as younger than them, their age group, and older than them. On the other hand, even with a probabilistic sample, the results may be the same because the threshold age of 30 roughly divides what Prensky (2001) calls digital natives and digital immigrants. Prensky (2001) did not set the threshold value but it is often interpreted that people born after 1980 are digital natives. A later threshold year should be used for Slovakia because (more than 8-bit) computers and networks became more accessible only after the Velvet Revolution in late 1989; it was restricted before because of both the communist regime and the embargo enacted by the Coordinating Committee for Multilateral Export Controls (CoCom).

Statements for conditional values in Table 5 grouped somewhat within the framework used in the questionnaire text-based communication, voice communication, entertainment and web surfing. Only two factors cover a combination of two, namely entertainment and web surfing; it may be because web surfing replaces other sources of entertainment especially for young people, i.e. digital natives.

4 Conclusion

The aim of the paper was to design factors within the Theory of Consumption Values that could be in future used in quantitative studies for smartphone adoption or continued use or for smartphone brand loyalty research. Since (linear or logistic) regression (which requires uncorrelated independent variables) is the most likely method that will be used in future research which will use these factors, factor analysis with VARIMAX rotation was used to group statements within five consumption values. Other than VARIMAX rotation would possibly lead to factors that are inter-correlated.

Eventually, five factors were identified for functional values, six factors for social values, three factors for epistemic values, four factors for hedonic values, and seven factors for conditional values. Loadings for certain variables were relatively low. It is possible to exclude them; this may lead to different composition of factors. Using a different rotation will most likely also lead to different composition of factors. The factors presented in the paper should hold well for a sample consisting of respondents in their late teen age and in their early twenties. It is not possible to refute a possibility that social values would be grouped differently in case of older respondents. If only older respondents are used, it is possible that entertainment would not be merged with web surfing within conditional values as these people may use more traditional forms of entertainment in a greater extent.

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Impact of UTAUT/UTAUT2 Motives on Intention to Use Deal Sites



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Abstract Deal sites, in different forms, exist for more than a decade. Although the industry is mature, there is only a limited number of papers investigating deal sites adoption and use from a customer perspective. Most of the research published on the topic is rather exploratory than using existing theories. The unified theory of acceptance and use of technology (UTAUT) is an information systems theory that explains adoption and continued usage behavior. There already exists the second version of the theory. The aim of this research is to test if UTAUT and UTAUT2 motives influence intention to use deal sites. As it is a preliminary study, only four core UTAUT and core seven UTAUT2 (a superset of UTAUT) motives are investigated, not factors moderating the core motives. Data were collected in Denmark, and they are analyzed using multiple linear regression. Considering only UTAUT motives, only performance expectancy was found to significantly influence intention to use deal sites. Considering UTAUT2 motives, besides performance expectancy, also price value, and habit were found to significantly influence intention to use deal sites.

Keywords Deal sites · Unified theory of acceptance and use of technology

1 Introduction

Deal sites can be used by companies selling goods or services. They are web portals that offer a certain product for a discounted price for a limited period of time, sometimes a day; therefore, they are also often called daily deal sites or deal of the day sites. Probably the first popular deal site was Woot; it was launched in 2004, and

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it was acquired by Amazon in 2010. Since then, many deal sites emerged. From the better known deal sites, LivingSocial was launched in 2007, and Groupon was launched in 2008. Groupon acquired LivingSocial signals in 2016 (Lunden 2016); it signals consolidation of deal sites.

These days, probably most people think of Groupon when talking about deal sites. There are several reasons for it. First of all, the company spends a high percentage of the budget on marketing activities, i.e. it is visible. Secondly, it was discussed in mass media because of several reasons. It was the first deal site to go public—in late 2011. Moreover, it was the biggest initial public offering by an Internet firm since 2004 when Google went public. Media coverage in financial media was even higher due to the fact that Groupon did not use standard accounting metric but it tried to present revenue as profit while, actually, the company was in loss. Additional media coverage stems from the fact that the stock price was falling already shortly after it started to be traded—from \$20 it went to almost \$30 but it fell approximately one tenth since then.

From a business model perspective, Groupon can be classified as affinity club (Johnson 2010), round-up buyers (like Linder and Cantrell's (2000) buying club), and trade show (like Timmers' (1998) third-party marketplace) in the framework compiled by Taran et al. (2016). The core feature of deal sites is that they offer coupons. Such coupons are also called social coupons, the term was popularized by Kumar and Rajan (2012a, b). According to Grosova (2002), the price is often, esp. when it comes to customer goods, considered the main determinant of the purchase decision. Deal sites coupons usually offer deep discounts (possibly of 50% or more). Nakhata and Kuo (2017) point out that while regular coupons were typically for free (in newspapers or alike), deal sites coupons need to be purchased, or as they call it—prepaid.

Groupon's business model is specific in a sense that these coupons become valid (and money is withdrawn from customer credit cards) only if there is a threshold number of coupons sold for a particular service or goods within a certain amount of time; Hu and Winer (2017) call this threshold a "tipping point". Customers tend to share the offers they like/purchased/want to become valid on social media in order to attract more customers, so the threshold number of sold coupons is achieved. This specific feature of Groupon generates additional social media buzz compared to deal sites that do not require a threshold number of coupons to be sold in order for a coupon to become valid. Groupon ceased operations in Denmark (and also Sweden, Norway, and Finland) on 16 November 2015 (Lunden 2015), i.e. more than a year later than survey were collected.

Last but not least reason for deal sites to be discussed in media is the fact that both customers and companies have mixed experience with using deal sites coupons. Edelman et al. (2016) provide an analysis how to make offers profitable for companies selling Groupon coupons and they suggest that it would make sense for a company to allow a customer to buy only one coupon. However, Friedman and Resnick (2001) pose that such a restriction is hard to implement because a consumer can set up more than one account and buy more coupons from one company this way.

Although there is an increasing number of papers published about deal sites, there is still only a limited number of papers investigating motives for their adoption and

use by customers. Luo et al. (2014) point out that there are two phases of customer behavior—purchase (prepayment) of coupons, and redemption of coupons (actual receipt of goods or services). Nakhata and Kuo (2017) summarize that there is more literature on the former than on the latter. Within the majority category, there exists a track that focuses on impact of personality traits on awareness of deal sites (Sudzina 2015a), use versus non-use of deal sites (Sudzina 2015b; Sudzina and Pavlicek 2017a), frequency/extent of use of deal sites (Sudzina 2016a; Sudzina and Pavlicek 2017b).

This paper falls in the majority category, i.e. purchase of coupons. A theory applicable to virtually any IT artefact is the Unified Theory of Acceptance and Use of Technology—UTAUT (Venkatesh et al. 2003) and its second version—UTAUT2 (Venkatesh et al. 2012). UTAUT stems from the technology acceptance model (Davis 1989; Davis et al. 1989) and its second version tries to account for the existing criticism summarized e.g. in Bagozzi (2007).

UTAUT (Venkatesh et al. 2003) provides the following framework to categorize customer's motives:

- performance expectancy,
- effort expectancy,
- social influence,
- facilitating conditions.

UTAUT2 (Venkatesh et al. 2012) extends the framework by adding:

- hedonic motivation,
- price value,
- habit.

The aim of the paper is to investigate if UTAUT/UTAUT2 factors influence intention to use deal sites and if so, which of these motives influence intention to use deal sites. The rest of the paper is organized in the following way: In the next section, there is a description what data were collected and how, and how they were analyzed. In the following section, results of the analysis are presented. The last section offers conclusions.

2 Data and Methodology

Data were collected in the spring semester 2014 using an on-line questionnaire. Respondents were 284 university students from Denmark, of which 153 were male and 131 female. Most of them were from Aalborg and Aarhus universities in their first to fourth year of study. Of them 131 stated that they used deal sites and 96 of them fully filled the questionnaire, so the effective sample size is 96.

With regards to measuring motives (independent variables) and intention to use deal sites (the dependent variable), respondents were asked "To what extent do you agree with the following statements?" on a 1–7 Likert scale where 1 meant strongly disagree and 7 meant strongly agree. The order of all these statements was

randomized in order to minimize the effect of one answer influencing the following answer. The following statements are adapted from Venkatesh et al. (2003) and/or Venkatesh et al. (2012).

Statements for the performance expectancy were:

- I find deal sites useful in my daily life
- Using deal sites increases my chances of achieving things that I need
- Using deal sites allows me to find deals more efficiently in comparison with other media
- Using deal sites helps me to find deals more quickly in comparison with other media

Statements for the effort expectancy were:

- Learning how to use deal sites is easy for me
- My interaction with deal sites is clear and understandable
- I find deal sites easy to use
- It is easy for me to become skillful at using deal sites

Statements for the social influence were:

- People, who are important to me, think that I should use deal sites
- People, who influence my behavior, expect me to use deal sites

Statements for the facilitating conditions were:

- I have the means necessary to use deal sites (e.g. Internet connection, computer/smartphone)
- I have the knowledge necessary to use deal sites
- Deal sites are compatible with the payment technologies I am used to
- I can get help from others when I have difficulties using deal sites

Statements for the hedonic motivation were:

- Using deal sites is fun
- Using deal sites is enjoyable
- Using deal sites is entertaining

Statements for the price value:

- Offers at deal sites are reasonably priced
- Offers at deal sites are a good value for the money
- Offers at deal sites have good prices in comparison with market prices
- Offers at deal sites are economical

Statements for the habit were:

- The use of deal sites has become a habit for me
- I am addicted to using deal sites
- Using deal sites is a must
- Using deal sites has become natural to me

Statements for the intention to use were:

- I intend to use deal sites in the next 3 months
- I expect that I would use deal sites in the next 3 months
- I plan to use deal sites in the next 3 months

Averages were used for each construct. The UTAUT/UTAUT2 constructs were validated by Sudzina (2016b). With the exception of social influence, Cronbach's alpha for the remaining constructs ranged between .728 and .912, i.e. higher than Nunnally's (1978) threshold of .7. According to Carmines and Zeller (1979), Cronbach's Alpha can be biased again short scales; so even the value somewhat below, such as .631 for social influence could be acceptable for a two-statement construct.

Multiple linear regression was used to analyze impact of UTAUT and UTAUT2 motives on intention to use deal sites. What will not be written in the next section is that before testing models with only main effects (presented in Tables 1 and 3), also interactions were added to the models. But since none of the interaction was significant, eventually, only models with main effects are described in text. SPSS software was used for the analysis.

3 Results

First, the UTAUT model is estimated. Parameter estimate for the full model are provided in Table 1.

The only significant independent variable influencing intention to use deal sites is performance expectancy. Carlson and Wu (2012) suggest to exclude independent variables that are not significant. But removing the least significant independent variables one by one (like stepwise regression with backward elimination) may lead

Table 1 Multiple linear regression for the full UTAUT model

	UTAUT
Constant	-0.300 (0.580)
Performance expectancy	0.873** (0.117)
Effort expectancy	0.198 (0.159)
Social influence	0.015 (0.107)
Facilitating conditions	-0.022 (0.155)
N	96
R ² _{adj}	0.48

Standard errors are given in parenthesis

*, ** and *** present significance at 10%, 5% and 1% levels

Table 2 Multiple linear regression for the streamlined UTAUT model

	Streamlined UTAUT
Constant	-0.287 (0.493)
Performance expectancy	0.879*** (0.105)
Effort expectancy	0.176* (0.099)
N	96
R ² _{adj}	0.49

Standard errors are given in parenthesis

*, ** and *** present significance at 10%, 5% and 1% levels

Table 3 Multiple linear regression for the full UTAUT2 model

	UTAUT2
Constant	-0.594 (0.582)
Performance expectancy	0.612*** (0.145)
Effort expectancy	0.068 (0.168)
Social influence	-0.113 (0.120)
Facilitating conditions	-0.019 (0.154)
Hedonic motivation	0.110 (0.137)
Price value	0.219 (0.153)
Habit	0.289** (0.136)
N	96
R ² _{adj}	0.51

Standard errors are given in parenthesis

*, ** and *** present significance at 10%, 5% and 1% levels

to increased significance of remaining variables, such as significance of effort expectancy decreasing from .218 to .080 in this case. Parameter estimates for the streamlined model are provided in Table 2.

In the streamlined model, effort expectancy became borderline significant. The regression coefficients for performance expectancy and effort expectancy stayed virtually the same. The reason for mentioning also a weaker relationship is that, according to Baroudi and Orlikowski (1989), researchers in the information systems field have typically a 40% probability of not identifying the investigated relationship, although it, in fact, exists.

Second, the UTAUT2 model is estimated. Parameter estimates for the full model are provided in Table 3.

Table 4 Multiple linear regression for the streamlined UTAUT2 model

	Streamlined UTAUT2
Constant	-0.630 (0.455)
Performance expectancy	0.588*** (0.141)
Price value	0.338** (0.115)
Habit	0.271** (0.112)
N	96
R ² _{adj}	0.52

Standard errors are given in parenthesis

*, ** and *** present significance at 10%, 5% and 1% levels

Performance expectancy stayed significant after including three additional independent variables from UTAUT2. And from the added factors, habit is significant. Parameter estimates for the streamlined model are provided in Table 4.

In the streamlined model, price value became significant. The regression coefficients for performance expectancy and habit stayed virtually the same, the regression coefficient for price value stayed increased.

To sum up, from four factors proposed by UTAUT, only performance expectancy influences intention to use deal sites (though in a larger sample effort expectancy might possibly become significant too). And from seven factors proposed by UTAUT2, performance expectancy, price value, and habit influence intention to use deal sites. All of the significant factors have a positive influence.

4 Conclusions

Although there is an increasing body of knowledge about deal sites, there are virtually no studies that use existing marketing or information systems theories to investigate what drives use of deal sites. The aim of the paper was to investigate impact of the UTAUT and UTAUT2 motives on intention to use deal sites.

With regards to the results of the analysis, it is performance expectancy, price value, and habit that influence intention to use deal sites, all three in a positive way. UTAUT and UTAUT2 explain about half of the variance. Future research should aim to identify what motives explain the second half of variance. This will require testing of other theories; some additional independent variables for information systems research in general were summarized by Petter et al. (2013). Moreover, it will probably be necessary to also conduct qualitative research in order to identify additional suitable factors for further quantitative research. For international studies, even different factors may be needed, e.g. trust or perceived risk as deal sites in some countries sometimes sell services of non-existent companies, while such fraud does not happen in other countries.

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The Purpose, Scope and Basic Principles of Consumer Protection in Turkey



Ahmet Karakocali

Abstract Turkey's previous Consumer Protection Act 1995 was valid until 28 November 2013 when the new Consumer Protection Act (Ankara: TGNA, 2014) was issued in the Turkish Official Gazette and entered into force on 28 May 2014 after a series of intensive legislation work. In this respect, 21 Implementing By-laws entered into force subsequently. This new law, replacing the former Consumer Protection Act 1995, was enacted to comply with both the provisions of the new Turkish Obligations Act (Ankara: TGNA, 2012) and European Commission's related directives. Full harmonization with the EU practices and legislation is the actual target. The new Act covers the entire consumer transactions and practices concerning consumers whereas the previous Consumer Protection Act 1995 governed only consumer transactions for the goods and service market. In this respect the new Act is more comprehensive compared to the Consumer Protection Act 1995. With this paper, we will try to explain the purpose, scope and basic principles of Consumer Protection Act (Ankara: TGNA, 2014).

Keywords Consumer · Protection · Law · Purpose · Scope · Basic principles

1 Introduction

Article 1 of the Consumer Protection Act 2014 defines the Turkish Consumer Law. The preamble includes the following statement: "the article was amended for a number of statements and it was rewritten with regards to the universal consumer rights".

Annulled Law reported on the exact same purposes for the Article 1 of the Consumer Protection Act 1995 except the measures to be taken for consumer education. Legislator, here, prefers the attributions of formative and enlightening

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instead of educative. Therefore, it can be said that *ratio legis* remains unchanged, literally. In any case, consumer is central for the definition of purposes (Gümüş 2014).

The preamble of the legislator includes consumer as the subject; the target act, on the other hand, is protection of consumer. With respect to the wording, the purpose of the legislator is to protect, to compensate and to have compensated, to enlighten, to raise awareness, to encourage and to motivate the consumer. In fact, the purpose of this branch of law is consistent globally. Such that, be it Turkish Consumer Law or comparative consumer law, the purpose is the same in the big picture: protection of the consumer.

The existence of consumer law independent from the Law of Obligations lies behind the purpose of protecting the consumer. Following section includes “the Purpose of Turkish Consumer Law” in order to address the main purposes of this field of law. Then, the purpose of protective branches of law is addressed under the “Changes on the Principle of Consumer Protection” and criticism and insight about the state of the principle of consumer protection are presented. Next section includes the scope and main principles of the Turkish Consumer Law. The “Conclusion” communicates a brief study on all the relevant articles.

2 The Purpose of Turkish Consumer Law

Article 1 of the Consumer Protection Act 2014 quotes the fundamental consumer rights which are globally accepted. Article 1, in fact, communicates the principle of consumer protection. The purpose of the Law numbered 6502 and especially the principle of consumer protection is conveyed from the Turkish Consumer Law doctrine below. Consumer protection is not only important in terms of private law, but also important in terms of public law. As the production and marketing techniques become more complex, the possibility of damages to the consumers which the seller and/or provider gets in contact with also increases (Karakocalı and Kurşun 2015).

As noted in the general preamble, the main purpose of the Consumer Protection Act 2014 is the completion of the harmonization with EU legislation, as it was the case in the annulled Law numbered 4077. In accordance with this purpose, *acquis communautaire* has been the inspiration (Gümüş 2014). However, the driving force is the purpose to harmonize with the EU legislation, it was also investigated how the relevant parts of the *acquis* is adopted in the national laws of the EU members. On the other hand, there are monetary details serving for the purpose of the consumer protection. Nevertheless, increase in fines, variety added to the measures aimed at monitoring the market, activation of ways to pursuit one’s rights are implemented in the same manner.

The aim of this law was to protect the consumer who is economically weak when compared to those classes who hold the economic power. The purpose of the consumer law is to allow for the consumer to meet his/her needs in a reliable and

economic manner. “As the weak party of the legal transactions it conducts with the product and service providers in an expanding market, the consumer is not only in need of protection because of economic and social reasons, but also because of lack of information. With this respect, it is a must to protect not only the economic interests of the consumer but also all the other consumer rights” (Karakocalı and Kurşun 2015).

Freedom of contract shall not subdue the consumer in a way to exploit intellectual and economic superiority. The majority of the regulations under the Law of Obligations are reserve provisions. On the other hand, consumer society has created a new contract party which needs to be protected along with workers and tenants. In addition to the solutions available in general provisions, there was a need to provide special protection to the consumer. In the financial life, seller and provider which have the organized structure, know-how and economic power are superior when compared to the consumer who satisfies his/her personal and familial needs with his/her personal actions. Due to the disturbed equality between contracting parties, such superiority necessitates the protection of the masses called consumers.

Consumer protection as one of the most important subjects of law policy, is the act of allowing consumers to purchase with an increased awareness and to let them become an organized social power. In the consumer society, there is an unnecessary consumption trend. Consumers tend to buy goods and services without looking closely into their qualities. Motivated by personal or familial needs, consumers do not even consider the conditions of the contracts they choose to be a party to (Altunkaya 2004).

Consumer is now the person who purchases only to consume. They may purchase a good out of need or purchase an unnecessary good just because they planned to purchase it. Advertisement methods have reach to a point which is almost impairing the free will. On the other hand, arrival of the manufacturers as an actual monopoly keeps the need to protect the consumer, who is already incapable, up-to-date. Therefore, legal protection must be established before the institution of the contract; the consumer must be enlightened about overpricing and general transaction conditions while being offered to make use of a healthy competition and honest advertisement environment (Altunkaya 2004).

It is not enough to protect the consumer only in terms of goods and service quality. Consumer also needs to be protected against interfering contractual texts in which the conditions of the good or service purchase is determined (Çınar 2009).

Fundamental national policies aimed at consumer protection ensure that the consumer who is the vulnerable party in terms of social, economic and legal aspects is protected in spite of the contract. On the other hand, the state which protects its consumers as a requirement of the welfare state characterized by the social state provides for the public interest in general. The principle of consumer protection ensures the accuracy and honesty of all the advertisement messages used when the seller and provider communicates with the consumer. Thanks to this principle, seller or provider is obliged to avoid any expression and image which pave the way to the violation of consumer rights and which misdirect the consumer. The principle of

consumer protection is one of the most valuable aspects of the advertisement ethics (Aktuğlu 2006).

The principle of consumer protection and the regulation which brings this principle to the legal level protects the consumer against unfair competition. Indeed, the provisions of Consumer Protection Act 2014 favors the consumer in terms of legal remedies and sanctions being of a private quality when compared to the provisions of Turkish Commercial Act 2012 on unfair competition.

Consumer protection also necessitates the measures to be taken against any possible damages transferred to the heirs of the consumer. On the other hand, the regulations taking effect to protect the consumer paved the way for consumer organizations in Turkey and their numbers are increased gradually. Consumer protection ensures the organization, which is the most efficient way of improving consumer rights.

3 Changes on the Principle of Consumer Protection

A discourse about the principle of consumer protection is getting away from being strict in favor of the consumer, that it is becoming flexible in favor of seller and provider is prevailing, in other words, it is suggested that the discourse is relenting. Below, this tendency of flexibility and relenting is addressed from a viewpoint of consumer law doctrine gradually from moderate criticism to severe criticism. However, first it was compared with the worker and tenant protection principles due to their similar historical development.

Protective branches of law such as consumer, work and tenant law, are an embodiment of social state idea in the private law with the motivation of protecting the vulnerable in the face of the strong (Ozanoğlu 2001). Restricting the contractual relationships in private law with respect to the consumer law, is just a manifestation of the principle of social state in the private law (Tandoğan 1977).

Protective branches of law which found their basis in the social state limit the freedom of contract. The reason behind this is that the balance of interest cannot be achieved to a satisfactory level in contracts where workers, consumers and tenants are parties. In other words, general provisions are insufficient in providing the necessary balance (Aslan 2015).

The aspect of consumer law which distinguishes it from other types of protective branches of law is that the consumer is not protected under a single type of contract such as labor contract or tenancy contract and as the protection in consumer law comes across in many aspects which requires for the same amount of regulation (Atamer 2007).

In fact, the idea behind protecting the possibility of voluntary contract in protective branches of law has its origins in business law. Business law had also left its general provisions with the principle of worker protection and then went through a period of flexibility with the idea of a fair balance between employer and the employee, an idea originating from the German Business Law (Laçiner 2005).

Freedom of contract can turn into a dangerous weapon in the hands of the strong party. In contrast, it is like a blunt knife in the hands of the weak. Regulations protecting the consumer are divided into two, namely, regulations which support the functioning of the market and those intervene with the functioning of the market. Supporting the functioning of the market comes to mean creating individuals with awareness and autonomy and protecting the competitiveness. Intervening the market, on the other hand, is an intervention to the contract, directly; such as investing the judge the right to adjust the contract or giving the opportunity to the consumer to dissolve the contract (Atamer 2007).

As it is the case with every law, the absolute purpose of the consumer law is the common good. Consumer can only be protected to a point that the national economy can bear such a burden. The social burden consumer protection brings should not reach to a point that undermines the financial status of corporations and to impede their adaptation to technologic innovations. Common good requires an economic balance between the consumer and the seller/provider (Zevkiler and Aydođdu 2004).

It is a fact that economic power drives the consumer law pressurizing the legislator. However, availability of such businesses in the market also indicates the need for them. At this point, it is best to be aware of the advantages and disadvantages of the principle of consumer protection and to keep them at an optimal level. Balance can change in the favor of one party in special cases. For example, small businesses can become powerless in the face of insisting customers. Laws that establish the principle of consumer protection limits the freedom to trade, and paralyzes the economic activities, partially. It is a mistake to give the impression of protection in any possible case to the consumer. As the consumer is protected, it is known that the prices of the goods and services available in the market increase proportionally. Criticism on prices should not be overlooked or ignored. A balance between the parties of the market can only occur with information and education. Of course, when not protected at all, the consumer is a victim. After all, it is a matter of proportions. Protective provisions must be sufficient and effective. However, neither the number of these provisions must be high nor these provisions must be expressed in an overly binding manner.

As it can be seen, the principle of consumer protection is criticized because of its strict bias for the favor of the consumer. The perspective which protects the consumer under an absolute protection shield as he/she is incapable is not transforming. The flexibility trend in the principle of consumer protection is addressed from the viewpoint of concerns such as social state, social justice, common good and the balance between opposing interests. Indeed, in exceptional cases where the consumer is not exactly the inferior party such as when the other party is a small business owner, it is inadequate to apply this principle to the fullest. A similar flexibility which is experienced in the recent law history in the principle of worker protection is not a surprising coincidence. In terms of Roman-German oriented private law, it would be expected to see a similar loosening in the principle of consumer protection, as it was the case for the principle of worker protection. It should be expected that the principle of consumer protection loosens in exceptional

cases as the general purpose draws away from the purpose of provision of social justice.

4 The Scope of Turkish Consumer Law

The scope of Turkish Consumer Law was defined as follows, before the annulled Consumer Protection Act 1995 was enacted: all the issues arising from the protection of the consumer against overpricing, illegal competition limitations, general transaction conditions favoring one party, sales in installments and advance payment along with the threats to the consumer credit. Nevertheless, the ease of access to right to demand and to action is also addressed under this branch of law (Tandoğan 1977).

The rise of consumer law has led the contracts to be divided into three, in the private law: ordinary contracts, consumer contracts and commercial contracts. Thus, it is possible to use three theories in distinguishing the consumer contracts from other, therefore, defining its scope. The subjective theory asks if the consumer is a party to a contract; the objective theory asks if the contact is a consumer transaction; and finally, the purpose theory asks about the actual will of the person who conducts the legal transaction. Thus, the scope, both in monetary and personal senses, emerges as any legal transaction conducted by the consumer which is aimed at the purchase of goods or acquisition of any services. Consumer transaction is considered within the scope of the law, and this law is only applicable when one of the parties to any type of contract is the consumer who purchases goods or services for private use and when the purchase of goods or services provides a financial value to the consumer.

Consumer law also involves the measures to be taken against any possible damages transferred to the heirs of the consumer. Consumer goods are within the scope of the law; while investment goods are not within the scope of the law however modest the investor can be (İnal 2005). Article 2 of the Consumer Protection Act 2014 notes that consumer is invited to appeal to arbitration committee for consumer problems related to contracts about artwork, transportation, brokerage, insurance, proxy, banking, etc. The most important modification in the Consumer Protection Act 2014 was the definition of a consumer transaction. Once limited to the Supreme Court's decision within the scope of annulled Consumer Protection Act 1995, consumer transaction now has a wider scope.

As opposed to the annulled Consumer Protection Act 1995, the Article 2 of the Consumer Protection Act 2014 adds the phrase, "consumer-oriented practices", to the concept of "any kind of consumer transaction". This article is one of the provisions indicating that the Consumer Protection Act 2014 has a wider scope when compared to annulled Consumer Protection Act 1995. Therefore, it is made clear that any unfair commercial practice is within the scope of this law, whether they are based on a legal transaction or not. For example, aftersales services are consumer-oriented practices conducted upon the purchase of a good.

According to the preamble, any conflicts arising from the pre-contract information form which is to be submitted to the consumer before granting a consumer loan,

sales management during the establishment of a timeshare contract, and aftersales services for a purchased good are within the scope of the Consumer Protection Act 2014. Consumer-oriented practices also include the promotion activities of periodicals and unfair commercial activities. In any case, consumer transaction is the main concept of the law. Considering the expanding scope of the law, the Justice Department is now taking action to increase the number of consumer courts which are now only able to see a trial nine or ten months after it is proceeded in İstanbul (Gümüþ 2014).

When defining the scope of the Consumer Protection Act 2014, a bilateral research was conducted both for the consumer transaction and the consumer-oriented practice. In order for a transaction or practice to be within the scope of aforementioned law, it is necessary for one party to be a consumer while the other party is a seller or provider (Aslan 2015).

5 Basic Principles

Article 4 of the Consumer Protection Act 2014 addresses general principles to be applied to all consumer transactions within eight paragraphs. The effort to combine all the basic principles to be considered for any type of consumer transaction in one article has led to an “omnibus” bill which includes complicated and unrelated regulations. The obligation of the seller or provider about informing the consumer and elaborates how this information is to be communicated to the consumer. The Paragraph in question addresses the obligation to inform especially for written contracts. However, the wording used gives the impression that validity of this provision is based only on the written form and may lead to misunderstanding. The obligation to inform in terms of the price and expenses which may be asked from the consumer. Regardless of whether the contract made with the consumer is formal or not, it was suggested that the information about price and expenses must be submitted in writing. However, it was not stated if incompliance with this obligation affects the price and expenses demanded from the consumer.

Article 4 of the Consumer Protection Act 2014 offers a regulation including unrelated subjects under a section, “Basic Principles”. As part of this regulation, it was addressed how the written form and consumer information shall be provided, the impact of the unavailability of one or more aspects that must be included in the written form on the validity of the contract, the ban on the modification of the conditions of the consumer contract to the detriment of the consumer, limitations on the charges, commissions and expenses asked from the consumer for the consumer transactions, information communicated to the consumer about the charges and expenses, issuing negotiable instruments based on the consumer transactions, limitations on the personal guarantees acquired for the consumer transactions and finally, the compound interest ban. It is debatable the suitability of addressing all these subjects under one article. The effort to combine all the basic principles

involved in consumer transactions which vary significantly in one omnibus bill (Gümüř 2014) unavoidably leads to complications in the provisions.

6 Conclusion

Considering the wording of the purpose of the Consumer Protection Act 2014, it can be seen that the ultimate purpose of the Law is to recognize the consumer rights. In fact, the main purpose communicated in this article is to fulfill the principle of consumer protection.

Comparative law also addresses the same purposes with similar wording. The Treaty on the Functioning of the European Union and the Directive on Consumer Rights aim to attune national laws of the member states, to bring a balance to the domestic market and to increase the level of consumer protection. The purpose of the French Consumption Law was not explained, however, the same vision is expressed in the doctrine. Switzerland does not have a private law for consumer protection. However, Switzerland Law of Obligations protects a group of contractual parties which are parties to a purchase or service contract for personal or familial use in the face of a seller or provider. On the other hand, Federal Consumer Credit Protection Law has the purpose to protect the loaner against the creditor, the professional. British Consumer Rights Act 2015 addresses the protection of the consumer interests in general. Indian Consumer Protection Act 1986, on the other hand, has the purpose to reinforce the consumer protection against unfair commercial acts.

As the first country to recognize consumer rights, United States Consumer Law can be evaluated with a little bit more scrutiny. The code available in the USA regulates the consumer goods guarantee. The relevant section expresses purposes such as easy access of the consumer to information, preventing consumer deception, and to improve the competition in the consumer goods market. It is understood that the federal purpose of the American Law is actualized through the corporations. Among these purposes are protecting the consumer against unfair, deceiving and fraudulent practices; along with protection against bank loan practices providing grounds for exploitation and leading to unfair profits. In addition, prevention of injuries and death due to consumer goods is one of the purposes of the law. The criteria of legal safety and economic efficiency are considered for the protection of the consumer. The social scar of the US, in terms of consumer law, is the consumer credits. The homogeneous creditor group is regulated in order to prevent exploitation of the borrowing heterogeneous group, as part of the consumer credits.

When the purpose is to protect the consumer, criticism involved in this principle must also be addressed. Both in Turkish Consumer Law and in comparative consumer law, the efficiency of this principle is *de lege ferenda* debatable. The purpose of protective branches of law is to build the fair balance for the common good, and not to favor one party. Instead of a strict and absolute protection in favor of the consumer, it could content itself with protecting the physical and economic integrity of the consumer while also protecting the freedom of choice. It can be said that

principles such as proportionality, consistency, moderation, transparency and honesty are sufficient for this end. As it is the case with every law, the absolute purpose of the consumer law is the common good. Consumer can only be protected to a point that the national economy can bear such a burden. National efficiency cannot be ignored because of this principle.

It must be remembered that this principle limits the freedom of trade in conflicting interests; paralyzes the economic activities, partially; and increases the prices of goods and services. It is a mistake to give the impression of protection in any possible case to the consumer. It is a matter of proportions. Protective provisions must be created at a sufficient and effective level.

The suggestion that the consumer is capable is unrealistic in exceptional cases. Indeed, the balance can change in the favor of one party in special cases. Of course, it is the right time to protect the consumer when the professional seller or provider is geographically in the vicinity of the consumer, in other words, when he/she is superior to the consumer. Although, in marginal cases where consumer is not vulnerable or economically inferior before the professional seller, the general and abstract protection the consumer law offers to the consumer will be misplaced and unfair. The purpose is to build a fair balance between opposing interests instead of overly generalizing this principle.

The principle of consumer protection is now reformed; it is not what it is when at the end of 70s. Provision of contractual equality and keeping the intracontractual balance has replaced the interpretation favoring the consumer. Considering the economic and normative balance of the contract, the consumer protection approach can be reduced to the subtitles of eliminating the chances of exploitation and obligations along with its compliance with the code of transparency and honesty.

These principles are not stationary. In the new contractual ethics profile, the principles of transparency, the obligation of consistency and modesty is sufficient. In the economic profile, however, it is considered that consumer when he/she is independent and aware is sufficient.

As it can be seen, the principle of consumer protection is criticized because of its strict bias for the favor of the consumer. The traditional perspective which protects the consumer under an absolute protection shield as he/she is incapable is not transforming. The flexibility trend available in the principle of consumer protection is addressed from the viewpoint of concerns such as social state, social justice, common good and the balance between opposing interests. In exceptional cases where the consumer is not at all vulnerable or incapable, i.e. when there is no imbalance to the detriment of the consumer, it is not necessary to strictly practice this principle. It should be expected that the principle of consumer protection loosens in exceptional cases as the general purpose draws away from the purpose of provision of social justice.

Article 4 of the Consumer Protection Act 2014 offers a regulation including unrelated subjects under a section, "Basic Principles". As part of this regulation, it was addressed how the written form and consumer information shall be provided, the impact of the unavailability of one or more aspects that must be included in the written form on the validity of the contract, the ban on the modification of the

conditions of the consumer contract to the detriment of the consumer, limitations on the charges, commissions and expenses asked from the consumer for the consumer transactions, information communicated to the consumer about the charges and expenses, issuing negotiable instruments based on the consumer transactions, limitations on the personal guarantees acquired for the consumer transactions and finally, the compound interest ban.

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Part II
Organizational Strategy

How Are Strategy and Organizational Culture Related? A Conceptual Discussion



Güven Alpay, Pınar Büyükbacı, and Meral Dülger

Abstract This paper seeks to foster a conceptual discussion about the relationship between organizational culture and strategy. Organizations must find ways to handle global, national, market, technological and consumer demands whilst crafting relevant strategies to their internal workings and cultures. When the strategies of organizations are misaligned with market realities, the survival rate rapidly decreases. We suggest that the culture of organizations offer an anchor dictating how organizations perceive themselves, their surroundings, their customers and relevant stakeholders. The assumptions, beliefs and values determine how companies comprehend what is happening inside and outside the organization while dominating the strategy formulation and execution process. In a culture where change is avoided, prompt adaptation to market changes could be painful if not impossible. Thus, we propose that organizational culture can be utilized as a bridge for aligning inner realities of organizations with demands of the outer domain. Essentially, we suggest that organizations' internal values and culture are generally not aligned with their strategic positions and that the focus of organizations need to be on a "fit" which will create a "competitive cultural persona" supporting the strategic posture in the marketplace. Such a "fit" will enable organizations to deploy resources effectively and manage information flow smoothly.

Keywords Strategy · Organizational culture · Competitiveness · New economy · Organizational structure

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1 Introduction

Since the beginning of the twenty-first century, particularly in the last 10 years, the ways of doing business have changed profoundly. The recent years have proved that the business milieu is changing at a pace that has not been encountered before (Achrol 1991; Hamel and Prahalad 1994; Glass 1996; Loewen 1997; Conner 1998). Hence, the ability to keep up with ongoing changes by adaptation turns out to be a must for organizations if they wish to survive under the pressures of the globalized marketplace. However, even if the changes might be detrimental to organizations' survival, somehow change and continuity have become intertwined concepts. It has increasingly become difficult to even understand and/or identify phenomena in the marketplace let alone foreseeing or exploiting them. Consequently, an anchor is required to make sense of what is going on in the outer domain of organizations so that they can adjust their inner activities accordingly. The exploration of such an anchor is the main goal of this paper.

Faced with the challenges due to changes which could occur overnight, organizations are forced to be proactive, innovative, dynamic, adaptive and flexible so as to tackle these issues (Nadler et al. 1992; Lawler III 1994; Mohrman et al. 1995, 1998; Galbraith 1973, 1994, 1995; Goold and Campbell 2002; Smith and Fingar 2003; Spanyi 2006). However, these requirements are easier said than done. The primary reason why this is the case is because most organizations tend to be set in their ways (Hammer 1996). Obviously, the market has become such a place that organizations cannot stay the same as they are through the test of time. To be able to protect their respective positions and if they are lucky enough, to grow, the last thing that the organizations should do is to try to hold on to the status-quo. Rather, they should be able to become dynamic entities so that they are capable of shifting their positions when the market requires them to do so. This means that the inner activities, capabilities, approaches, visions and outlooks of companies need to be able to adapt to the changing dynamics of the outer domain (i.e. the marketplace) in a timely manner. Thus, organizations need a holistic approach where what is going on in the market should be able to merge/unify with what is going on inside the organizations and vice versa.

The motive behind this requirement lies in the fact that globalization pressures companies to make constant strategic decisions to integrate international technological, economic, socio-cultural and political forces. Moreover, as everything has been leaning toward even further specialization since the Industrial Revolution, we have become more co-dependent locally and/or globally on each other. This naturally increases complexity. Thus, a turbulent complexity that organizations cannot escape naturally occurs. Accordingly, organizations must find new approaches that enable them to handle this greatly increased complexity, change and uncertainty and at the same time use fewer resources (Mohrman and Cummings 1989). Hence, contemporary organizations must have efficiency, yet learn and adapt (Schreiber and Carley 2006). In other words, we are leaning towards a world where two completely opposite operations are simultaneously expected to be carried out proficiently.

These contradictions actually interlink the exploitation and exploration capabilities of companies which bring us to the topic of ambidexterity.

Organizational ambidexterity can be defined as an organization's efficiency in management of market demands as well as the organizations' adaptiveness to changes in the environment concurrently (Duncan 1976). Even if organizations are historically expected to be simultaneous explorers and exploiters, the modern market place actually revokes the difference between the two. Now, these two activities are quickly becoming so intertwined that it is more difficult to identify the contrast between them. It is not like as if organizations are carrying out two separate activities in terms of exploring and exploiting. Rather, what they are doing in today's fiercely competitive world is actually one very complex activity which requires simultaneous exploration and exploitation.

With these notions in mind, the main premise of this paper is that organizations must still somehow find ways to tackle with the global, national, market and consumer requirements that they face whilst crafting strategies that are relevant to their internal functioning and cultures. In other words, if the strategies of organizations do not overlap with market realities, the rate of survival quickly declines. Thinking in terms of global pressures, when organizations try to hold on to the status-quo their strategies and structures usually suffer.

This stream of thought is the spark behind this paper that seeks to propose a fresh viewpoint on the turbulent, complex and ever-changing business milieu. Specifically, we suggest that the culture of companies offer an anchor in this dark sea of business conduct. As culture is the exclusive persona of each and every company, it dictates how organizations perceive themselves, their surroundings, their customers and their relevant stakeholders. The assumptions, beliefs and values dictated by the culture determine how organizations make sense of what is going on inside and outside. These also dominate how strategy is formulated as strategy is perceived through the lens of organizational culture. As aforementioned, continuity and change have become so intertwined that ambidexterity has become a basic skill for conducting business operations. So, the way in which organizations will perceive these realities will naturally be prescribed by their respective organizational cultures. For example, in a culture where change is not embraced, but rather avoided, prompt adaptation to market changes could very well be painful if not impossible. Thus, in this paper we propose that organizational culture can be utilized as a bridge for adjusting the inner realities of companies with the requirements of the market, customers and stakeholders.

2 Relevant Literature

The pertinent literature on complexity, change, ambidexterity and culture is the main inspiration for the conceptual discussion presented in this study. As there are not many conceptual models that enclose these constructs all at once, we believe that the relevant approaches to our deliberation are worth an overview:

2.1 *Complexity, Change and Ambidexterity*

As change proceeds as an irrevocable major rule of the competition game and ambidexterity is one of the indispensable competences of today's post-modern organizations, the business milieu proves itself to be a complex one. Complexity is defined as the number of different items or factors that must be managed simultaneously by the organizations (Anderson 1999). When complexity increases, the capacity to comprehend and utilize information to plan, foresee and decipher the environment becomes more complicated (Black and Farias 1997). While increasing complexity leads to more change (Conner 1998), adaptation to the changing environment becomes more challenging (Lane and Maxfield 1996; Merry 1995). The reason for the high level of complexity in the modern marketplace can be attributed to the forces of globalization. As underlined in the previous section, globalization and technological advances naturally increase complexity for organizations. Furthermore, the surplus of factors adds to the test of perceiving, planning, acting and surviving in the business world.

The interactions among global, national, market and consumer level demands yield rather surprising outcomes in the shape of further complexities and changes. What's more, the probability of forecasting these complexities and/or changes drastically decline in the day-to-day struggle for survival. Hence, it also becomes very difficult to understand the complexities and changes within and around organizations. Besides, adapting to and/or acting accordingly to these factors can quickly become a full-time activity. This represents the main stance of our reasoning and thus, we put forward that organizations need an anchor in this stark sea of business conduct.

Since change seems to be the only constant in the global, complex, interconnected and highly technological marketplace, it also affects almost every aspect of the organizations and their respective markets. Prominent features that are needed for the proper operation of the businesses have the potential to change overnight and, some of which can be highlighted below (adapted from Johnson et al. 2008):

- Customer value propositions and loyalty patterns
- Demand cycles and purchasing habits,
- Cost and profit structures,
- Efficiency of marketing functions,
- Technology,
- Availability of information about the world and domestic economic elements,
- Financial markets,
- Business models and strategic choices,
- Resource and supply and distribution channel availability,
- Partnership dynamics,
- Laws and regulations or business norms

While this is the case, it seems that the organizations have nothing left but to seek for ways to enable them to handle potential changes as soon and seamlessly as possible. There are a number of well known models in the academic literature. One

of those is Lewin's (1947) "unfreeze—change—freeze" model (cited in Schein 2010). Here, the change is sought through acknowledging the need for change, going through the change and getting accustomed to the new status-quo. Another well-renowned methodology for change management is proposed by Kotter (1995, 1996). According to his model, the whole process is an existential orientation which could be implemented through diagnosis, change itself, dedication and stabilizing the change. In accordance with the logic of these models, change is something that needs to be managed rather than avoided. For change to be managed, the organizations' inner systems must permit them to do so. However, in a case where these systems do not overlap with the realities of the organizations' outer domains, management of change becomes quite challenging and hopes of adaptation rapidly decrease. Hence, a holistic approach where what is going on in the market should be able to merge/unify with what is going on inside the organizations and vice versa is imperative.

Naturally, when change is considered, ambidexterity is one of the foremost skills that organizations need to possess in order to survive. Organizational ambidexterity is an organization's capacity to compete based on both exploring and exploiting activities (March 1991; Tushman and O'Reilly 1996). As pointed out before, the realities of the fierce marketplace unfortunately push organizations to carry out both activities quite proficiently. In other words, two entirely differing functions are concurrently expected to be carried out skillfully. Examples include delivering short term results while driving long-term growth and vision; increasing quality and speed while lowering cost or balancing the needs of all stakeholders. These contradictions actually interlink the exploitation and exploration capabilities of organizations.

Still, such a definition does not entail what sorts of specific organizational and managerial capabilities are needed in order to become an ambidextrous organization. Thus, Carter (2015) identifies three levels of organizational ambidexterity. The zero-order type of ambidexterity involves executing strategy that entails simultaneous exploitation and exploration (Tushman and O'Reilly 1996; Gibson and Birkinshaw 2004). In the first-order ambidexterity, to support the new strategy, the ratio of exploration and exploitation and the organizational context are expected to dynamically shift (O'Reilly and Tushman 2008). As for the second-order ambidexterity, Carter (2015) submits that this level involves dynamically altering the dominant logic to adapt top management thinking, behavior and processes to orchestrate an ambidextrous organizational system. Here, it is crucial to note that such a systemwide perspective requires an organizational culture where ambidexterity is supported.

Conversely, organizational culture may act as a barrier against the proper perception of current market realities and might hinder ambidexterity. Hence, as underlined by Hodgkinson (1997), a certain "cognitive inertia" can occur if the organizations are dependent on the mental models that have been useful in the prior competitive environment. He further explains that if organizations rely too much on their existing mental models, they may fall short of noticing and/or accurately interpreting environmental change. In a complementary manner, Carter (2015)

emphasizes a need for higher-order capabilities that endorse cognitive and behavioral flexibility in how organizations appraise and decode their environment.

As can be seen above, the exploitation activities seem highly contradictory to the exploratory activities. The realities of the fierce marketplace unfortunately push organizations to melt the two activities in the same pot. Today's organizations must have efficiency, yet learn and adapt (Schreiber and Carley 2006) otherwise their competitors might outperform them. In other words, two entirely differing functions are concurrently expected to be carried out skillfully. Examples include delivering short term results while driving long-term growth and vision; increasing quality and speed while lowering cost or balancing the needs of all stakeholders. These contradictions actually interlink the exploitation and exploration capabilities of organizations.

In order to succeed in this rather challenging task, as we have revealed numerous, a unifying variable is vital for organizations to become ambidextrous. According to our stream of thought, this variable is organizational culture. We posit that culture could be considered as an anchor for carrying out the ambidextrous activities as organizational culture will dictate how each type of activity fits in the overall organizational milieu and strategy. In other words, the assumptions, beliefs and values determine how companies make sense of what is going on inside and outside of the company. As continuity and change have become so intertwined that ambidexterity has become a basic skill of business operations. These also govern how strategy is crafted as strategy is perceived through the stance of organizational culture.

2.2 *Organizational Culture*

As the main focus of the paper, we propose that organizational culture can be utilized as a bridge for aligning inner realities of companies with demands coming from the outer domain. This is to say that we believe organizational culture has the potential to merge/unify the realities of the marketplace with everything that is happening inside organizations and vice versa.

Schein (2010) describes culture as a pattern of shared basic assumptions and accumulated shared learning of a group, covering behavioral, emotional, and cognitive elements of the group members' total psychological functioning. As to uncover important facets of organizational culture, he further underlines two critical elements. One of them is the structural stability maintained in the group by means of deep—less visible—features of organizational culture. The other critical element is the patterning and integration maintained by organizational culture. Thus, culture implies rituals, climate, values, and behaviors together into a coherent whole.

Nevertheless, the organization stands as a subjective construct as its employees will give meaning to their environment based on their own particular cultural programming (Trompenaars and Hampden-Turner 1998). So in a way, organizational culture acting as a higher-level domain becomes the “glue” which keeps people engaged by getting them together. Via indoctrination, organizational culture

develops into a strategic and dynamic element as well as the presumed cause, behavioral guidepost and evaluative criteria that informs managers and employees in their decisions.

Control mechanisms can also be seen as direct manifestations of culture. In fact, internal and external control mechanisms are implemented by the use of culture. Culture does not only control employees'/teams' activities, but also aligns individual goals and behaviors to strategic targets.

When imperatives shaping organizational behavior are considered, it becomes clear that there are two facets of organizational culture; "the inner domain" and "the outer domain". The inner domain can be briefly defined as the values, assumptions, beliefs, and norms shaped by the organization's internal environment related dynamics. On the other hand, the outer domain consists of the values, assumptions, beliefs, and norms shaped by the institutional environment and the marketplace in which the organization is embedded. An organization's culture emerges as an outcome of the interaction of these two domains.

Implicitly shared values among employees in the inner domain are consensus, ideologies, and philosophy. Also, there are other inner cultural elements that are related to products and behavior in the form of certain managerial practices, physical arrangements, habits, communications and operations. Values and norms of activity which focus on employees' orientation and functioning in the strategic domain act as a bridge between these two domains.

This bridge will emerge as the product of an organizational culture which provides stability, patterning and integration that will unify the two domains. Each employee and team knows its role in the organization in facilitating the interactions among decision makers and stakeholders. What is significant is the link between strategic values and the outer domain which could be achieved through information processing. Organizational effectiveness, competitive strategy, and company's positioning are not only related to but also are the functions of the firm's outer domain. That's why values, beliefs and norms of behavior will have to be adaptive to competitive economics and market change. Sustained competitive advantage is possible only if the culture and values can be linked to the value that the firm creates for customers.

Most of the time, outer values and norms are invisible, but through shared learning and formation of collective intelligence, adaptation to market expectations becomes possible. Formation of collective intelligence is based on adaptive culture which is capable of learning and generating alternative choices in different market conditions. In turbulent times, strategic energy is enhanced by appropriate culture which converts creativity into an organizational value. However, as emphasized in previous sections, changes in the marketplace and complex nature of the factors used in strategy formulation make it very challenging for organizations to address market requirements.

Hence, for superior performance and survival of the organization, culture should act as an essential factor; as profitability, leveraging, and sustainability are based on cultural adaptability. To build a competitive edge on appropriate culture three conditions must be met (Barney 1986): Firstly, the culture must be valuable, in other

words it must enable a firm to do things and behave in ways that lead to higher performance. Secondly, the culture must be rare; it should have features that are not common to other cultures. And finally, culture must be inimitable, challenging and costly for other organizations to imitate main features. If the organization has a culture of this kind, only then will it be possible for it to use it as a core competence leading to a superior competitive position.

What is important is to align, adjust and integrate the outer and inner domain with “manipulable” strategies, in order to keep organizational culture inimitable, rare and valuable. Otherwise, if the culture of an organization is imitable, common and does not enable value creation, then this could be a recipe for failure.

3 Discussion and Propositions

The ever-changing and complex nature of the post-modern marketplace makes strategic positions and values erratic. State-of-the-art organizations with new business models have the capability to shift their strategic postures and values when required by the marketplace. This is only possible with an adaptive organizational culture. This permits organizations’ cultural adaptation to market shifts which in turn enables organizations to design strategies that fit-to-the-market. The successful companies, in formulating and implementing strategies, are constantly adjusting to the shifting dynamics to create new bases of competitive advantage. Coming from this perspective, the main idea of this paper is that organizations’ internal values and culture are not usually adapted to strategic positions in the market. We propose that the focus of organizations need to be on the cultural fit and dynamics to organize internally to carry out strategies. If this gap is bridged, the resources can be deployed and information will flow through the firm. Otherwise, collective intelligence cannot be aligned with the overall goals and the market realities of the organizations. Therefore, we propose the following to exhibit our stream of thought regarding the notions under discussion:

Proposition 1: Organizational culture must entail a set of critical measurement criteria to assess whether inner domain values are aligned with the outer domain values.

Proposition 2: If the inner domain values are aligned with outer domain values, the formulated strategies will enable organizations to achieve superior performance.

Proposition 3: If the inner domain values are not aligned with outer domain values, the formulated strategies will not be fit-to-market, which in turn will lead to decreased organizational performance.

Proposition 4: When the decreased organizational performance persists, this will in turn decrease the reliability of the strategies which are the product of the organizational cultural system.

Proposition 5: The decreased trust in the organizational cultural system, if not reinforced, will otherwise lead to *cultural erosion* which will jeopardize organizational survival in the long run.

As we have revealed several times, while market conditions and demands may shift overnight, organizational ambidexterity becomes an essential organizational skill so as to gauge and stay current along with managing change and complexity. The information gathered through ambidextrous activities should still be meaningful within the inner domain of organizations so as to make sense of what is going on in the environment. Also, this information should also be useful to enable organizations to craft relevant strategies to address the requirements, changes and complexities coming from the outer domain. However, if organizations find their performance levels declining, this may point to a misalignment between their inner and outer domains. Hence, the ramifications of this potential misalignment might be much more serious than one anticipates under the challenging market conditions. Accordingly, we find utilizing organizational culture or the *competitive cultural persona* as a bridging and aligning instrument that provides a much more permanent and inimitable solution.

4 Conclusion

This paper is a humble attempt to propose a new viewpoint which integrates culture and strategy within the perspective of organization studies field. The main position adopted throughout the paper is that the strategy formulation and implementation process is conditioned by organizational culture. Organizations will outperform their rivals and survive in the long term only if organizational culture enables them to align inner and outer domain related values and imperatives and design appropriate strategies.

Departing from this point on, a conceptual discussion has been put forth to better clarify the issues in focus. Throughout the paper, importance of close interrelationships between the inner and outer domain of organizational culture has been discussed in relation to strategy design. The relationships have been clarified by positing propositions depicting the importance of related variables.

The discussion presented here especially has important implications for current debates on the functioning and competitiveness of firms struggling in the challenging conditions of the new economy as the outer domain continuously introduces new imperatives for them to address. As organizational studies often supply ample tools and techniques to aid organizations to keep up with and address ongoing changes and complexities, we find that these might grant occasional solutions. We believe that the mentioned means will cease their effectiveness once another wave of change arrives. What is more, since these methods are developed with certain values, beliefs and assumptions, these might not be appropriate for every organization's unique reality. Since each organization's competitive cultural persona is distinctive and inimitable, it will predictably provide solutions that will perfectly fit to each organization's exclusive situation.

In order to corroborate the validity of the propositions and reveal the claimed relationships and causalities, further research should focus on the empirical operationalization of the variables.

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Immigrant Cultural Diversity Management as a Catalyst for Organisation-Level Innovation



Dovile Jankauskaite

Abstract A growing body of empirical research is uncovering the correlation between diversity and regional economic performance. Cultural diversity is accepted both as an economic asset, as well as a social benefit. Studies have demonstrated a positive economic impact of cultural diversity on productivity and innovation, but only a few organization-level studies have been conducted. The scientific literature discusses various benefits of cultural diversity to organisations, e.g., establishing the encouraging environment of “outside the box” thinking. Diverse management is more likely to introduce product innovations; moreover, diversity is particularly important for reaching international markets and serving the cosmopolitan population. Diversity encompasses race, gender, age, culture, education, personality, skills and life experiences. When managed effectively, cultural diversity offers the flexibility and creativity that is needed for enhanced innovation. The aim is to investigate how to handle immigrant cultural diversity to improve innovativeness in an organisation. Firstly, immigrant cultural diversity management and relation to innovation are discussed; secondly, the immigrant cultural diversity management model is presented.

Keywords Cultural diversity · Innovation · Immigration

1 Introduction

The twenty-first century has been described as the age of creativity and smart economy; therefore, the movement of cultural ideas, as well as their influence on the innovation process is of paramount importance. In the management literature, culture is taken more tangibly and measurably, by referring to different nationalities in organisational contexts (Ozman and Erdil 2013). However, innovation process

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will depend not only on the culture and cultural values of the person in question but also on receiving the organisation's culture, tolerance, adaptability and openness to innovation, along with uniqueness. Incoming cultural ideas take root in the new environment and spread by affecting change in work teams.

Cultural diversity is not a novel concept; however, it is a topic with many issues in need of solving, as well as untapped potential in an excellent array of contexts. Gelfand et al. (2017, p. 5) analysed the scientific literature on the theories of work behaviour developed in the last 100 years, and noted that "important global trend in this era is the increasing emphasis on cultural diversity". Social processes taking place in the European Union force the member states to look for new means and forms of innovation promotion. One of such means is not only the cultural integration of humans with different backgrounds into societies but acceptance and employment of cultural diversity for innovation development. According to Stahl et al. (2017, p. 6), "in light of the increased international business activities and transactions across nations, the growing mobility of the workforce across national boundaries, the dramatic rise in immigration over the past decade, and growing intra-national heterogeneity in many countries, the time is ripe to study more systematically the positive aspects associated with cross-cultural contact and the factors that could enhance the likelihood of their occurrence".

Cultural diversity is accepted both as an economic asset, as well as a social benefit; however, while analysing the cultural diversity, its negative aspects are often being focused on as well. For example, research on immigration performed in Lithuania is generally oriented towards third party citizens—their integration and employment environment; in Lithuania, more attention is paid on the evaluation of immigration challenges, rather than on the analysis of possibilities. Hence, Ikegami et al. (2017) compare cultural diversity to Schrödinger's cat—a dual state, because it is both, an asset and a challenge at the same time. Ward and Ravlin (2016, p. 503) argue that "the workforce has diverged from a culture of uniformity, but many organizations do not yet take advantage of the positive outcomes that diverse opinions may bring"; Zanfrini and Monaci (2017, p. 10) indicate that "there is potential for the development of significant diversity management actions towards immigrant workers", suggesting that immigrant cultural diversity management and its potential benefits not be adequately investigated.

There is a growing body of empirical research analysing the link between diversity and innovation; however, research has still failed to provide consolidated results. Even though most investigations confirm that cultural immigrant diversity has positive influence on innovation (e.g., Ozgen et al. 2013), a significant share thereof suggests that the effect is highly dependent on the characteristics of immigrants themselves, there is also a plenty of studies that has failed to find any connection between cultural immigrant diversity and innovativeness (e.g., Østergaard et al. 2011; Parrotta et al. 2014; Ozgen et al. 2014). Ozgen et al. (2014) and Kemeny (2017) have conducted classification of the research results. Most studies have demonstrated country-, region-, city-level impacts of cultural diversity on innovation, but only a handful of organisation-level studies have been conducted (Nathan and Lee 2013). Hence, it is practical to analyse cultural diversity management as a catalyst for innovation on an organisation level.

The aim of the research is to investigate how to manage immigrant cultural diversity when striving for innovativeness in an organisational environment. Firstly, immigrant cultural diversity management and connection to innovation are discussed; secondly, the immigrant cultural diversity management model is presented.

2 Immigrant Cultural Diversity Management and Innovation

Diversity encompasses race, ethnicity, gender, age, culture, education, religion, status, sexual orientation, personality, skills, life experiences, values and other aspects. Diversity management is described as a means to support and address different lifestyles and character expressions within a workplace group (Scott 2014). Management activities encompass education and provision of support for accepting of and respecting various racial, cultural, societal, geographic, economic, political or other backgrounds. Most commonly analysed cultural diversity management issues are as follows: strategy (progress toward specific, quantifiable long-term and short-term goals of diversity); communication (language, differences in verbal and non-verbal communication); team-building (some cultures are individualistic, while others value cooperation within or among teams); time (cultures differ in how they perceive time, e.g., variation in the balance between work and family life, perception of overtime or even the exact meaning of a deadline); education and training (managers should be trained on the benefits of diversity and the processes necessary to achieve it).

The literature generally analyses diversity management issues and challenges; however, Stahl et al. (2017, p. 2) argue that organisations can benefit from adopting a more positive outlook to cultural diversity management: “examining the positive side of differences is not only beneficial theoretically in terms of filling this gap in the literature, but is also crucial for the practice of international and global business”. When managed effectively, cultural diversity offers the flexibility and creativity that is needed for enhanced innovation. This article analyses a particular area of diversity management—immigrant cultural diversity management. The literature on immigrant cultural diversity tends to focus mostly on integration. There is a great variety of ways for immigrants to be integrated into host societies. The three types of immigrant integration models can be distinguished respectively: (1) assimilationist or republican (adapting to the host culture, e.g., France); (2) multiculturalist or pluralist (attempts are made to maintain immigrant cultural diversity and to involve an engaged society, e.g., Sweden, the Netherlands, the United Kingdom, Canada); (3) segregationist or exclusion model (can be distinguished by tendency towards separation between or fragmentation of ethnic-cultural communities, e.g., Germany, Austria, Switzerland). However, in some cases segregation is considered to be a part of multiculturalism (Rodríguez-García 2010; Schönwälder and Triadafilopoulos 2016).

Many developed and developing countries attempt to integrate immigrants into society, by encouraging cultural diversity and creating an engaged community. Even in countries that have relatively low levels of immigration, as well as fairly homogeneous populations, various tools for improving integration conditions for immigrants, such as start-up visa are being established. For example, Lithuania: in 2016 the Cabinet of Ministers of Lithuania approved legislation amendments that would facilitate the process of acquiring rights for permanent residency to citizens of non-European Union and non-European Economic Area countries, who wish to run innovative businesses in Lithuania (start-up visa initiative started in the United States of America in 2011). Additionally, legislation adjustments were prepared to set better conditions to arriving foreigners who would contribute to the creation of social and economic welfare, as well as improvement of competitiveness of the host country.

When analysing the influence of immigration on innovativeness, two distinct views from North America (Hunt and Gauthier-Loiselle 2010) and Western Europe (Niebuhr 2006; Nathan and Lee 2013; Ozgen et al. 2013; Østergaard et al. 2011) diverge. European researchers tend to focus on the challenges related to cultural diversity; meanwhile, American researchers perceive potential benefits. However, with the increase of empirical research from other regions, the link between immigration cultural diversity and innovation can be of three types: (1) non-existing link; (2) positive effect; (3) negative effect.

Even though many authors suggest that innovations and cultural immigrant diversity are connected, empirical studies suggest that they are not. For example, Lee (2013) analysed about 2200 small to medium-sized enterprises in Great Britain and found no connections between innovativeness and cultural immigrant diversity. Maré et al. (2014) used questionnaires about innovative (product and process) activities in New Zealand, when analysing connection of immigrant cultural diversity and innovativeness and found that the contribution of immigrants to innovative solutions can be observed in some enterprises, however, not on a regional or a national level.

However, many authors distinguish a positive immigrant cultural diversity effect on innovations. Levin and Stephan (1999) analysed immigrant input into scientific production and found that a huge part of U.S. Nobel prize laureates are immigrants. According to Saxenian (2006), immigrants dominate in creating innovations in Silicon Valley. Hunt and Gauthier-Loiselle (2010) emphasise the importance of highly qualified immigrants for innovativeness of organisations as well as the entire country. They state that immigrants with higher education submit twice as many patents than their local counterparts. It can be explained by the fact that immigrants more often choose engineering education rather than locals; it should be noted that immigrants are not more skilful than residents—the difference lies merely in the cultural and value predispositions.

While analysing Danish enterprises, Parrotta et al. (2014) found an active connection between immigrant cultural diversity and number of patents. Ozgen et al. (2013) and Nathan and Lee (2013) also state that cultural diversity is one of the factors affecting innovativeness: without direct participation of immigrants in STEM

(science, technology, engineering, and mathematics) research, immigration can promote innovations indirectly, through active integration into local collective of colleagues, reaching critical mass in specialized scientific research fields and introduction of additional skills, such as management innovativeness predispositions. Likewise, cultural diversity helps companies in establishing the encouraging environment of “outside the box” thinking; diverse teams are more likely to introduce product innovations; moreover, diversity is of particular importance when aiming for international markets. While analysing Dutch enterprises, Ozgen et al. (2013) suggested that cultural diversity of high qualification immigrants had a positive effect on product innovations. Fujita and Weber (2004) argue that culturally diverse leadership teams may improve their new idea generation and problem-solving potential, especially in environments requiring high amounts of intellectual effort.

Lungeanu and Contractor (2015) suggest that assembling teams with diverse cognitive resources is more likely to yield innovation. Moreover, foreign workers provide skill contributions that enable new perspectives to the organisation, as well as important in triggering generation of new knowledge (Solheim and Fitjar 2016). According to DiRienzo and Das (2015), countries with higher religiously diversity can better tolerate different thoughts and viewpoints and thus be more likely to adopt and accept new ideas and technologies. Sobel et al. (2010) find that the places with the most diversity in their cultural makeup have higher rates of entrepreneurial activity. Moreover, Kushnirovich et al. (2017, p. 1) suggest that immigrant entrepreneurship in particular “have played an important role in the acceleration of productivity growth, stimulating innovations and competition, especially in high-income countries”.

Despite the possible benefits, there is a substantial number of immigrant cultural diversity challenges in the workplace, which impede innovation. Firstly, communication—language barriers need to be overcome for diversity programs to succeed. Weak key objective communication results in insufficient teamwork, poor morale and general confusion. According to Niebuhr (2006), it is paradoxical that culturally diverse workers provide conditions for creativity and innovative solutions, but at the same time, it is the cultural differences that cause conflicts that hinder communication as well as the creation of innovations. However, according to DiRienzo and Das (2015), ethnic diversity negatively and significantly impacts country-level innovation, while religious diversity has a positive and significant effect, and linguistic diversity does not have a major impact. Meanwhile, Østergaard et al. (2011), while investigating 1648 organisations, found an active connection between cultural diversity, innovation, education and gender aspects. However, ethnic, cultural diversity did not affect innovations, while generational difference had an adverse effect.

Resistance to change is another cultural diversity challenge—there will always be employees refusing to accept the variations in the workplace, including the social and cultural changes. Such attitude results in dismissal of new concepts and restriction of progress. Hence, due to discrimination, lack of motivation, cultural differences and stigmatisation, immigrants often do not get a chance to contribute to the growth of organisation or regional economics (Ozgen et al. 2013; Solheim and Fitjar 2016).

Implementation of diversity policies can be the overwhelming challenge to organisations; management must be unique to organisation strategy. Diversity training should be conducted, but it is not sufficient enough to stand out as the organisation's diversity management plan. When discussing the immigrant cultural diversity management challenges, many studies mostly analyse refugee problems (e.g., Mapping Immigration Controversy (the United Kingdom), emphasising the negative effects of immigration).

There is no consensus as to the type of impact diversity should have on innovation; therefore, the link between immigration cultural diversity and innovation is divided into three categories: (1) non-existing link; (2) positive effect; (3) negative effect.

3 Models of Immigrant Cultural Diversity Transfer to Innovation

The scientific literature provides a multitude of innovation management and cultural diversity management models; however merely a few provide a connection between cultural diversity management and innovation (e.g., Nishii and Ozbilgin 2007; Ozman and Erdil 2013; Zhan et al. 2015; Bouncken et al. 2016; Lisak et al. 2016; Korzilius et al. 2017).

Ozman and Erdil (2013) proposed a model in which a transfer is made from diversity to innovation. Opposite from other studies on diversity, this model considers the interaction effects between two different diversity constructs—cultural and knowledge diversity. This model deals with the cultural attitude towards collaboration: collectivism and uncertainty avoidance, knowledge similarity, network formation and learning in networks.

Korzilius et al. (2017) proposed a model that demonstrates transfer from multiculturalism to innovative work behaviour. The model shows that for multicultural individuals, cultural intelligence also positively influences performance in the sense of innovative work behaviour. Authors argue that innovation only is necessary “to the extent that organisations understand employees’ contributions to it and can manage it” (Korzilius et al. 2017, p. 21); the model also implies the relation of individuals’ creativity to innovation.

Zanfrini and Monaci (2017) conducted the international research in ten European Union countries and determined the following immigrant diversity management areas of practice: (1) practical support that enables the third-countries national employees to tackle basic issues at work and in life; (2) new initiatives and modifications to management of human resources; (3) the development of a work environment that is inclusive from a sociocultural point of view; (4) establishment of formal roles and programs dedicated to diversity management. Based on the conducted research, an immigrant cultural diversity management model was developed (Fig. 1), using traditional input-process-output scheme.

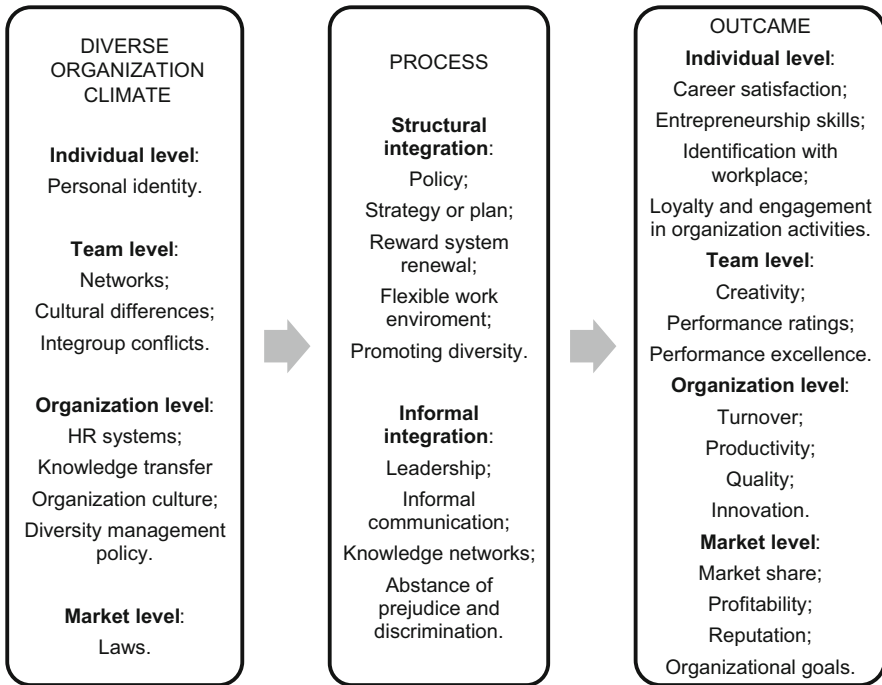


Fig. 1 Immigrant cultural diversity management model. Source: The author

The first column of the model (Fig. 1) represents input responsible for diverse organisation climate. Different organisational environment can be divided into four levels—individual, team, organisation and market. Each level contains factors influencing the organisational climate. Bacouel-Jentjens and Christiansen (2016), while analysing diversity management, also distinguish separate levels; however, they only limit themselves to three—macro (societal level), meso (organisation level) and micro (individual level). Previously mentioned aspects can also be seen here—networks, diversity policy, knowledge transfer, and so forth.

Individual level encompasses personal identity and cultural identity of the workforce (unique cultural values, rituals, beliefs, etc.). Team level comprises diverse and inclusive organisation climate that is established through enabling formal, as well as informal communication in networks. Here most challenges are encountered; hence, the organisation must be aware of how intergroup conflicts and cultural differences should be managed, so that they provide benefits—creative solutions, etc. Organisation level is of particular importance for organisations to conduct programs aiding the improvement of management skills, as well as attracting strong, competent, culturally diverse workforce capable to perform their functions despite national, language and cultural barriers. If organisations are to achieve this kind of workforce, they should introduce cultural diversity management and its policies into

their organisational culture, strategy and plans. Market level—different countries have laws establishing the conditions for gaining employment for immigrants. The middle column provides the cultural diversity management process. It is divided into structural or more formal factors, as well as simple integration, which would not only theoretically promote diversity benefits, but would also integrate them into the organisation's culture.

Structural integration—the formal actions of the organisation (hard elements), aimed at management of immigrant cultural diversity in organisations. Integration of infrastructure, preparation of strategy, long and short-term plans, as well as the development of cultural diversity management policies become increasingly important when aiming to support integration and diversity principles, and to pass them on to employees, clients and other stakeholders: e.g., Bosch “One world with many perspectives”:

As a global player our intercultural diversity helps us to ensure that we provide optimal products and services for all markets worldwide. We train our associates with intercultural courses, language courses and individual development programs. We actively promote mutual acceptance and appreciation among the different people who work at Bosch – for instance, through networks, forums and various events. This internationality makes us unique and strong. (Official Bosch Internet Page 2017)

Another important aspect is integration and accountability, so that objectives of cultural diversity management would be integrated into a strategic system of the organisation, encompassing the determination of aims, distribution of funding and resources, evaluation of activities and their results and accountability. Hence, it is necessary to measure the impact of various aspects of an overall cultural diversity program. Finally, an organisation must promote diversity; the research of Hiemstra et al. (2017) has shown that organisations' activities to promote cultural diversity at work have a positive effect. A simple example that can be employed by any organisation is calendars. Many cultures use various calendars to determine holidays or specific holidays. These variations affect the workplace, as immigrants require time off to celebrate their holidays.

Informal integration—the everyday activities of the organisation (soft elements), aimed at achieving immigrant cultural diversity management therein. The leader's behaviour shapes the organisation's culture; hence the leaders should focus on solving diversity issues, creating a socially inclusive and engaging culture. Active organisation leadership and engagement management on all levels is crucial when assuring that structures, policies and strategies related to immigrant, cultural diversity management would not remain just a formality, but rather be perceptibly executed in the organisation. One of the strategies proposed by Brody et al. (2017, p. 284) “create communities of support groups that invite storytelling and sharing of experience” demonstrates the importance of informal communication and provides suggestions on how to assure diversity and create a positive organisation. By involving themselves and being involved in the organisation and its community, into their formal and informal networks, immigrants would feel like a part of the team, increasing their loyalty to the organisation, while the networks themselves

could benefit from innovative input from the immigrants and encouragement for innovative work behaviour.

Moreover, finally, the cultural diversity management benefits are provided, again four levels corresponding to the first column are used. According to Madera et al. (2016, p. 3), “diversity management is positively related to organisational outcomes, such as innovation, financial performance, and lower turnover rates”. Zanfrini and Monaci (2017) have determined that immigrant diversity management bring advantages to organisations’ performance: (1) worker commitment improvement and relation of identity with the organization, as well as retention of this relationship; (2) new prospects and resources for the process/product innovation and the development of alternative approaches; (3) improved reputation of an enterprise; (4) previously unencountered marketing opportunities related to multiculturalism within the organisation may arise.

Immigrant cultural diversity management model is linking diverse organisation climate, structural and informal integration of immigrants to potential positive results in organisations performance. Therefore, adoption of cultural diversity management schemes could be a source of a significant boost to organisations, suffering stagnation, as well as those in search for new ideas and improvements.

4 Conclusion

Upon conducting the literature overview, it has been concluded that there are lots of research suggesting that diversity could act as a driver for innovation. A division of link between immigration cultural diversity and innovation has been made, yielding three possible types of connection: (1) non-existing link; (2) positive effect; (3) negative effect. Furthermore, if diversity is to be regarded as possessing a positive impact on innovation, immigrant integration approaches should be chosen so that diversity is preserved.

The proposed models linking immigrant cultural diversity to organizational-level innovation tend to distinguish communication and follow through action on committed strategies as the primary conditions for successful diversity management and subsequent transfer to innovation. Considering the two integration types (structural and informal), it should be noted that the structural integration is more geared towards the compliance with diversity policies and strategies within the organisation, while the informal integration is intended to bring workforce awareness to organisations’ efforts and to encourage involvement of engaged community into the diversity preserving integration process.

Future research would greatly benefit from focusing on qualitative, instead of quantitative (as it is the case of most current research) investigation challenges posed by diversity and its integration in the organisational environment.

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The Effects of Human Resources' Qualification Improvement on Their Efficiency in the Public and Private Sectors



Edmundas Jasinskas, Biruta Svagzdiene, and Arturas Simanavicius

Abstract In a varying and regularly learning environment the opinion has been formed, human resources of organization is the main factor ensuring the efficiency of organization activity. With a changing environment the qualification of human resources has to be properly improved both in private and public sectors. The main scientific problem is, that the methods for qualification improvement of human resources have to be applied adequately in accordance with activity features of different sectors. The research revealed, that qualification improvement methods in both sectors were different. Usually applied qualification improvement methods in the public sector were the following: self-training, seminars and trainings organized by the training agencies, dual strategy of refresher training was applied, and in the private sector the following methods were the most popular: training of internal employees, internship in other organizations, international trainings as well as mentoring and the most applied intensive qualification improvement strategy of human resources; this differently influenced the efficiency of their activities.

Keywords Human resources management · Qualification · Efficiency · Public and private sectors

1 Introduction

Studies analyzing the issues of human resources' management accentuate the significance of qualification improvement. Sakalas (2003), Lane (2000), Carmeli (2004), and Hatch and Dyer (2004) analyzed different features of qualification improvement in public and private sectors. Qualification improvement strategies and strategy types, necessary for the qualification improvement, were studied by

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Delery (1998), and Salamen et al. (2005), and appropriate qualification improvement types were examined by Išoraitė (2011), Ballot and Taymaz (2001).

There is a limited number of studies on efficiency issues. Valančienė and Kloviienė (2009); Hatch and Dyer (2004); Deksnienė et al. (2007), Ciarniene et al. (2017) generally defined the conception of the efficiency of human resources of organization. The concept of efficiency in the public sector was determined by Bozeman and Bretschneider (1986); Raipa (2011); Gustas (2003), and the concept of efficiency in the private sector was analyzed by Žutautienė (2007), Certo et al. (2006); Karlof and Lövingsson (2005) et al. Various authors (Vasiliauskas 2007; Chlivickas et al. 2010; Schein 1978) made researches on how the qualification improvement of human resources affects the efficiency of their activity. Different studies focusing on what aspect the qualification improvement of human resources comes through the efficiency were performed.

The studies have revealed different efficiency criteria of private and public sectors. In the private sector the efficiency is associated with direct results of enterprise, particularly the financial ones (Certo et al. 2006; Žutautienė 2007; Karlof and Lövingsson 2005; Navickas and Sujeta 2006). While in the public sector, the efficiency criteria are more associated with proper management of organization and implementation of human resources' functions (Bozeman and Bretschneider 1986; Raipa 2011; Gustas 2003; Robbins and Coulter 2007). Since in latter case the implementation of functions is important, and in other case—financial indicators, therefore obviously the prevalent qualification improvement methods as well as their influence on activity efficiency differ, in one research, however, both sectors at a time were not analyzed.

It can be assumed, that the effect of qualification improvement of human resources on the operational efficiency is the subject researched by scientists, there is a lack of studies, however, which would coherently reveal the differences between private and public sectors as well as the possibility to learn a good practice from different sectors. Thus, the research problem is, that the most proper qualification improvement methods of human resources and the effect of those methods on their activity efficiency in public and private sectors differ depending on the activity sectors.

Research objective is to reveal the effect of qualification improvement of human resources on their activity efficiency in public and private sectors.

Research tasks: to reveal the differences of qualification improvement methods of human resources in private and public sectors; to reveal the differences of assessment criteria for activity efficiency of human resources in private and public sectors; to reveal the relation of the effect of qualification improvement of human resources to the efficiency of their activity; to study and determine the effect of qualification improvement of personnel on its activity efficiency under the example of Lithuanian organizations of public and private sectors. Research methods: scientific literature analysis, questionnaire survey and statistical analysis.

2 Literature Review

In developing economy, the organization's human resources should have an appropriate qualification, since the demand is continually changing, and regular qualification improvement is necessary. This requirement is characteristic to both sectors—private and public one. The literature analysis has shown, that qualification improvement of human resources in private and public sectors differs.

Sakalas (2003) analyzed the features of qualification improvement in the public sector. He indicates, the qualification improvement is related with a particular work in the public sector. Chlivickas (2006), who compares public and private sectors, states, that the qualification improvement of human resources in public sector is adequate to the position of a specialist, focused on the formation of new skills. As Carmeli (2004) considers in his paper, the responsibility of human capital improvement of entire organization in the public sector falls on the manager of human resources, and this is too major function for one person. It is necessary to take care of employees' integration, motivation, improvement of trainings and skills inside the organization.

The qualification improvement in private sector, in manufacture, was researched by Hatch and Dyer (2004), who on the basis of their results indicated, that human resources were strategically significant in the production sector, that improving the qualification they obtain tacit knowledge, i.e., they do not need to be told how to do this. The knowledge obtained during qualification improvement helps to surpass the competitors as soon as new technologies appear, and human resources become more perceptive.

Different qualification improvement in different sectors is also resulted by the fact, that every organization is individual, thus its human resources are individual. To improve the qualification of employees it is necessary to have a plan and to know what type of qualified employees is preferred. This requires a qualification improvement strategy to be created.

Delery (1998) defines, that qualification improvement strategy is the strategy facilitating the organization's planning for the qualification improvement of human resources. Every enterprise subject to environmental conditions, its priorities, internal factors of organization, is proposed to form an individual qualification improvement strategy of organization. In the literature, three qualification improvement strategies are indicated. They are shown in Fig. 1.

The organization following the intensive strategy and employees with appropriate education take care of their intensive training and workplace-based qualification improvement (Salamen et al. 2005). The personnel's workplaces are changed on regular basis to get the qualification improvement possibilities of workplaces applied. The dual strategy states, that the potential of organization's human resources should be increased concentrating on the use of employees' skills and ambitions (Delery 1998). The responsibility of employees for development of their qualification is accentuated. This strategy creates possibilities for the employees to improve and it corresponds to poor financial resources allocated to these goals.

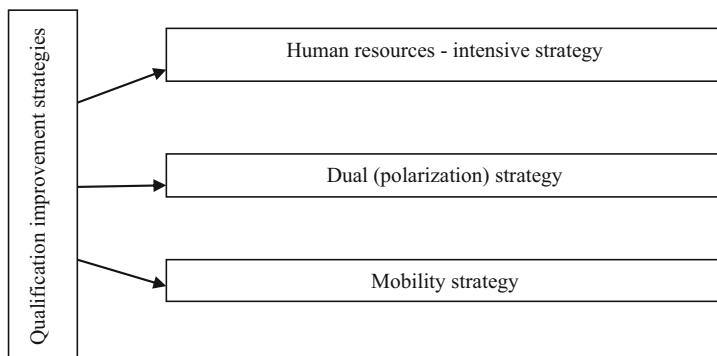


Fig. 1 Qualification improvement strategy. Source: made by authors based on Salamen et al. (2005), Delery (1998)

The third, mobility strategy, allows the organization to accentuate the importance of high education (Delery 1998). Earnings and learning are interrelated. Attention is focused on learning inside the organization. Therefore, a very high mobility of possessed personnel is ensured in case new demands emerge. According to the mobility strategy, the possibilities of employees with high education to retrain, to adjust to new work requirements are much better than of employees with lower education. It suits for the organizations where technical progress is important and for mobile organizations as well.

Since the organizations are very different and this is determined by their activity in different sectors, with individual human resources, it is necessary to establish the appropriate qualification improvement methods. Various methods for qualification improvement of human resources of organization may be selected. The choice of individual training method depends on the entirety of factors: training and education cost, duration, number of persons trained, knowledge depth, present qualification of human resources, and many other factors. Išoraitė (2011) highlights five following methods for the qualification improvement and education:

1. Special functional training;
2. Workplace-based training;
3. Rotation according to the functions;
4. Internship in other companies;
5. Participation in working groups;
6. Self-improvement in the process of work activities.

Due to many forms for qualification improvement, some are very popular and other—less. The most popular qualification improvement methods are the following: lecture, educational conversation, discussions and debates, guideline, instructions, programmed training, observations and assessments, various events, independent training.

Ballot and Taymaz (2001) and Kumpikaitė (2007) analyze human resources' training and its evolutionary methods. The research reveals, that qualification

improvement and training of human resources is one of strategic goals of organization in order to create a system, which would develop employees' skills, considering company requirements and employee goals. The employee should have possibilities to develop the competences, the ability to adjust to any changes, to develop skills, experience, to correct the mistakes.

Adamonienė (2009) claims, that human resources became a key source for the procurement of stable competitive advantages, enhancement of their potential value and satisfaction of dynamically developing consumers' needs of any type of business organizations.

Overall, it may be claimed, that some of submitted training methods require more investments from the organization and some of them less. Since employees working in the organization already know the work specifics, they should deepen their knowledge, and this requires competitive, professional lecturers, such chosen methods may be as follows: working in groups, excursions, internships, educational conversations, lectures, discussions, and simulation games. However, this needs much more investments than workplace-based learning, independent learning, visual material demonstration, discussion, simulation games, since the latter methods do not require expensive services of lecturers or coverage of internship expenses.

Also the latter are saving time, since you may study after work, at your leisure time, however how effectively this knowledge will be absorbed and applied depends only on the employee himself, there are no lecturers who encourage, and motivate. In addition, the use of their knowledge uncloses during the lectures or in working groups.

Thus, the selection of method for qualification refreshment mostly depends on the company's funds allocated for the qualification improvement. This reveals the priorities in respect of an employee. The success of organization depends only on how organization takes care of human resources improvement: what methods are chosen and what investments are allocated. Only competent human resources of organization may solve the problems arisen and increase the efficiency of their activity.

The efficiency of human resources comes through particular aspects. Since human resources and their qualification improvement are analyzed, it is important to study how the efficiency of these phenomena comes through and what stands for this efficiency in the organization.

It is important to compare the main differences of efficiency concept, both in public and private sectors (see Tables 1 and 2). The concepts are compared under the following features mostly used and accentuated in the definition by scientists: human resources, financial resources, organizational management, functions and goals. This is indicated in the comparative tables.

After the analysis we may see, that the public sector accentuates the efficiency through organizational management and implementation of human resources functions, however in private sector financial indicators, organizational management and company's functions and objectives are more important.

When analyzing the concept of efficiency in more detail, in the public sector (see Table 1) some basic features may be highlighted: efficiency—well coordinated and

Table 1 Key definitions of efficiency of public sector activity

Author	Definition	Definition features			
		Human resources	Financial indicators	Organizational management	Functions, goals
Bozeman and Bretschneider (1986)	Efficient and effective planning, arrangement, management and control of human and other resources in pursue of organization objectives	+	–	+	+
Raipa (2011)	The efficiency of public administration is related with more qualitative involvement of human resources into organization: formation of objectives, and implementation encouraging a teamwork, professional development of employees by upholding a working climate	+	–	+	–
Gustas (2003)	Efficiency when governmental institutions organize work in such a way to satisfy more effectively the needs of citizens, and provide services they require	–	–	+	–
Robbins and Coulter (2007)	The efficiency of activity shows whether the goals set by organization were reached, and whether the functions attributed to institution were implemented applying all organization resources	–	–	–	+

planned human resources, efficiency—when objectives of organization are fully fulfilled, effective—when the needs of citizens of country are satisfied.

Moreover, in the private sector (see Table 2) the efficiency is associated with rational applied resources, with positive rates in profit (loss) account and with a purposeful manager’s administration in order to reach its objectives. Thus, when

Table 2 Key definitions of efficiency of public sector activity

Author	Definition	Definition features			
		Human resources	Financial indicators	Organization management	Functions, goals
Certo et al. (2006)	Activity efficiency depends on management's ability to make rational right decisions	-	-	+	-
Žutautienė (2007)	Efficiency is such use of resources when the best result is achieved. Efficiency is related with input of resources. Efficiency depends on costs, demand in the market, labor productivity, inhabitants' capacity	-	+	+	-
Karlof and Lövingsson (2005)	The efficiency of enterprise activity reflects in profit (loss) account, since rational use of resources is indicated in it. Shareholders want to know how the resources of their company are used	-	+	-	-
Navickas and Sujeta (2006)	Efficiency as the rate of system adjustment to solve a particular task is defined unambiguously: considering external circumstances, which condition the system, there may be many effects. Effect is determined as the difference between the result and expenses	-	+	+	+

assessing the efficiency, it is necessary to consider, whether it will be assessed in private or public sector.

To conclude it may be stated, that activity efficiency is the indicator of organization results, which indicates whether the goals set by managers were reached, whether functions attributed are being implemented, whether rationally planned human resources are able to implement the requirements.

Dittenhofer (2001) accentuates the two main reasons, why it is important to analyze the efficiency of human resources' activity. According to the author, the efficiency results affect organization, as well as the personnel, allow to shape up or enjoy the work results. This shows whether entire organization acts purposefully. Often the organization acts effectively, only some actions are irrational.

Certo et al. (2006) claim, that analyzing personnel's efficiency, it is necessary to pay attention to organization's goals and type, personnel abilities, encouraging to work creatively, whether efficient organization work is ensured, is there any motivation for innovations, how the relationship between personnel and management is moderated. It is also important to take into account manager's abilities to administer, plan, encourage human resources, to motivate them and to create positive climate for work, and the communication with organization environment.

Kerbel (1991) also studies the manager's role in the efficiency of human resources activity. He accentuates the following priority areas the managers of organization should focus on, in order to keep the organization effective:

1. Organization management—the management of organization strategic decisions.
2. Arrangement of activity—work control, planning and purposive distribution, internal purposive communication of personnel.
3. Management of financial and non-financial resources—rational use of resources, special attention is given to the management of human resources.
4. Implementation of goals and services, i.e., cognition of objects, the activity is provided for, the purposeful organization activity providing some benefit.
5. External relations—cooperation with other organizations from the same branch and spreading the information about the organization to the society.

To obtain exact data accumulation and its reliability, one should know how to measure the efficiency of activity, and in what rates it is measured. As Certo et al. (2006) notice, it is hard to evaluate the activity efficiency, since it is necessary to consider personnel abilities, education, type of institution, whether all resources and budgets inside the enterprise are used to ensure an effective result, whether new managerial technologies are implemented, whether employees are encouraged to develop and creatively treat their work, whether internal communication between managers and the rest of employees is strong. And Bernstein (1992) claims, that efficiency rates are the rates of operational activity, of turnover, and of working capital activity.

The factors resulting from public and private sector differ, because structural environments of these sectors are cardinally different. Public organizations have their objectives and functions officially approved by laws. The particular activity rules, public activity are financed and restricted by the state. Thus the assessment criteria of activity of private and public sectors are also different. Goods and services of the private sector are evaluated in terms of money, most of public services are free of charge, and therefore it is more complicated to assess their effect and impact on society (Anciūtė and Misiūnas 2006; Moynihan 2006; Wholey 1997). Therefore, in the public sector such rates as productivity, competence, quality of activity are applied, and in private one—financial indicators of surplus value and expenses.

For the analysis of activity efficiency rates and assessment of private sector the quantitative rates are used, while the criteria of public sector are more subjective, i.e., qualitative and more difficult to measure. Overall, it may be concluded, that efficiency of activity is an individually defined index, which shows whether organization with the most rational resources achieves the goals set and implements the

functions attributed, whether it does not deviate from organization plans. There are many factors of activity efficiency, but the management of organization, investments in modern equipment, qualification improvement of human resources, planning of organization activity are some of the most significant.

The efficiency rates in private and public sectors differ. In private sector the rates of profit (loss) account are accentuated, and in the public one the productivity, activity quality, and competence are highlighted, it is surveyed how the law regulations are observed, whether tasks set by the state are fulfilled.

To conclude, we may state, efficiency is an integral concept of any activity, which is related to expected good results. The concepts of qualification improvement of human resources and efficiency are tight. This reflects in good results of human resources activity and in various strategic branches. The qualification improvement of human resources makes the organization advantaged and more competitive, increases labor productivity, enhances the employee's self-confidence, however to assess the efficiency in private and public sectors different criteria are applied.

3 The Methodology and Model

When analyzing the scientists' studies it was noticed, that there are few empirical researches on the issues of the effects of human resources' qualification improvement on their activity efficiency in public and private sectors. More studies are carried out in the public sector. The effects of human resources' qualification improvement on their activity efficiency in public and private sectors are not compared.

Both Lithuanian and foreign scientists unambiguously agree, that in public and private sectors the process of qualification improvement is important for good results of human resources and organization activity. In the empirical research the rates of activity efficiency are determined depending on the sector, and are affected by the process of qualification improvement.

With a help of research performed, the situation in the organizations of Lithuanian public and private sectors, as well as the effect of qualification improvement of human resources on their activity's efficiency was determined. After the literature analysis a new assessment model for the effects of human resources qualification improvement of organization on their activity efficiency in public and private sectors was created (see Fig. 2).

To assess the effect of human resources' qualification improvement of organization on their activity efficiency in public and private sectors in the research model it was regarded separately from the point of public and private sectors. The comparisons were selected, because the specifics of sectors differ. The private sector is more flexible and independent, and public one is regulated by the laws and restricted by financial resources and liabilities to the society. Private sector offers its employees more attractive opportunities for the professional development, more freedom to choose and make decisions compared to the public sector, which features by bureaucracy prevailing.

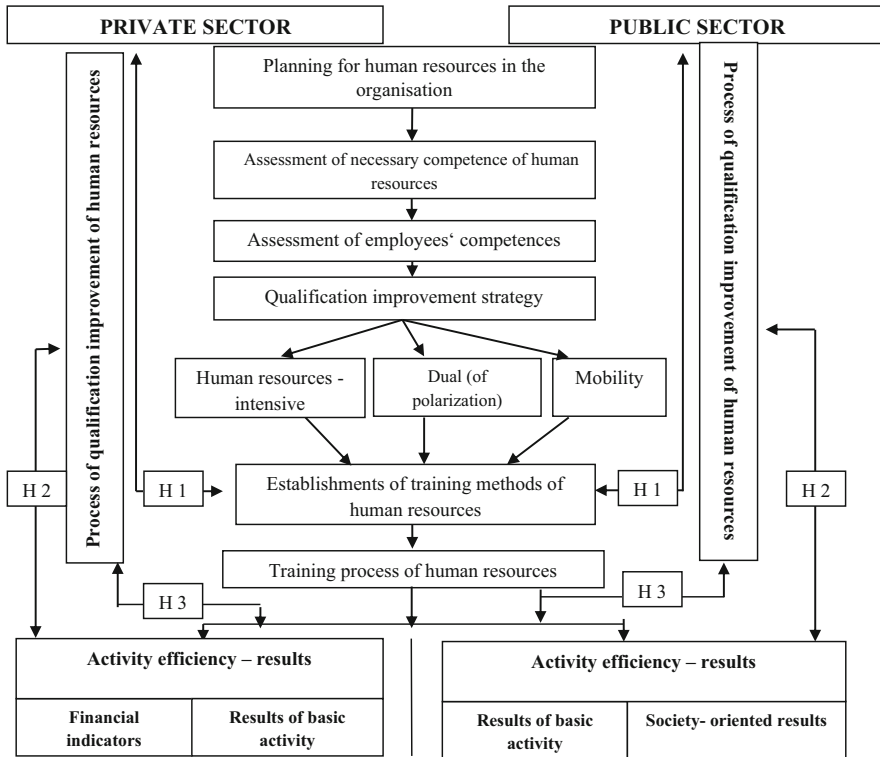


Fig. 2 Research model for the effects of human resources’ qualification improvement of organization on their activity efficiency in public and private sectors. Source: made by authors under Adamonienė and Ruibyte (2010), Dittenhofer (2001), Fleischhauer (2007), Raipa (2011), Karami et al. (2008), Hatch and Dyer (2004)

Subject to the specifics of the sector, i.e., public or private one, the qualification improvement methods in these sectors are also different (Patapas and Kasperavičiūtė 2009; Navickienė 2011; Kjellberg et al. 1998). Following empirical research carried out by the scientists under the practice of different methods, not only the type of a sector has an effect, but also some other elements: the investments in the process of qualification improvement (Hatch and Dyer 2004; Fleischhauer 2007), organization size, lack of competences and knowledge for human resources of organization (Karami et al. 2008; Česnulevičienė and Lakis 2002; Miliukienė and Prakapienė 2012). Thus the choice of the method for human resources’ qualification improvement of organization is affected also by qualification improvement strategy, under which the direction of development of the method and the improvement process itself is selected (Delery 1998). The selection of training methods is named as a serious problem, since without regard to human resources, and whether such method is appropriate, the result may be negative (Miliukienė and Prakapienė 2012).

Following the statements presented in the paragraph above, the first hypothesis H1 may be developed: in public and private sectors usually different training methods of qualification improvement are applied.

To analyze the research carried out by scientists, most indicate that human resources affect the efficiency of activity. Some managers name them as the element of business success (Weiss and Finn 2005). The enterprises of the private sector claim, that in order to increase possibilities and profitability of enterprises in international and local markets they should focus on the competence of organization's human resources (Karami et al. 2008).

Both in private and public sector the qualification improvement of human resources uncloses as the component of their activity efficiency, whether through the competitive ability, or through the plans fulfilled, satisfied customers, society or positive financial indicators (Hatch and Dyer 2004; Fleischhauer 2007). The efficiency of human resources' activity both in public and private sectors has a feedback to the process of human resources' qualification improvement, which indicates whether qualification improvement has answered the purpose or not.

Following the statements presented above the hypothesis H2 may be developed: qualification improvement of human resources increases their activity efficiency in public and private sectors. It is important to note, that several scientists notice, that subject to sector specifics, the result of activity efficiency of human resources in these sectors differs. The efficiency of activity is hard to evaluate, since every organization is different and uses its resources individually (Certo et al. 2006).

In the public sector the rates are more qualitative (Raipa 2011): the society-oriented results (Česnulevičienė and Lakis 2002; Vienožindienė 2009), as well as the activity is reflected by the goals set to the employee, not only by the organization, but also by the laws related with the main activity and functions (Patapas and Kasperavičiūtė 2009; Navickienė 2011; Afonso et al. 2010). The efficiency of private sector is measured by quantitative rates: financial indicators (Dittenhofer 2001; Bernstein 1992; Karami et al. 2008), competitive advantage (Hatch and Dyer 2004) as well as key results of activity (Afonso et al. 2010).

Following this, the hypothesis H3 may be developed: the qualification improvement effect reflects in different results of their activity efficiency in public and private sectors. After the research these three hypotheses were verified.

To verify the hypotheses, the questionnaire in writing was applied, since the quantitative research was carried out, the main instrument of which was a questionnaire. The questions of questionnaire were selected based on Adamonienė and Ruibyte (2010); Dittenhofer (2001); Fleischhauer (2007); Raipa (2011); Karami et al. (2008); Hatch and Dyer (2004). The questionnaire consisted of 15 questions, 1–7 of which were social-demographic, and the rest 8–14 questions for the qualification improvement process and assessment of activity efficiency in the organization.

Due to the questionnaire data the hypotheses raised may be verified. The questionnaire was chosen, since it features by the least input of respondents' time and finances, and allows to quickly gather the information for the research.

The research was carried out in the private sector—business organization (the company wanted to remain incognito and did not allow to name it in the research), and in the public sector—the administration subdivision of Municipality of typical Lithuanian city (subdivision wished to stay incognito and did not allow to name it in the research).

The organizations selected were from the different sectors and this helped to reveal higher variety of opinions regarding the qualification improvement and activity efficiency. The different sectors, different numbers of employees, sizes of organization and ownership types were chosen. The first organization of the private sector was a leader in wholesale, distribution and logistics of consumer goods in Lithuania and Latvia, actively expanding its activity in Estonia. The second organization from the public sector was one of the most important public administration bodies having a huge significance for public services of the city.

Two groups of respondents were chosen: in the organization of public sector 48 respondents of 50 employees were surveyed and in the organization of private sector 33 respondents of 35 employees were surveyed. The size of research sample was estimated under the Paniotto formula and not exceeding a permissible bias of 5% in social sciences.

4 The Findings

To assess the hypothesis H1 it was important to compare the training methods applied in public and private sectors (Fig. 3).

It was relevant to analyze in what forms and methods the qualification of human resources was improved taking into account the type of organization. The studies of Navickienė (2011), Kjellberg et al. (1998), Hatch and Dyer (2004), Fleischhauer (2007), Miliukienė and Prakapienė (2012) reveal, that due to the differences of motives, the training methods applied by organization also differ, what affects their activity's efficiency. The liabilities to organization are higher in the private sector.

In order to find out how the application and frequency of training methods differ depending on the organization, in which respondents work, for a statistical analysis the most popular training methods were selected: independent learning (in organization of the public sector) and internal employees' training (private organization). To analyze this relation Chi-square was used.

As Table 3 shows, a clear statistical relation between organization sector and practice of training methods was established. Since $p < \alpha$ ($p = 0.00$, $\alpha = 0.05$, i.e. $p < \alpha$), this means, that relations between the sector of respondent's organization (organization of private or public sector) and training methods applied in it— independent learning, training of internal employees are statistically significant.

Thus the hypothesis H1 developed in this paper was confirmed: the methods applied for qualification improvement training in private and public sectors are usually different. Data shows that, indeed, different qualification improvement



Fig. 3 Training forms and methods for qualification improvement, N = 81

Table 3 Chi-square test in the analysis of practice of independent learning and internal employees' training depending on public and private sector, N = 81

	Chi square
Independent learning	$p = 0.000$
Internal employees' training	$p = 0.000$

methods are usually applied in public and private sectors. In the public sector the most popular qualification improvement methods are the following: independent learning, seminars and trainings organized by training agencies. And in the private sector the most popular are: training of internal employees, internship in other organizations, international trainings and mentoring.

This was revealed also by analyzed empirical level of the effects of human resources qualification improvement on the efficiency of its activity in public and

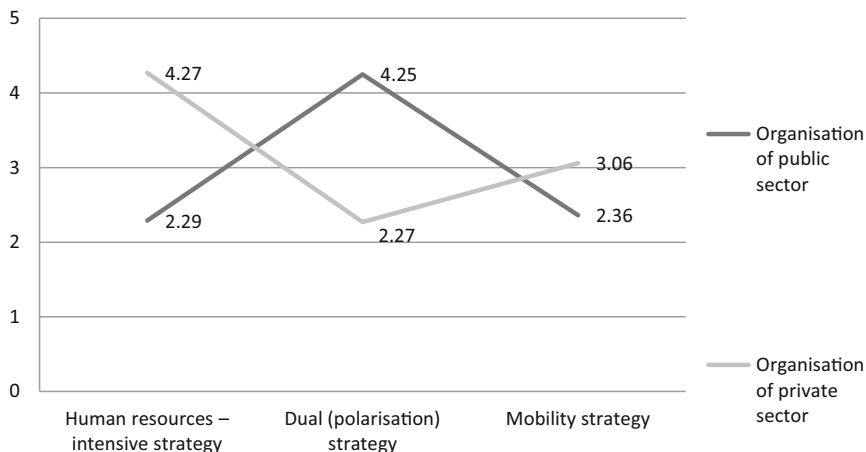


Fig. 4 Average values of qualification improvement strategy indicated by respondents under the organization type, $N = 81$. Statements are assessed as follows: 5—completely agree; 4—agree, 3—neither agree, nor disagree, 2—disagree, 1—absolutely disagree

private sectors. As it was stated, the private sector features by innovation and adapts more rapidly to the altering environmental conditions, the public one—is regulated by various governmental laws (Hatch and Dyer 2004; Fleischhauer 2007). The private sector offers its employees more attractive possibilities for the qualification improvement (Karami et al. 2008; Česnulevičienė and Lakis 2002), more freedom to choose and make decisions than the public sector, which features by prevailing bureaucracy.

After the analysis of mostly applied training forms and methods for improvement of qualification in chosen organization, it is important to find out about the attitude of respondents to qualification improvement process in public and private sectors, since the entire consecutive process affects the efficiency of their activity.

The results obtained (Fig. 4) show, that in public and private sectors different strategies for qualification improvement are applied. In the organization of the private sector the strategy of human resources—the intensive one is mostly applied ($M = 4.27$), while in the organization of public sector it is little used ($M = 2.29$). In the public sector the most popular qualification improvement strategy is dual (polarization), which has got the highest assessment ($M = 4.25$), and in the private sector it is the least evaluated strategy of qualification improvement ($M = 2.27$). When comparing the attitude of respondents from public institution and private organization to the mobility strategy it was established, that this strategy is more characteristic to the public sector than to the private one, however the difference exists ($M = 3.06$ and $M = 2.35$ respectively). It may be claimed, that the most popular strategies for qualification improvement in appropriate sectors perfectly illustrate also the training methods obtained in particular sector.

Table 4 Respondents' attitude to how the qualification improvement process has affected their activity efficiency according to organization type, N = 81

Statement	Organization of public sector	Organization of private sector
	Average value (M)	
1. Enterprise has made more profit	2.67	2.91
2. Improvement of financial indicators and results of your organization activity	2.83	2.91
3. Decrease of Customers'/Society's complaints and increase of praise	3.42	3.09
4. Increase of Customers'/Society's satisfaction	3.38	3.18
5. Image of Your organization or department	3.67	3.27
6. The cooperation among organization members has improved	3.38	3.27
7. Climate in organization has improved	3.29	3.09
8. Quality of decisions being made has increased	3.83	3.27
9. Relations and work with other institutions and organizations have improved	3.33	3.09
10. Your everyday work has become more productive	3.75	3.45
11. Your professionalism, initiative, creativity have increased	3.63	3.64
12. Earnings have increased	3.04	2.91
13. Goals, plans and expectations set for You by the management were implemented easier	3.71	3.45
14. Your personal value has increased	3.96	3.73
15. Nothing has changed	1.88	2.55
16. Employees are valued according to their activity results.	3.75	3.27

Note: Statements are assessed as follows: 5—fully agree; 4—agree, 3—neither agree, nor disagree 2—disagree, 1—absolutely disagree

Assessing the efficiency of employees' activity, a variable of a rank type with five possible answers was evaluated. The higher rating of this index, the stronger conviction of the respondent, that after training and qualification improvement his everyday work has become more productive. As Table 4 shows there is no big difference between the attitudes of respondents from public and private sector organizations.

In Table 4 presented above most of statements are quite strongly expressed. When analyzing the statements related with the financial indicators, it may be noticed, that employees from private sector have stronger expressed present efficiency compared to ones from the public sector. In their opinion due to their increased competence, organization has made more profit ($M = 2.91$ and $M = 2.67$ respectively) and in general financial indicators and results of organization have improved ($M = 2.91$ and $M = 2.83$ respectively).

The customer and society-oriented results are stronger expressed by the employees from the public sector organization. Respondents of the public sector state, that due to successful qualification improvement process, the number of complaints has decreased and number of praise from the society has increased ($M = 3.42$), and society's satisfaction has also increased ($M = 3.38$). The statements: Decrease of Customers'/Society's complaints and increase of praise ($M = 3.09$) and Increase of Customer'/Society's satisfaction ($M = 3.18$) were more faintly assessed than in the public enterprise.

When analyzing the block of statements, related with basic activity results, it is noticeable, that the employees of public enterprise stronger expressed, that the image of organization or department has improved ($M = 3.67$), while the respondents from the private enterprise expressed this statement more faintly ($M = 3.27$). Both the respondents from public and private sector organizations claimed, that after qualification improvement process, the cooperation among organization members ($M = 3.38$ and $M = 3.27$ respectively) as well as the climate in the organization ($M = 3.29$ and $M = 3.09$ respectively) has improved, and relations and work with other institutions and organizations as well ($M = 3.33$ and $M = 3.09$ respectively).

The employees from the public sector organization have accentuated, that qualification improvement process significantly affected the increase of quality of decisions being made ($M = 3.83$). In the organization of private sector respondents also think it has some effect ($M = 3.27$). The survey results showed, that a big part of employees from both sectors feels, that their everyday work has become more productive ($M = 3.45$ and $M = 3.75$ respectively), the employees also claim, that their professionalism, initiative, creativity have increased ($M = 3.63$ and $M = 3.64$, respectively).

There are some differences between the opinions of different sectors' employees regarding the increase of everyday work productivity. This statement was highlighted by both sectors as one of the most significant advantages in the process of qualification improvement, however the statement assessed by the public sector employees was more pronounced ($M = 3.75$), while the employees of private sector have evaluated it $M = 3.45$. This statement confirms the research carried out by scientists Weiss and Finn (2005), Afonso et al. (2010), and Adamonienė (2009) related with the effects of qualification improvement on the efficiency of employees' activity.

It should be noticed that, according to the respondents, in the organizations of public and private sectors being analyzed, the earnings have increased due to qualification improvement process ($M = 3.04$ and $M = 2.91$, respectively), the goals, plans and expectations set for them by the management have become simpler implemented ($M = 3.71$ and $M = 3.45$, respectively), also a personal value of respondents has increased ($M = 3.96$ and $M = 3.73$, respectively), and the respondents have been started to value according to their activity results ($M = 3.75$ and $M = 3.27$, respectively). The less part of respondents claimed, that qualification improvement had no effect at all on their everyday activities ($M = 1.88$ and $M = 2.55$, respectively).

The correlations of qualification improvement of human resources and activity efficiency of organization employees were assessed separately in respondent groups employed in public and private sectors.

The correlation results revealed, qualification improvement of the employees in public sector is statistically significantly, but faintly related with the employee's activity efficiency, i.e., correlation coefficient is $R = 0.27$. While the qualification improvement of employees working in the private sector is statistically significantly related with the activity efficiency of employee, i.e., the more enterprise is involved in the qualification improvement of human resources, the more effective and productive everyday work of employee becomes (correlation coefficient $R = 0.97$). The particularly strong positive correlation of these factors was established (hypothesis was confirmed in the assessment of enterprises of the private sector).

Though the analysis of this case indicated, that in the public sector a statistically significant difference between activity efficiency of human resources and qualification improvement effect was not established, however on the basis of research data and its analysis, it may be deemed, that enhancement of activity efficiency due to qualification improvement process was felt. H2 hypothesis developed in this paper "Qualification improvement of human resources increases their activity efficiency in public and private sectors" may be confirmed in the case of the private sector.

The qualification improvement of employees working in the public sector is related with better basic activity results and society-oriented results (correlation coefficients $R = 0.400$ and $R = 0.316$), however it is not statistically significantly related with financial indicators. In the private sector these correlations are significantly stronger: qualification improvement of employees is related with financial indicators (correlation coefficient $R = 0.692$) and in particular strongly is related with basic activity results ($R = 0.898$) and society-oriented results ($R = 0.827$). The research reveals, that investments of organization in the qualification improvement of employees are in particular strongly related to higher productivity and efficiency of employees' activity of the private sector.

Then, it may be stated, that hypothesis H3 "The effect of qualification improvement reflects in different results of their activity efficiency—in public and private sectors" may be confirmed. As the research data shows, the qualification improvement of human resources in the public sector increases the better main results of employee's activity and reflects better society-oriented results, and in the private sector it shows higher financial indicators and increases the basic activity results and society-oriented results.

The obtained research results are confirmed by scientific research on the issues of activity efficiency carried out by Raipa (2011), Afonso et al. (2010), Dittenhofer (2001), Karami et al. (2008). Different activity efficiency rates in the sectors are determined by many factors, which were shown by the research performed: first of all, application of different training methods, and, what is the most important, different features of the whole qualification improvement process in public and private sectors.

To conclude, it may be stated, that employees from the private sector organization feel higher efficiency of activity due to qualification improvement process applied in

organization, which is intensive and controlled by organization, therefore the organizations of public sector could take over a good practice of qualification improvement from the private sector.

5 Conclusion

The qualification improvement may be defined as inherent part of organization existence, in which theoretical and practical knowledge necessary to perform functional works is educated, enhanced, deepened. The selection of qualification improvement methods starts from qualification improvement strategy. There are three of them: intensive, dual, and mobility strategy. There are many methods for qualification improvement. The choice of method for the organization depends on investments provided for the enhancement of human resources of organization. The most popular qualification improvement methods are the following: lectures, educational conversation, discussions and debates, guideline, instructions, programmed training, observations and assessments, various events, independent learning.

The activity efficiency is inseparable conception from any activity related with desirable good results. The activity is effective when resources of all types are controlled effectively and qualitatively, when organization sets its own intended tasks, remains competitive and productive, regardless the essential changes. In private and public sectors, the rates of activity efficiency assessment are different. In the private sector the rates of profit (loss) account are accentuated, and in the public one the qualitative rates are highlighted: productivity, activity quality, competence, how the laws are observed, whether the tasks set by the state are fulfilled, how appropriations are adopted.

The qualification improvement of human resources and activity efficiency are strongly related. The competence of human resources reflects in good results of their financial activity and in the strategic planning, in long-term consequences: welfare of individual and society, as well as organization efficiency. The qualification improvement of human resources makes organization superior and more competitive, increases work productivity, decreases inputs, and enhances employee's self-confidence.

The research of the effects of qualification improvement of human resources of public and private sector organizations on their activity efficiency has revealed, that in both sectors the methods of qualification improvement are different. Usually applied qualification improvement methods in the public sector: independent learning, seminars and trainings organized by the agencies, dual qualification improvement strategy applied. And in the private sector the following methods are the most popular: training of internal employees, internship in other organizations, international training and mentoring, and usually applied intensive qualification improvement strategy of human resources. This affects differently the efficiency of activity. Thus the first hypothesis—in public and private sectors usually different qualification improvement training methods are applied—after the research was confirmed.

During the different studies of qualification improvement process, when comparing the effect of qualification improvement of human resources of public and private sector organizations on their activity efficiency, it was noticed, that in the private sector the effect of qualification improvement process on positive results was higher than in the public one, where relation is weaker. On the basis of this, the second hypothesis was partly confirmed—qualification improvement of human resources increases their activity efficiency in public and private sectors.

During the research performed the results of activity efficiency in the public sector, compared to the private one, due to the effect of qualification improvement are more qualitative: this reflects in the results of their basic activity, in society-oriented results. In the private sector the effect is felt not only in the named qualitative results, but also in financial indicators. Due to this, the third hypothesis—the effect of qualification improvement reflects in different results of their activity efficiency in public and private sectors—was confirmed.

It is noticeable, that in the public sector a good practice of qualification improvement of private sector should be taken over in order the qualification improvement in the public sector more significantly affected the efficiency of activity.

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Turnover Tendencies Among Workers



Marek Botek

Abstract The literature often studies turnover and the reasons underlying it. This is logical as high turnover not only increases costs, but also means that employees represent a threat to the original company if they go to competitors. The most frequent reason for high turnover is perhaps dissatisfaction with work, but the influence of other factors has also been studied. In spite of the breadth of research, the results are very often ambiguous. This article is focused on turnover tendencies in two plants operated by a ceramic company in the Czech Republic. Among the sample of workers, the study examined the impact of expectations of work, training pursued and age. Dependence was confirmed only between work expectations and turnover tendencies in one of the two plants. Statistically, it is only possible to confirm/reject those aspects that are currently relevant. However, it is possible that turnover tendencies are influenced by more factors with a cumulative impact. Managers and HR managers should therefore pay attention to all potential aspects of risk.

Keywords Turnover · Satisfaction · Ceramic plant · Questionnaire · Czech Republic

1 Introduction

Turnover is a long-term challenge for companies with an unfavourable perspective. It has been explored since almost 100 years ago (Slichter 1919) and continues to be the subject of study. Turnover is generally considered to include the firing of employees and their leaving voluntarily (e.g. Shaw et al. 2005; Brewer et al. 2012). Lee (2010) describes employee flow within firms as referring to inflows

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(employee acquisition), intraflows (internal staff deployment) and outflows (turnover).

Turnover is demanding in terms of both finances and time for both employees and employers (Holtom et al. 2008). Also, other authors claim that employee turnover leads to increases in costs for employers to fill vacancies and train new employees (Allen et al. 2010; Cascio 2015). These costs often amount to the annual salary of the employee in situ, but the total costs for each job-hopper can be 90–200% of the employee's annual salary based on the skills and competences required (Cascio 2015). Allen et al. (2010) claim that direct costs, work disruption and losses of organizational memory and seasoned mentors associated with turnover are significant issues. Jasinskas et al. (2013) alert, that the highest attention should be paid to managers they are able practically apply knowledge. Also, Lee (2010) notes that turnover through employees leaving influences the quality of organizational services through various mediated relationships. Many organizations therefore have a vested interest in retaining key employees. In accordance with products' Life Cycle they started to use Social Life Cycle Assessment (Vávra and Bednařková 2013). Even when voluntary turnover rates drop because of unfavourable labour markets, it is short-sighted to ignore retention management. Trevor (2001) found that high unemployment rates have little impact on the turnover of high-performing employees or those with in-demand skill sets.

While the entry (hiring and relocation) of employees can be managed relatively easily, it is more difficult to manage employees' exit. Nowadays, with low unemployment rate in the Czech Republic, it is very difficult to recruit employees with the required competences.

The firing of employees is usually termed involuntary turnover, whereas leaving initiated by the employee is termed voluntary turnover (Allen et al. 2010). Involuntary turnover is manageable with sufficient notice ahead of time, but voluntary turnover is more problematic. Employees leave organizations for a wide variety of reasons. Internal (push) factors are influenced by the job, boss, company culture or work conditions. External (pull) factors are, for example, the offer of better pay, a more interesting job, or a better company environment.

The aim of this article is to verify the impact of three factors on turnover: job expectations, training and employee age.

2 Literature Review

Employee turnover is significantly influenced by certain human resource management (HRM) practices (Ghebregiorgis and Karsten 2007; Rodriguez and Ventura 2003). Ahmad and Schroeder (2003) state that the number of fired employees is negatively related to several HRM practices, but their result is not statistically significant. Also Kim and Bae (2005) claim that HRM results in decreased voluntary turnover, whereas Kaya and Abdioğlu (2010) identified problems in organizational politics as increasing the probability of the instigation of turnover tendencies.

O'Halloran (2012) found that firms with internal labour markets typically experience lower turnover and also that among workers receiving some form of performance pay, regardless of the type, there are lower rates of employee turnover than among workers who do not. Vitaliano (2010) found a positive impact of corporate social responsibility practices on decreasing turnover.

Branham (2009) claims that 95% of those leaving companies belong to category Voluntary departures where employer actions may prevent/delay turnover. This indicates that employers have a high degree of control over their employees' departure decisions and also that employees have a high degree of control over such decisions. The use of suitable HRM strategies could reduce voluntary turnover and there is more than one generally usable solution (Brewer et al. 2012).

It is not enough to have the potential for a high degree of control over decisions to complete a work contract. It is necessary to be informed about turnover tendencies and to want to solve them. In project management it is included in threats of project (Šviráková and Soukalová 2015). Maertz and Kmitta (2012) distinguish between five types of floaters. Among these are people who plan to leave the job if an event occurs in their life or work (push factors) or in their neighbourhood (pull factor). Similarly Nový et al. (2006) claim that the decision to leave can depend on many factors. They categorize these in three groups: *out-of-company factors* (supply and demand in the workplace market and competitors in the region), *company factors* (size of salary, work organization, relationship with bosses and colleagues, etc.) and *factors based on the personal characteristics of employees* (gender, age, level of education, tenure, etc.). Branham (2009) offers 67 reasons for employees leaving, identified through the analysis of thousands of output interviews. The reasons include, for example, lack of promotion possibilities, feeling unappreciated, bad relationships, stress, insufficient salary, family reasons, etc. In June 2015, a survey was undertaken among citizens in the Czech Republic on the theme of 'satisfaction with occupation'. The results showed that 13% of working people were considering a change of job, 83% did not wish to change their jobs and the rest were undecided (CVVM 2015).

Although there are impulsive types of floaters (Maertz and Kmitta 2012), usually the decision to leave a job is not an immediate decision. Employees tend rather to undergo a process of alienation and may begin to show warning signs in response to a shocking event (tardiness, lack of interest, etc.). Perceptive managers (line managers) should react and reverse the turnover tendency. It can also help that people do not like changes, because change determines to feel people insecure (Nedelcu and Buşu 2016).

Also, other authors distinguish between turnover and turnover tendencies, the latter being defined as the will, tendency and intention of an employee to leave the organization (Tett and Meyer 1993; Aydogdu and Asikgil 2011; Saeed et al. 2014), while turnover describes the actual act of detaching oneself from an organization (Aydogdu and Asikgil 2011). Saeed et al. (2014) also include plans to dismiss employees as turnover intention. Turnover intention is a significant determinant and predictor of actual turnover (Tett and Meyer 1993; Griffeth et al. 2000).

In the last 50 years, a significant amount of literature has emerged on the factors that lead to employee turnover or turnover intention (Egan et al. 2004). Kaya and Abdioğlu (2010) undertook a detailed literature review in the area of factors affecting individuals' voluntary turnover or turnover intention. These authors referred to studies oriented to the impact of: *environmental factors*, such as the labour market and national culture; *organizational factors*, such as organizational strategy, organizational culture and human resource policies and practices; *individual factors*, such as job stress, job satisfaction, organizational commitment, gender, personality traits, self-efficacy and age.

Cotton and Tuttle (1986) and Korff et al. (2015) affirm the important role of work-related factors, among which they include pay, job performance, role clarity, task repetitiveness, overall job satisfaction, satisfaction with pay, satisfaction with work itself, satisfaction with promotional opportunities and organizational commitment. Also Lee et al. (2004) show the impact of job performance on turnover. Cotton and Tuttle (1986) identified personal factors playing a significant role in turnover. These factors include age, tenure, gender, biographical information, education, marital status, number of dependents, aptitude and ability, intelligence, behavioural intention and net expectations.

Liu et al. (2013) found that leadership style, i.e. leader–member exchange, can have a significant effect on employee turnover. Ethical aspects are important not only inside the company but also in contacts with its key stakeholders (Munzarová et al. 2016). Lu et al. (2016) found lower turnover tendencies for managers than for line workers in the hotel industry and based on a review of the literature, they claim the significance of the impact of engagement on reducing turnover tendencies. Hofhuis et al. (2014) found a higher degree of turnover tendency and also turnover among minority members. This correlates with finding that there is a higher level of turnover in companies employing immigrants (McKay et al. 2007).

In addition to examining the factors affecting fluctuations in turnover, authors have also tried to develop explanatory theory. Mitchell et al. (2001) propose job embeddedness theory, which claims that the reasons why an individual does not leave an organization are dependent on his/her relationships with other people, activities and the environment inside and outside the company. Unlike other theories, this includes factors beyond those related to work and the organization. However, in the literature we can also find arguments based on instrumentality theory, proposed for example by Skinner, Taylor, and Ford in the early to mid-twentieth century. In this vein, Ehrenberg and Smith (2012) claim that higher salaries can be used as a tool to reduce voluntary turnover. Also, Ghebregiorgis and Karsten (2007), based on a study undertaken in Eritrea, suggest that employee turnover decreases as the firm's compensation package increases.

If a company wants to reverse an employee's decision to leave, in addition to redressing the adverse condition (salary, lack of appreciation, work organization) it can also suggest changing working hours or location and thus mitigate the impact of the aspects it cannot influence (long-term care for family members, health reasons, burnout). Lee (2010) recommends targeted retention and dismissal of employees, thus keeping those who are most able and firing those with less power, or potentially

unable to establish strong relationships with customers. Such fluctuations in turnover may then even be positive for the company.

3 Hypotheses

3.1 *Expectations*

Job dissatisfaction is the prime cause of turnover, which may be due to multiple reasons (Dubey et al. 2016). In particular, numerous surveys have found a significant negative relationship between job satisfaction and turnover intention (Tett and Meyer 1993; Griffeth et al. 2000; Alexandrov et al. 2007; Brewer et al. 2012; Saeed et al. 2014; CVVM 2015; Tschopp et al. 2016). On the other hand, according to Allen et al. (2010), the view that dissatisfaction is a primary reason for people leaving is a misconception. Rather, this traditional path is true only for a certain group of employees, whereas others follow different paths, detailed below.

The second path to departure entails relatively satisfied employees, who leave due to receiving an attractive alternative offer. Such an attractive offer can be described as a kind of shock, usually unexpected, coming at a time when the employee was not considering a new job. If the company monitors competitors' offers in neighbourhood and changes its own offers in line with these, it can minimize outflow from the second group of employees.

Negative shock (such as incompatibility, disagreement, conflict) is also a factor that triggers turnover tendencies (Lee and Mitchell 1994). In the case of a strong shock, an individual will not have to stop to consider if there is an alternative job offer and will leave the company. In the case of a weaker shock, it will induce the employee to start to think about alternative job offers. It is possible to identify and measure these work-related shocks as a means of predicting the decision to leave the company in the future (Morrell et al. 2004).

The third path, according to Allen et al. (2010) involves those who consider whether leaving might be profitable for them in response to a certain event, such as completing a particular training programme, receiving a retention bonus, or completing an MBA.

The fourth path involves relatively satisfied employees who do not want to leave and have not considered leaving. Their departure is impulsive, typically in response to a negative shock. Allen et al. (2010) thus confirm the impact of floaters, similar to Maertz and Kmitta (2012). Lee et al. (1999) confirm that job dissatisfaction might be the driving force in fewer than half of individual turnover decisions. Also, Alexandrov et al. (2007) found a statistically significant, but relatively small, direct influence of job satisfaction on turnover intention.

In relation to turnover, there are few studies that have considered employees' perceptions of their jobs, even though Porter and Steers (1972) argued that if employees' expectations are not satisfied, the tendency towards voluntary turnover increases. Rahman and Nas (2013) claim that employees' turnover intention is

predicted by employees' development perceptions. Similarly, Bergiel et al. (2009) found that employees' perceived growth opportunities are negatively related to employees' turnover intentions. Moreover Dubey et al. (2016) state that employee turnover is mainly a function of an employee's internalization of his/her job. Similarly, Luna-Arocas and Camps (2008) demonstrate that the relationship between job satisfaction and turnover intention is mediated by employee commitment. Finally, Slåtten et al. (2011) claim that there are indications that employees' perceived service quality has a direct negative effect on employees' turnover intentions.

The success of the work adjustment process is reflected in the extent to which an employee's performance is satisfactory on the one hand (i.e. the extent to which the individual can meet job demands) and on the employees' satisfaction derived from his/her work on the other; this is expected to influence the employee's likelihood of remaining with the organization (Boon and Byron 2016).

Intrinsic motivation has been argued to be the strongest predictor of turnover intention (Dysvik and Kuvaas 2010). Prior research has found a negative relationship between intrinsic motivation and turnover intention across different cultural settings (e.g. Richer et al. 2002; Kuvaas 2006; Vansteenkiste et al. 2007). Radosevich et al. (2008) argue that highly engaged employees have higher job satisfaction compared to disengaged employees. The effect of job satisfaction on turnover intention is transmitted primarily through affective organizational commitment (Alexandrov et al. 2007). It is clear that people have expectations of their own jobs and want to satisfy them. These perceptions are formed before entry to the job and if they are not satisfied, this can be a reason for leaving.

Based on the above, the following hypothesis is proposed:

- H1₀**: Employees with a job that does not correspond to their expectations have the same turnover tendencies as employees with a job corresponding to expectations.
- H1_A**: Employees with a job that does not correspond to their expectations have different turnover tendencies as employees with a job corresponding to expectations.

3.2 *Training*

Turnover, both voluntary and involuntary, can be influenced by insufficient work competencies. Kaya and Abdioğlu (2010) claim that resignation due to the educational level of employees leads to lower productivity. Moreover, research results suggest that competitive advantage in terms of innovation in the ceramic tiles industry requires the implementation of firm strategies focused on organizational learning and design management (Fernández-Mesa et al. 2013). Similarly, Bonavia and Marin-Garcia (2011) claim that companies with the most lean production practices also more often train their employees in these practices.

Kaya and Abdioğlu (2010, p. 154) posit, but do not confirm, the hypothesis that 'Employees with a high level of knowledge about the profession before starting to

work for the institution have a higher probability of having turnover intention'. However, Allen et al. (2010) claim that there is only a weak relation between education and turnover, whereas Bergiel et al. (2009) found that training is directly related to employee's intention to leave.

Therefore, the second hypothesis is as follows:

H2₀: Employees who consider the training offered insufficient have same turnover tendencies as employees who are satisfied with the sufficiency of training.

H2_A: Employees who consider the training offered insufficient have different turnover tendencies as employees who are satisfied with the sufficiency of training.

3.3 Age

Young people up to 29 years of age and also people over 60 most often consider job change (CVVM 2015). In the category of those over 60, this probably entails thinking about retirement. However, a meta-analysis undertaken by Tschopp et al. (2016) indicates that turnover intention and actual turnover are lower for older employees. Turnover is believed to increase with age until a certain point, after which turnover tendency tends to diminish with increasing age (March and Simon 1958).

When the impact of age on turnover is considered from the perspective of job embeddedness theory, it can be argued that with increasing age, the relationships of employees with their organization, co-workers and the region in which they live become ossified and therefore they do not want to move from their familiar environment (Mitchell et al. 2001). This is more common among employees in their 40s (Kaya and Abdioğlu 2010). Based on a meta-analysis, Porter and Steers (1972) found that younger employees with low tenure exhibit the highest turnover, while among older employees there is an increase in absenteeism. Cotton and Tuttle (1986) identified a significant role of personal factors, including age and tenure, in turnover. Also, Griffeth et al. (2000) claim that company tenure meaningfully influences turnover. On the other hand, Kaya and Abdioğlu (2010) were unable to confirm the impact of age and tenure on turnover tendency; they found that being aged 40 or above reduces the probability of leaving the organization, but this finding was not statistically significant.

Tschopp et al. (2016) found that compared to that of younger employees, older employees' job satisfaction was less negatively related to their turnover intention; this buffering age effect only held for employees with a weaker independent career orientation.

Vitaliano (2010) considers that turnover is typically higher for young workers because they are in the process of searching for jobs and careers that best fit their backgrounds and tastes. Moreover, they possess less firm-specific human capital and this is not as valuable in the open market as with their current employer. However Vitaliano (2010) does not propose any reason for this.

Considering these unclear conclusions, the third hypothesis is as follows:

H_{3₀}: Employees up to 29 years do not have different turnover tendencies from those of older employees.

H_{3_A}: Employees up to 29 years have different turnover tendencies from those of older employees.

4 Methodology

The data were collected through a primary quantitative survey employing a questionnaire. The questionnaire was adapted from the Employee Satisfaction Questionnaire developed by the Research Institute for Labour and Social Affairs (Research Institute for Labour and Social Affairs 2007). The questionnaire items were measured using a four-level Likert scale (1 = strongly agree, 2 = agree, 3 = disagree, 4 = strongly disagree). The questionnaire was distributed in printed form to 445 employees at the Bechyně plant of a ceramics firm and 265 employees at the Znojmo plant of the same firm (comprehensive survey, all employees in worker positions were invited to participate). The distribution and collection of questionnaires were implemented in March and April 2016. The return rates were 98 questionnaires (22%) in Bechyně and 49 (19%) in Znojmo.

The analysis was carried out using Microsoft Excel. This program supports tools for descriptive statistics—absolute and relative frequencies and the testing of independence in contingency tables (Pearson's chi-squared test (χ^2)). Each hypothesis was tested separately for the Znojmo and Bechyně plants, accepting a level of $\alpha = 0.05$ as statistically significant.

5 Results

In the Bechyně plant, both voluntary and involuntary turnover increased in the period from March 2015 to February 2016, reaching a total turnover of 30.60% and voluntary turnover of 17.32%. These values are very high, particularly as the HR director of the company considers turnover above 10% to be high. In the Znojmo plant, turnover was not so high (in same period, reaching total turnover of 15.79% and voluntary turnover of 7.34%), but the tendency is growing. Thus, it is important to monitor turnover tendencies in both plants and make continuous attempts to reduce them.

The first hypothesis is focused on the relation between employees' work expectations and turnover tendencies. Table 1 shows that the null hypothesis of the independence of work expectations and turnover tendency is rejected. This means that employees' whose expectations do not correspond to their current job have different turnover tendencies than employees with a job that does correspond to

Table 1 Dependence between turnover tendency and expectations in the Bechyně plant

Frequencies	Do you think to leave the company?				
	Yes	Rather yes	Rather no	No	Total
Work confirms expectations					
Totally agree	0	1	2	16	19
Rather agree	3	11	15	22	51
Rather disagree	3	6	6	0	15
Totally disagree	2	2	1	1	6
Total	8	20	24	39	91
Significance of chi-squared test				0.0002	
Statistical level of significance				0.0500	
Zero hypothesis is rejected					

Table 2 Dependence between turnover tendency and expectations in the Znojmo plant

Frequencies	Do you think to leave the company?				
	Yes	Rather yes	Rather no	No	Total
Work confirms expectations					
Totally agree	0	2	1	8	11
Rather agree	4	4	5	12	25
Rather disagree	0	1	2	0	3
Totally disagree	0	0	1	0	1
Total	4	7	9	20	40
Significance of chi-squared test				0.191	
Statistical level of significance				0.050	
It is not possible to reject the hypothesis					

their expectations. Moreover, 62% of respondents for whom there were differences between their expectations and jobs were considering leaving. Among those whose jobs corresponded to expectations, only 22% confirmed turnover tendencies.

The same hypothesis for the Znojmo plant was not possible to reject (Table 2). Job more appropriate with expectations and turnover tendencies are lower.

Different results can arise based on location. While Znojmo is a traditional ceramic region, with many relatives working together in the plant, Bechyně has no such ceramic history. Thus, the Znojmo employees should have more realistic expectations concerning their jobs. A role can also be played by local unemployment: this is considerably higher in Znojmo (9.41%) than in Bechyně (6.20%) (Czech Statistical Office 2016). Thus, somewhat dissatisfied employees are less likely to leave the company in Znojmo.

Hypothesis 2 aimed to test the existence of dependence between the provision of training (if employees think it is sufficient) and turnover tendency. The null hypothesis of independence was not rejected and thus there is no link between employees' perceptions of the adequacy of training and intention to leave (Tables 3 and 4).

Hypothesis 3 posited a lack of dependence between age and turnover tendency. Once again, the null hypothesis of independence was not rejected (Tables 5 and 6),

Table 3 Dependence between turnover tendency and satisfaction with training in the Bechyně plant

Frequencies	Do you think to leave the company?				
	Yes	Rather yes	Rather no	No	Total
Training is sufficient					
Totally agree	0	1	5	13	19
Rather agree	5	11	11	17	44
Rather disagree	2	8	6	8	24
Totally disagree	1	0	2	1	4
Total	8	20	24	39	91
Significance of chi-squared test				0.169	
Statistical level of significance				0.050	
It is not possible to reject the hypothesis					

Table 4 Dependence between turnover tendency and satisfaction with training in the Znojmo plant

Frequencies	Do you think to leave the company?				
	Yes	Rather yes	Rather no	No	Total
Training is sufficient					
Totally agree	1	3	0	4	8
Rather agree	2	0	4	13	19
Rather disagree	1	3	3	2	9
Totally disagree	0	1	2	1	4
Total	4	7	9	20	40
Significance of chi-squared test				0.128	
Statistical level of significance				0.050	
It is not possible to reject the hypothesis					

Table 5 Dependence between turnover tendency and age in the Bechyně plant

Frequencies	Do you think to leave the company?				
	Yes	Rather yes	Rather no	No	Total
Age					
20–29	6	8	7	15	36
30–64	2	11	15	22	50
Total	8	19	22	37	86
Significance of chi-squared test				0.176	
Statistical level of significance				0.050	
It is not possible to reject the hypothesis					

Table 6 Dependence between turnover tendency and age in the Znojmo plant

Frequencies	Do you think to leave the company?				
	Yes	Rather yes	Rather no	No	Total
Age					
20–29	0	2	4	5	11
30–64	4	5	5	12	26
Total	4	7	9	17	37
Significance of chi-squared test				0.452	
Statistical level of significance				0.050	
It is not possible to reject the hypothesis					

indicating that turnover tendency among employees up to 29 and older are probably the same in both Bechyně and Znojmo. It should be noted that only two age categories were considered to ensure sufficient data for statistical analysis.

6 Limitations of the Survey

This study focused only on workers' positions, not all employees. This category was selected because of its importance, homogeneity and number of employees. Other roles could have different turnover tendencies.

The second limitation is that the survey was undertaken in two plants. The respondents may thus have been influenced by other factors not observed. For example, shift operations could exert an important impact as there are two shifts per day in Znojmo and three per day in Bechyně. Moreover, the average distance between home and plant is shorter in Znojmo. Nonetheless, these factors should not affect the extent of dependence between turnover tendency and perceptions of the training received.

7 Conclusion

Employee turnover leads to increases in costs and brings new unexpected problems into managerial decision. The main reason is dissatisfaction, which is however influenced by wide variety of aspects. Also people reactions to dissatisfaction are miscellaneous. Therefore turnover is studied in many researches. This study was focused on turnover tendencies of workers in one ceramic company in the Czech Republic. There were examined three aspects—the impact of expectations of work, training pursued and age. Their impact is not unequivocally described in literature.

In this study, we confirmed only the dependence of turnover tendency on job expectations at the Bechyně plant. The other hypotheses of independence could not be rejected. Employees at the Znojmo plant whose jobs did not match their expectations exhibited the same tendency to leave work as those whose jobs corresponded to their expectations. Employees who were satisfied with the adequacy of their training showed no statistically different turnover tendencies from those who were dissatisfied. Moreover, there was no statistical difference between young workers and older employees in terms of tendency to leave.

It is possible to assume that turnover tendencies are influenced by more factors with cumulative impact. Statistically, it is possible to confirm or reject only very strong reasons. In follow-up study could be suitable to use a method of structured interviews for better understanding of turnover tendencies reasons. And also it could be suitable after lapse of time to evaluate if employees they had turnover tendencies truly leaved a company.

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Do Problems in Project Teams Explain the Influence of Family Involvement on Project Management Activities? A Family-Firm Perspective



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Abstract In the extant literature, there have been calls for researchers to deeply study the reasons why many projects still fail regardless of employment of reliable project management tools and techniques. Despite the numerous studies dedicated to the role of a project team in the overall success of a project, a relatively small number of papers have been dedicated to exploring the study area of the relationship between project teams and family involvement. The primary objective of this paper is to investigate whether the problems in project teams explain the influence of family involvement on project management activities, as based on the researched enterprises. Using binary logistic regression, Polish family businesses were surveyed. The results of the study indicate that the problems within the work of project teams are a significant factor in modelling the chance that companies will manage projects. This relationship might be additionally intensified by family involvement.

Keywords Project management · Problems in project teams · Family businesses · Family involvement

1 Introduction

Family owned companies have been confirmed to be a very heterogeneous group, with different levels of family approach and family involvement (Berrone et al. 2012). In the literature on the subject there are numerous works dedicated to different areas of functioning and business operations of these entities, such as: the dynamics within the owning family (Olson et al. 2003), the role of the founders (Olson et al. 2003), the agency costs of family firms (Dyer 2006), the succession processes (Berrone et al. 2012).

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Despite the aforementioned numerous valuable studies on this group of businesses, the fact that the phenomenon of family-founded and family-managed firms has not been fully recognized still causes significant research gaps worth further studying. The research field of project management is one of such study areas. When conducting an analysis of the studies dedicated to the key challenges and difficulties in the field of project management, it can be observed that a significant amount of attention has been paid to the risks generated externally, which influence a project's final result in terms of its success or failure. These external factors are of high significance, however, similar amount of attention should be paid to the risks generated internally.

This paper is a response to the call by Shenhar and Dvir (2008), who underline the fact that, since project fails and delays are too common to be ignored, it is crucial to study the factors increasing the probability of success in project management, as viewed from a family perspective. The second call, by Barber (2005), is to research and understand the risks that are internally generated in projects. This paper attempts to study the phenomenon of whether and to what extent the problems in project teams explain the influence of family involvement on project management activities in terms of risks generated by the project teams. The results of the investigation provide a deeper understanding, for family firm owners and managers, of how the problems in project teams explain the influence of family involvement on project management activities.

2 Literature Review

2.1 The Role of Family Involvement in the Family Firms' Approach Towards the Business Environment

There is a common consensus among the researchers that family firms provide a basis for economic growth and development worldwide (Zahra et al. 2008). These entities build their competitive advantage on two pillars. The first one is the uniqueness of family owned businesses resulting from the role of family, family involvement, long-term ownership, succession processes and socioemotional wealth (Cennamo et al. 2012; Więcek-Janka et al. 2016). The second pillar 'building' the competitive advantage refers to the behaviours of family firms, including their entrepreneurial attitudes (Short et al. 2009), risk taking approaches (Zahra 2005) and strategic flexibility (Zahra et al. 2008; compare also: Fabińska 2016; Ratalewska 2016).

A crucial factor determining the opportunities for family firms' successful long-term development is their approach towards and, as a consequence, their management of the challenges that arise from the environment. Barringer and Bluedorn

(1999), for example, defined the degree to which a firm reacts to the opportunities and the threats created by its competitive environment as 'strategic flexibility'. In their study, the above cited authors examined the relationship between the intensity of corporate entrepreneurship and the management strategies, confirming a positive relationship between the intensity of entrepreneurship, the scanning intensity and the planning flexibility (Barringer and Bluedorn 1999).

The family-involvement factor, which is responsible for the uniqueness of these firms, has been found to have both positive and negative impact on how family enterprises tackle the difficulties created by their environment. Olson et al. (2003), for example, emphasized the importance of the families' contribution to these business entities. The increased achievements of the businesses and the families were positively associated with such factors as: the firm's assets, the family firm's age, or the number of the hours the owner dedicated to the firm (Olson et al. 2003). Similarly, the family firms which employed the owner's relatives were more successful than these which did not (Olson et al. 2003). The above examples confirm the crucial role of the families in building and in supporting the strategies for long-term development as well as the position of the surveyed business entities. On the other hand, the conflicts among family members regarding how a given family firm should be managed might sometimes cause these companies to be poor performers (Dyer 2006; Faccio et al. 2001).

Family involvement, moreover, does have significant impact on how the surveyed businesses build relationships with their environment. Dyer (2006) in his studies found that family firms have unique strengths in the area of building relationships with the business environment, in terms of creating the social capital. This phenomenon might be, to a high extent, explained by the fact that stakeholders might prefer talking to the members of the owning family rather than to the employees (Dyer 2006). This finding emphasizes the role of trust in the process of establishing and then managing the relationships with a given firm's environment. It also underlines the importance of the families functioning as 'a key factor', by having high potential for building these firms' competitive, long-term positions. Family firms were also found to be in a more favourable situation when it comes to attracting the key-stakeholders, for example the customers, which results from the 'family-name brand' (Dyer 2006). While analysing how family-owned businesses build relationships with their environment, it is also worth emphasising that family-owned firms have been confirmed to cultivate the relationships with societal stakeholders (Zellweger and Nason 2008). Zellweger and Nason (2008) also revealed that these business entities have an inclination to satisfy multiple stakeholders. Another interesting finding in the above cited studies was that if family firms were likely to satisfy multiple stakeholders, they also tended to measure their success by how well they satisfied them. Because of the fact that majority of family owned business tend to take very good care of particular stakeholder groups, they can expect these groups to have a more positive approach towards them. This phenomenon was confirmed in the studies by Hauswald and Hack (2013), who investigated how family control/

influence affected the stakeholders' perceptions of benevolence. The authors found that a growing family control/influence increased the likelihood of a firm behaving benevolently towards its stakeholders (Hauswald and Hack 2013). Some researchers however underlined the fact that managers pay attention to different 'parts of the environment' (Hambrick and Finkelstein 1987). As a result, by paying more attention to some occurrences and less to the others, they might overlook important incidents and not manage the risks properly. In the light of the above, it is crucial to study the managers' approach towards the firms' environments and, consequently, to study how a given firm tackles the risks generated by its environment.

2.2 The Problems in Project Teams and Their Influence on Project Management Activities

According to Zahra (2005), the matter of how family firms approach the problem of taking entrepreneurial risk and how they deal with its complexity is the key challenge those firms face. Since risk is a multifaceted phenomenon, managers have to pay attention to the different ways risk is manifested in company business activities (Zahra 2005). One of the key risks for family owned companies is the project management risk.

Every project defined as 'a temporary endeavour which is undertaken to create a unique product, service or result' (PMI 2008, p. 5) is influenced by a number of elements. This set of heterogeneous factors, which result from both the specificity of a given business's internal organization as well as from the influence of its environment, creates several risks. In the case of family firms, the studied processes are additionally influenced by such elements and values which are distinctive only for family-founded and family-owned businesses. For example, Dyer (1986) and Sorenson (2000) found that the business outcomes of family firms are impacted by culture, along with the leadership styles, employee satisfaction and commitment, as well as by the interplay between the owners and the managers. Although this interrelation is seen, first of all, as a factor influencing what the people in family companies perceive as the organizational culture (Bjursell 2011), this relationship might also influence the way project management is performed in those entities.

Project risk has been widely studied in literature for the past decades. In the literature on the subject, there is a common consensus that risk management is crucial for ensuring project success (Yim et al. 2014). In their studies, the authors have emphasized different areas of project management, in terms of the risks they created for the projects. Among the most important project risks, the following were identified: creeping user requirements, pressure of the excessive schedule, low quality, cost overruns, inadequate configuration control together with inadequate user documentation, lower satisfaction of the user, harmful competitive actions,

excessive time of project delivery to the market and litigation expenses (Wiegers 1998). Furthermore, the studies confirmed that project risks can vary depending on the type of the projects, for example: strategic, operational and compliance projects (Yim et al. 2014). Similarly, numerous project risks have been found to have an organisational nature and to originate from the influence of the project stakeholders and from their resistance (Vrhovec et al. 2015).

What is crucial, however, is the fact that in majority of scientific investigations, risk has been linked, first of all, to the factors and the phenomena taking place in a firm's external environment. Barber (2005), for example, emphasizes the fact that there is a limited number of works dedicated to the internally generated risks, which are defined as those risks that have their origin in the project organization and which arise from the rules, the processes, the structures, the actions, the decisions and the culture. Taking the above definition into consideration, it is clear that a project team and project organization should be regarded as the important sources of internal project risks.

In the extant literature, project teams have been deeply investigated, but mainly in terms of the role they play in building the projects' final outcomes. Project teamwork has been widely acknowledged as one of the major factors of project success (Scott-Young and Samson 2008). Project teams have been studied from the perspective of how they influence the three project outcomes: the schedule, the cost, the operability (Scott-Young and Samson 2008). The researchers cited above found a strong relationship between project cost effectiveness and such factors as: the project-team structure, team efficacy, using virtual offices and building cross-functional project teams. Other studies confirmed the role of trust and its significant influence on the project performance (Fung 2014). When the level of project-team trust was high, team satisfaction, team effectiveness, team cohesion and project performance improved.

The role of project teams has also been emphasized in project management methodologies, but not in terms of generating risks. For instance, the International Project Management Association underlines that competent project teams, which are able to carry out their work and to be responsible for that work, are crucial for organization of a project (International Project Management Association 2006, p. 2), but does not link the work in project teams with potential project risks. Similarly, PMI (2013) examines the management of project risks from the perspective of the stages in the risk management process, where risk is defined as having its origins in uncertainty. Furthermore, in the proposed Risk Breakdown Structure, risks have been categorized into: technical, external, organizational and those related to project management processes (PMI 2008, 2013). In relation to the organizational risks, category or resource-related risks has been identified, but no particular attention was paid to the role of project teams in this context.

The aforementioned approach has resulted in a situation, where insufficient amount of attention is paid to the risks that can be created inside the project structures, with the risk generated by project teams being one of them. Although

the fact that effective teamwork is vital for the final project outcome has been widely acknowledged, a gap concerning the role of project-team risk and its influence on the difficulties in managing projects still remains. Project teams have been studied in the context of taking rather than generating risks. Susser (2012), for example, found that the projects characterized by a very broad scope can generate risks for the project teams. The project-team member's limited experience or an insufficient number of dedicated members as well as the lack of experience have been found to have negative impact on the project management processes, including following a project schedule (Susser 2012). Another problem is the lack of integration between the members of a project team and the client/s they are working for.

An interesting study has been conducted by Reed and Knight (2010), who studied the impact of a virtual project-team environment on the project risks related to communication. The findings confirmed that when the members of a project team worked in more than one location, it did not increase the communication-related risk, compared to working in a traditionally organized project team (Reed and Knight 2010). On the contrary, in case of virtual teams, the risk of knowledge transfer increased. The risk of implicit knowledge transfer has been identified as an important factor of project-team risk (Wallace 1999). Similarly, it has been indicated that the risk of project teamwork might originate from the high challenges related to team communication and coordination (Wallace and Neil 2004). An additional factor increasing this relationship was the number of the organizations involved: more than two. According to Barber (2005), the risks generated internally result from the way the project and the organization operate as well as from the way they are set up. These risks are related to insufficiently effective work of the project team members, the financial constraints that the projected team has to deal with, the lack of or insufficient support from the top management (Barber 2005).

3 The Study Objectives

The primary objective of this paper is to investigate whether problems in project teams explain the influence of family involvement on project management activities, as based on the examined enterprises. The paper formulates three research questions:

1. Which problems within project teams have the highest influence on project management activities, from the perspective of the surveyed family-owned enterprises?
2. Does family involvement influence the problems that project teams encounter in their work?
3. To what extent do the problems in project teams explain the influence of family involvement on project management activities?

The framework of the study has been depicted in Fig. 1.

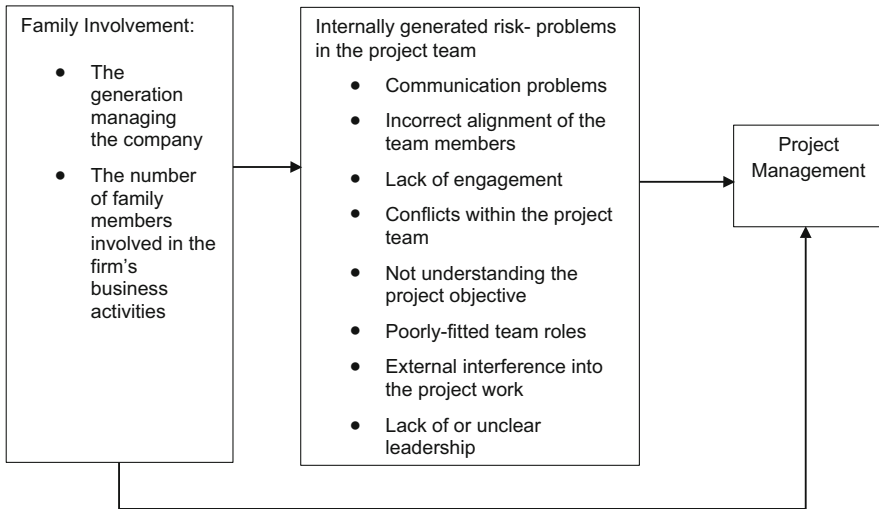


Fig. 1 Research model—the main assumptions. Source: Own elaboration

4 Materials and Methods

For the purpose of the study, the data was collected from the family owned businesses operating in Poland. Such research sample allows a reflection and specification of family firms, in terms of the economic and the social contexts involving Eastern-European emerging economies, a reliable example of which is Poland. The selection process for the family firms was designed as a two-stage process. First, a definition of a family owned enterprise which applies the criterion of ownership and management proposed by, inter alia, Olson et al. (2003) and Miller et al. (2007) was used. Second, the respondents from the surveyed firms had to confirm that they perceived their companies as family-owned businesses. Ultimately, 154 family entities were included in the study.

In order to fully reflect the specificity of this study, the methods were designed twofold. In the first part—the theoretical one—structured literature review was used (Armitage and Keeble-Allen 2008). The empirical part of the research used an online survey designed to study the described phenomenon. Further on, in the process of the analyses, binary logistic regression was employed.

Following the terminology proposed by Hayes (2013), the variables in the proposed research model were categorized into three groups (Hayes and Preacher 2014; Hayes and Scharnow 2013; Preacher and Hayes 2008):

- the exogenous variables, which are not explained in the model: family involvement;
- the endogenous variables, as the outcome variable: project management activities;
- the mediators, which explain the mechanism of the relationship between the exogenous and the endogenous variables: the problems within the work of a project team.

Two indicators were built to capture the phenomenon of family involvement in the examined family businesses.

1. The generation managing the firm: 1st, 2nd, 3rd, 1st and 2nd, 3rd and 4th;
2. The number of the family members involved in the firm's business activities: fewer than 3, 3–5, 6–10, more than 10.

The problems within the work of project teams, in the context of their influence on project management activities, have been described using the following eight measures:

1. communication problems;
2. incorrect alignment of the team members;
3. lack of engagement;
4. conflicts within the project team;
5. not understanding the project objective;
6. poorly-fitted team roles;
7. external interference into the project work;
8. lack of or unclear leadership.

Project management activities were represented by the fact whether the researched companies managed any projects at the time of the survey or not. A five-item Likert-like scale was employed, ranging from: 1—signifying no influence to 5—signifying very significant influence. The data obtained from the surveyed family enterprises was tested for reliability. The Cronbach's Alpha of 0.921 suggested that reliability was characterized by a relatively high level of internal consistency. The factor analysis carried out using the principal components method revealed that one factor explains 65.12% of the variance in the eight measures of the problems within to the work of project teams. It suggests that the mediator variable is comprehensive.

The study was conducted among 154 family-owned enterprises. The examined family companies had manufacturing, service and trade profiles, with employment levels ranging from 1 employee to more than 250 workers. They conducted their business activities in different sectors determined by the Polish Classification of Economic Activity (Polska Klasyfikacja Działalności Gospodarczej). Majority of the examined firms represented the construction sector, wholesale/retail trade and repair of motor vehicles and motorcycles, as well the sector of other service activities. In terms of the organisational and legal form, majority of the examined firms functioned as a business activity via self-employment. Similarly, the examined companies were located in villages as well as in towns and cities, which had varying numbers of citizens. The range of the business activities also varied. Most of the investigated firms operated locally or regionally, however there also were enterprises with a domestic and global range of activities. The entities analysed were, in most cases, managed by the first generation, then by the second generation of the owners. In consequence, in majority of those firms, the number of the family members engaged in business activities did not exceed three persons.

5 The Results

In order to verify the research problem defined in the previous section of the paper, a mediation model (Westfall et al. 2014) was tested in a three-step regression procedure. The first step refers to the relationship between the exogenous and the endogenous variables. The second step refers to the relationship between the mediator and the endogenous variables, while the third step covers the interrelation between the exogenous variables and the endogenous variables with the project-team problems as the mediator. The results are presented in Table 1.

Table 1 Summary of the regression coefficients in the mediation model

N = 154	b	s.e.	Exp(b)
Step 1: The influence of family involvement on project management activities, $R^2 = 0.004$			
The generation managing the company	0.095	0.247	1.1
The number of family members involved in the firm's business activities	0.133	0.244	1.143
Step 2: The influence of the problems within the work of the project team on project management activities, $R^2 = 0.115$			
Communication problems	0.168	0.309	1.183
Incorrect alignment of the team members	-0.795*	0.476	0.452
Lack of engagement	0.564	0.391	1.757
Conflicts in the project team	0.215	0.362	1.24
Not understanding the project objective	-0.638**	0.317	0.528
Poorly-fitted team roles	0.679*	0.361	1.971
External interference into the project work	0.073	0.29	1.076
Lack of, or unclear leadership	0.164	0.266	1.178
Step 3: The influence of family involvement on project management activities—controlling the problems within the work of the project team, $R^2 = 0.107$			
The generation managing the company	-0.156	0.332	0.856
The number of family members involved in the firm's business activities	-0.29	0.32	0.748
Communication problems	0.255	0.316	1.29
Incorrect alignment of the team members	-0.867*	0.487	0.42
Lack of engagement	0.588	0.399	1.801
Conflicts in the project team	0.241	0.376	1.273
Not understanding the project objective	-0.665**	0.324	0.514
Poorly-fitted team roles	0.749**	0.365	2.116
External interference into the project work	0.116	0.293	1.123
Lack of or unclear leadership	0.136	0.27	1.146

Source: Own elaboration and calculations

*Statistically significant at $p < 0.1$ (2-tailed)

**Statistically significant at $p < 0.05$ (2-tailed)

***Statistically significant at $p < 0.01$ (2-tailed)

The results of the binary logistic regression indicate that there is no direct relationship between family involvement, measured by the number of the engaged family members [$b = 0.1333$; $p = 0.585$; $\exp(b) = 1.143$] and the generation managing the company [$b = 0.095$; $p = 0.70$; $\exp(b) = 1.1$], and the project management activities. However, both factors facilitate current project management activities in the examined firms, therefore their influence is not significant [$R^2 = 0.004$; $\chi^2(df = 2) = 0.582$; $p = 0.747$].

In reference to the relationship between the influence of the problems within the work of project teams and the project management activities, only two variables turned out to be of significance for explaining the studied phenomenon. The more significant the problem associated with not understanding the project objective by the members of the project team, the lesser the chance that the examined companies managed projects at the time of the survey [$b = -0.638$; $p = 0.044$; $\exp(b) = 0.984$]. It means that ‘each level’ of the problems perceived in a given project team refers to 1.6% of a decrease in the chance that a given company is currently managing projects [$R^2 = 0.115$; $\chi^2(df = 8) = 11.550$; $p = 0.172$]. Similarly, poorly-fitted team roles turned out to be a factor marginally significant in terms of its influence on project management activities [$b = 0.679$; $p = 0.060$; $\exp(b) = 1.971$].

Furthermore, while investigating how project-team problems explain the relations connected to the influence of family involvement on project management activities, the regression revealed an insignificant relationship between family involvement and the studied phenomenon. However, three project team problems turned out to be of significance: the poorly-fitted team roles [$b = 0.749$; $p = 0.040$; $\exp(b) = 2.116$], not understanding the project objective on the part of the project team [$b = -0.665$; $p = 0.040$; $\exp(b) = 0.514$], the lack of alignment among the team members [$b = -0.867$; $p = 0.075$; $\exp(b) = 0.42$]. It means that a lack of clarity in terms of the project objectives and a lack of project team alignment both decrease the chance that a company manages projects. On the contrary, the factor of poorly-fitted team roles might increase the chance that a given firm employs project management practices.

6 Discussion and Conclusion

The results of this study indicate that family involvement is not directly related and does not explain the chance that a particular family-owned company will employ project management activities. This might suggest that a decision to organize work in a form of projects and thus to employ project management is driven by other factors related to such business characteristics of these entities as the range of business activities (Sadkowska 2016).

Furthermore, the analyses revealed that an increase related to the problem of not understanding the project objective on the part of the members of a project team

decreased the chance of managing projects by the examined companies at the time of the survey. This phenomenon emphasizes the importance of having clarity regarding the project objective. At the same time, it should be underlined that the project objective should be well understood by all project members and other project stakeholders. It is also important for the project objective to be, firstly, properly understood and, secondly, to be comprehended in the same way by all project priority stakeholders (Andersen 2015). It also turns attention towards the communication problems in a relationship to the role of a leader who is able to control the way a given project ‘reaches its objective’ and who, at the same time, is able to increase the probability of project success.

The analysis also revealed an interesting phenomenon in terms of the relationship between incorrect alignment of the team members and the project management activities. This phenomenon is the second argument involving identification of the problems in communication. Team members who are not well aligned might encounter difficulties in communicating with one another. Ultimately, this might result in a decrease in the intensity of project management activities. This relationship is additionally intensified by a growing family involvement. Although it is marginally significant, it might suggest that mixing the roles of the family members and the team members results in the problems associated with proper alignment in the work place. This can also increase the risk of nepotism in family-owned and family-managed enterprises (Block et al. 2013; Pérez-González 2006; Schulze et al. 2003).

The most surprising phenomenon revealed in this study is the fact that the factor of poorly-fitted team roles increases the chance of a given company employing project management activities, especially in the context of family involvement. It suggests that project participation ‘triggers’ problems within a project team, especially in terms of the scope of the duties and the competences particular project team members have. As long as a particular company does not employ project management practices, certain problems might be hidden. It might also suggest that this special aspect of project-team functioning is related to engagement in the projects in a two-way relationship. It might also be the reason why companies might resist employing project management activities. At the same time, the problem of poorly-fitted team roles might result from experience in managing projects, which in turn results in proper adjusting of the roles to particular members.

Beck et al. (2005) emphasize that there is a need for better understanding of the behaviour of small and medium companies, as these business entities have very significant impact on national and regional economies. The above statement is particularly adequate in the case of family firms, most of which are small and medium firms, which, in turn, constitute the majority of the enterprises in every country. Similarly, due to a growth in the number of the businesses which perform their activities using projects, it is highly important to understand how the problems associated with project teams and family involvement affect project management and the final project results.

7 Limitations and Directions for Future Research

This study is the initial step in investigating whether the problems within project teams explain the influence that involvement of families has on the project management practices undertaken in family business entities. Since this is the first step and much scientific work remains to be done, the results of this study should be interpreted with caution. Furthermore, this exploratory study covered the family owned enterprises located in Poland, being the representatives of an emerging economy. Although Poland is a reliable representative reflecting the specificity of growing Eastern European economies, the results obtained should be generalized to other geographical settings in Eastern Europe with much caution. Likewise, the survey was conducted using an e-mail survey, which also might be regarded as a constraint. In the forthcoming studies, additional qualitative research methods will be employed to support reliability of the investigations.

The results of the study underline the significance of the problems that project teams encounter in their work, in the context of its influence on project management practices in family owned companies. Understanding and identifying this phenomenon enables family firm managers and owners to make decisions which would increase the probability of success in the field of project management.

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Disclosure of Non-financial Information: The Case of Croatian Listed Companies



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Abstract Financial reporting is standardized, mandatory and regulated by numerous regulations, and financial statements in the prescribed form must be published by all companies. Reporting on non-financial information has not yet been harmonized. It is still voluntary in a large extent and it depends on the willingness of management. The interests of different users of financial statements about non-financial information of companies are increasing. For the purpose of making investment and other business decisions, investors require more information about the company, employees, relations and environmental sustainability and responsible sourcing. These requirements of investors are forcing managers to publish additional non-financial information about the company. The annual report is the most important source for the publication of non-financial information. The consistency and transparency in disclosure of non-financial information in the annual report strengthens the confidence of investors in the company. The level of non-financial information disclosed in the annual report is examined on a sample of the most liquid non-financial companies at the Zagreb Stock Exchange. The analysis includes the annual reports for 3 years (2013, 2014 and 2015) in order to compare the policy of publication of non-financial information over 3 years and to determine the non-financial information (NFI) disclosure index. The study results showed an unsatisfactory level of published non-financial information of companies which are listed on the Zagreb Stock Exchange, but the policy of publication of non-financial information indicates enhancing in the transparency of the disclosure of non-financial information during the last 3 years.

Keywords Corporate reporting · Non-financial information · Disclosure · Annual report · Transparency

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1 Introduction

Globalization and the changes in international business environment imposed significant changes in the content and the nature of corporate reporting. In modern business environment, the importance of accounting information and financial statements as well as additional non-financial information is more evident than ever. Internal and external users are interested for financial statements of individual company in order to make investment and other business decisions. Globalization of business and development of financial markets are contributed to the changes in the information needs of investors and other interested users. Therefore, the reporting of the companies is increasingly oriented to the information needs of different users.

Current trends show that, beside the financial information and financial statements, non-financial information are more and more in focus, such as information about the company (applied technology, production efficiency, organizational processes, and corporate culture), employees (salaries and benefits of management, salaries of employees, qualifications and additional education of employees), relations (with customers, suppliers, distributors, community, and cooperation agreements), research and development activities and corporate social responsibility. This information should be disclosed timely and it should be reliable and comprehensive with the aim to satisfy the needs of investors and other stakeholders. Accurate dissemination of information among different users leads to a positive attitude towards financial market and its stability. Also, the improvement of transparency increases the competition between market participants and strengthens the relations between managers and investors.

Reporting on non-financial information about the company is useful tool in assessing the most important characteristic of the particular company and the associated risks. Non-financial information is an important segment of the decision making process. Consequently, in order to decrease the information asymmetry, the obligation of reporting on non-financial information should be introduced.

The publication of non-financial information about the company's business contributes to the company's credibility and it could be a key factor in strengthening the public and investors confidence in company. Furthermore, this kind of information can attract foreign investors and could enable companies' spread on the international market.

Significant progress in non-financial reporting occurs at the beginning of twenty-first century by some of the most eminent professional organization, e.g. Accountancy Europe, European Financial Reporting Advisory Group, International Integrated Reporting Committee, Sustainability Accounting Standards Board. The triggers for the need of corporate social responsibility were increasing pollution, insufficient resources and the challenges of globalization; these entire situations have a negative impact on current and future generations.

Quality corporate reporting system should function efficiently and facilitate decreased information asymmetry between internal and external users (managers and investors), and support effective allocation of scarce resources between participants on

the financial market. Rational investors based their investments on financial and non-financial information about the company; information is principle tool in making investment decisions. The confidential and timely information about the company's business and performance keep investors on financial markets.

Based on those findings the main goal of the paper was to investigate the volume and types of non-financial information disclosed by listed companies in their annual reports. Also, the aim of this study was to determine the trend (increasing or decreasing) in the volume of published non-financial information in the period observed. Finally, the goal of this research was to analyse and compare the policy of publication of the non-financial information over 3 years and to create the NFI (non-financial information) disclosure index. In order to achieve the research goals and to examine the trends in non-financial reporting in Croatia, a principle research question was formed: *Do listed companies publish non-financial information in their annual reports, and if so, whether the volume of published non-financial information differs between individual companies?*

The quality and quantity (volume) of non-financial information published in the annual report were examined on a sample of the most liquid non-financial companies on Zagreb Stock Exchange. In the research were analyzed the annual reports of ten listed companies (CROBEX10) for the period 2013–2015. Finally, the purpose of this study was to compare the policy of publication of non-financial information over 3 years.

The paper is organizes as follows. First part is introduction, and it contains brief explanation of the research problem and research goals. The second part reviews the recent theoretical and empirical literature on the mandatory and voluntary disclosure of information, modalities of publication the non-financial information, as well as the benefits of non-financial reporting. Third part presents the characteristic of corporate reporting and annual reports of Croatian companies. Fourth part contains the explanation of the research methodology, while in fifth part the research results are presented. In the last part, key findings and conclusions are presented, and there are also given guidelines for future research.

2 Literature Review

2.1 Mandatory Versus Voluntary Disclosure of Information

Corporate reporting is directed to investors and other stakeholders and it consists of financial and non-financial reporting, or in other words it consists of mandatory and voluntary reporting. Corporate reporting is critical for the well operating of an efficient financial market. The principal goal of corporate reporting is to decrease information asymmetry between internal users (management) and external users (investors). National accounting regulatory framework and stock exchange regulations require some minimum level of mandatory disclosure. Some companies make additional, voluntary disclosure if those disclosures will benefit the company. With

the aim to reduce information asymmetry, a company should increase the level of voluntary reporting of non-financial information that exceeds mandatory disclosure of financial statements (Tasker 1998).

Financial reporting is standardized, mandatory and regulated by numerous regulations, and financial statements must be published in the prescribed form by all companies. Mandatory disclosure includes annual financial statements—statement of financial position, statement of profit or loss and other comprehensive income, statement of cash flows, statement of changes in equity and notes. Viewed from the perspective of investors, the accounting standards (International Financial Reporting Standards or Generally Accepted Accounting Principles) do not provide all the necessary information and they have additional information requirements (Schuster and O’Connell 2006).

Purpose of voluntary disclosures of non-financial information is to obtain more information about the company to investors and other stakeholders. Voluntary disclosure is aimed to provide a clear view of investors about the company’s long-term sustainability and to decrease information asymmetry between management and investors. Meek et al. (1995) define voluntary disclosures as company’s management willingness to publish accounting, financial and non-financial information that seem significant and relevant for business decision making.

The European Commission defines corporate social responsibility as responsibility of companies for their impact on society (European Commission 2011). The rules of non-financial reporting in the European Union are regulated by Directive 2014/95/EU which applies to large companies of public interest (Official Journal of the European Union 2014). Large companies of public interest are i.e. listed companies, insurance companies, banks, investment funds, pension funds and other institutions/companies of public interest in view of their business profile and which employ more than 500 employees on average in a financial year as at the balance closing date. These rules have had to be introduced by all EU member states by 6th December 2016. This Directive and prescribed rules about the reporting of non-financial information have to be applicable to the relevant companies during the financial year beginning on 1st January 2017, or during the calendar year 2017.

According to the requirements of Directive 2014/95/EU, the companies concerned shall include non-financial information in their management reports. Non-financial statement should contain information necessary to understand the company’s development, position and performance, and the impact of company’s operations on social, environmental and employee matters, respect for human rights, fight against corruption and bribery, including:

- a brief description of the business model of the company
- a description of the company’s policies and practice in relation to these issues, including implemented due diligence processes
- the outcome of these policies and practice
- the key risks related to these issues, and the operation of the company
- key non-financial performance indicators refer to the certain business.

Corporate social responsibility reports are prepared using a variety of guidelines and principles (the Global Reporting Initiative, the UN Global Compact, OECD

Guidelines, ISO 26000), which preclude comparisons across companies. Corporate social responsibility is a significant part of communication between companies and society, respectively between managers and investors, so it is a response to the increased need for non-financial reporting. Corporate social responsibility reporting process has a great importance in communication on the company's performance in its economic, social and environmental dimensions. In addition, corporate social responsibility relate to companies taking responsibility for their impact on society. Corporate social responsibility is important for the competitiveness, sustainability and innovation of an individual company and whole economy. Furthermore, corporate social responsibility contributes benefits for risk management, easier access to capital, cost savings, human resource management, and customer relationships.

Disclosure of non-financial information has not yet been harmonized, and in a large extent it is still voluntary and it depends on the determination of management. Voluntary disclosure of non-financial information takes into consideration individual nature of reporting entity and it is very flexible. On the other hand, voluntary disclosure of non-financial information preclude the comparability of these reports, the period for publishing of these information are not standardized as well as the management decides about the level of disclosed information.

Companies usually publish non-financial information in Sustainability or Corporate Social Responsibility reports. Today there are few international frameworks which companies could use for preparation of non-financial information. However, the obligation for reporting on non-financial information is prescribed in small number of countries around the world.

In order to provide the comparability of corporate social responsibility reporting (reporting the non-financial information), it is evident the need to standardise and harmonize corporate social responsibility reporting. The key reason for standardizing non-financial information reporting is to improve the transparency of environmental and social information published by reporting companies, in order to ensure its comparability both across sectors and internationally (Krištofik et al. 2016).

Previous research point out that up to 80% of a company's market value may not be the consequence of financial information presented in financial statements (Blair and Kochan 2000; Lev 2001), while non-financial information has a significant impact on the creation of company's value. Margolis et al. (2007) indicated that corporate social responsibility reporting contributes to increasing the value of the company.

There are many earlier studies about the types of non-financial information which management choose to publish in company's annual report. Some of these research results are presented hereafter. Botosan (1997) introduced few non-financial information that companies voluntary disclose together with the financial statements, and that are number of employees, average salary per employee, managers' salaries, inventory, the market share, units sold, the price of each item, and percentage of product sales in the last 5 years. April et al. (2003) highlighted that most companies voluntary disclose information on their external relations. Vandemaele et al. (2005) pointed out that companies usually disclose non-financial information about their external relations (e.g. distributors, customers, suppliers, cooperation agreements), and low level of information regarding to human capital (e.g. employees, knowledge,

skills, educational level). Furthermore, Bukh et al. (2005) find that information on company's relations is the most common in annual reports. Wolk et al. (2004) pointed out that disclosure of budget information is very important for participants on the financial market.

The analysis of the contents of annual reports indicated that almost all companies publish environmental issues, information about the product responsibility, many includes parts on labour and employment, and the company's engagement with the local community and society in general. Much smaller number of companies presents the economic impact of the company and human rights (Centre for Strategy and Evaluation Services 2011).

Reporting on financial and additional non-financial information in annual report is essential for investors to assess investment possibilities and efficient allocation of their scarce resources. Higher level of company's transparency provides investors with additional information that are useful in better assessing of company's future earnings potential and in making investment decisions, and that consequently contributes to the increasing of liquidity of financial markets. Furthermore, the reporting on non-financial information beside financial information improves communication between managers (companies) and investors and other stakeholders, and enhances competitiveness on the financial market.

Leaders in implementing and providing the "good practice" in corporate reporting and corporate communication usually are the large listed companies. According to this, the research sample consists of companies included in CROBEX10. CROBEX10 includes shares of ten companies with the highest free-float market capitalization and turnover at the Zagreb Stock Exchange.

2.2 Modalities of Publication the Non-financial Information

The most important media for the publication of mandatory and voluntary financial and non-financial information are Internet and company's website (Boubaker et al. 2012; Gallhofer and Haslam 2006; Uyar 2012). Publication of information on the Internet enables timely information to all interested users. Also, Internet enables the publication of different texts, various audio and video recordings, charts, which contributes to the quality of corporate reporting, because in an interactive way and the way which is easy to read and understand information are presented to users.

Many studies indicate that there are different modalities of publishing the non-financial information—e.g. annual reports, web sites, newsletters, company's brochure, press release. According to previous research of different authors, the annual report is the most important form for publication of non-financial information and other voluntary disclosure (Al-Shammari 2008; Arvidsson 2011; Binh 2012; Lin and Edvinsson 2008; Vandemaele et al. 2005).

Lev (1992) and Palepu and Healy (1993) state that the information presented in the annual reports represent a strategic tool which can improve the company's ability in raising capital at a lower cost. The results of the research conducted by KPMG

in 2013 shows that today still the majority of companies publish financial and non-financial information in their annual reports (KPMG 2013).

Eurosif and the ACCA conducted a study in 2013 among investors, analysts and other interested users about the most important sources of non-financial information. The results of this study indicated that for about 70% of respondents the report on sustainability and corporate social responsibility is one the most important source of non-financial information, for about 60% of respondents the annual report is the most important source of non-financial information, while for about 50% of respondents the company's website is the most important source of non-financial information (Eurosif and ACCA 2013).

2.3 Benefits of Non-financial Information

Management, investors and other stakeholders are more and more interested in non-financial information for the purpose of business decision making. Also, investors and other actors on the financial market require more non-financial information in addition to financial information presented in financial statements for the purpose of making investment decisions (Alwert et al. 2009; Holland and Johanson 2003). The consistency in disclosure of non-financial information in the annual report strengthens the confidence of investors in the company, but also affects the stability of market price of the shares.

Voluntary disclosure of non-financial information is considered as a principal way in solving problems with insufficient information about the company presented in financial statements (Burgman and Roos 2007). As stated above, disclosure of non-financial information contributes to reducing information asymmetry. Furthermore, disclosure of non-financial information is considered to contribute lower average costs of equity and debt capital (Botosan and Plumlee 2002; Reverte 2012; Sengupta 1998).

Greater disclosures also increase the liquidity of financial markets (Balakrishnan et al. 2014; Healy et al. 1999; Espinosa and Trombetta 2007; Lang et al. 2012; Lim et al. 2007) and increase stock returns (Mwangi and Mwiti 2015). The role of liquidity is crucial in functioning of financial market, in asset valuation and in strengthening of confidence of investors. Liquidity is one of the favourite features of competitive financial market (Ghorbani et al. 2015). Liquidity has a principle role in the process of determination of share prices, and is considered as a measure of financial market performance, especially with respect to information (Amihud et al. 2005). Welker (1995) argue that decreasing of information asymmetry contributes to the stability of market price of the shares.

Cormier and Gordon (2001) indicated that disclosure of information about human capital and pension costs decreases the level of information asymmetry between companies, and that is more evident between smaller companies. Gelb and Zarowin (2002) demonstrate that companies with high level of disclosure of non-financial information (high level of transparency) have a significantly higher possibility to predict future earnings compared to companies with low level of disclosure of

non-financial information. The reporting on non-financial information in corporate social responsibility reports affects on the reputation of the company and also improve the public image of the company (Hildebrand et al. 2011).

The research conducted by DG Internal Market and Services in 2011 among companies in the EU Member States identified the following benefits of non-financial reporting (Centre for Strategy and Evaluation Services 2011):

- improves transparency and reporting
- enhances the company's credibility
- enables companies to attract better employees
- improves the brand image of company's products
- enhances ability of the company to do business
- leads to increased sales.

Jušćius et al. (2013) pointed out few benefits of corporate social responsibility reporting for companies:

- contributes to reducing risk of sanctions
- increases the profitability and the productivity of the company
- has a great importance as a communication channel between companies and society; it is important in creating reputation, recruitment of talented employees, building of consumer loyalty, gaining public support and easier access to capital.

Krištofik et al. (2016) have identified the following main benefits that bring corporate social responsibility reporting:

- satisfies the information needs of investors and other stakeholders; it is a form of communication with investors and stakeholders
- improves the image and the reputation of the company
- enhances in creating brand value
- contributes to increasing of the company's profitability and minimizing the risk
- is the principle element of strategic management which contributes in achieving business objectives and implementing corporate strategy.

Taking into account all the benefits of voluntary disclosure of non-financial information for companies, it is evident that companies, whose mandatory accounting disclosures in financial statements are relatively uninformative, have a stronger intention to publish additional information out of framework required in the financial statements.

3 Corporate Reporting and Annual Report of Croatian Companies

Current system of corporate reporting in Croatia is regulated by numerous regulations, and the most important among them is listed as follows: *Accounting Act, Companies Act, Capital Market Act, Decree on the structure and content of financial*

statements, Decree on the form and content of financial statements of the issuer during the year, and Rules of Stock Exchange.

The Accounting Act provides that companies of public interest have an obligation to prepare and present the annual financial statements in accordance with the International Financial Reporting Standards (IFRS). According to the Accounting Act business entity has to prepare, together with the annual financial statements, the management report that has to contain a true and fair presentation of the development and performance of the business entity and its position, together with a description of the principal risks and uncertainties they face. Furthermore, if it is necessary for the understanding of the development, performance and position of a business entity, the analysis have to include financial indicators, and if appropriate, non-financial indicators that are relevant to a particular business, which includes information on environmental protection and employees (Accounting Act 2015).

The form of the annual report is not prescribed, but the minimum of its content is defined in the Accounting Act. The annual report should contain the following:

1. financial statements for the reporting period, including the audit report
2. statement on the application of the Corporate Governance Code
3. report on payments to public sector
4. management report that contains information related to the presentation of the following:
 - (a) the possible future development of company's operation
 - (b) research and development activities
 - (c) data on the purchase of treasury shares in accordance with the regulations on the operations of companies
 - (d) data on existing subsidiaries of the company
 - (e) which financial instruments are used, if this is important for the assessment of assets, liabilities, financial position and financial performance
 - (f) non-financial report.

Finally, the Accounting Act requires the public disclosure of the above information. According to last changes of Accounting Act, companies of public interest have to disclose non-financial report for the financial year beginning on 1st January 2017, or during the calendar year 2017.

The current system of corporate reporting in Croatia includes communication between companies and their management and investors. In that environment, such communication is mainly one-way (from management to user) due to the fact that corporate reporting is still focused on the publication of information required by the regulatory framework. Other published non-financial information is the result of the willingness of the company's management. In doing so, usually the published information is the one for which management think that it is useful for users.

But in the future it is necessary to consider two-way communication (from management to users, and vice versa) according to which the users would be able to present their specific information needs to management. This communication would contribute to the improvement of corporate reporting and ensure better fulfil the information needs of interested users.

4 Methodology

As previously mentioned, the aim of this paper was to examine the level of transparency of listed companies in the area of publication of non-financial information. The research sample consists of ten companies included in CROBEX10. CROBEX10 includes shares of ten companies with the highest free-float market capitalization and turnover on the Zagreb Stock Exchange. Companies included in research sample were spread across different sectors, but all companies were from the real sector. This research examined the annual reports for the period of 3 years—2013, 2014 and 2015.

The content of the annual reports was analyzed in order to determine the quality and quantity (volume) of published non-financial information. A binary coding scheme was applied in order to measure the volume of published non-financial information. If company publish certain type of non-financial information the score was one (1), but if the company does not publish certain type of non-financial information the score was zero (0). In other words, one point was assigned to each type of 52 identified non-financial information that companies publish in their annual reports, where each company could reach a maximum of 52 points.

In this paper types of non-financial information are determined by using document analysis method. Level of disclosed non-financial information is evaluated by using content analysis. The volume of published non-financial information is interpreted by using descriptive statistics. On the basis of examined level of disclosed non-financial information, the NFI (non-financial) disclosure index is determined.

5 Results

Since the preparation of non-financial report for listed companies on the Zagreb Stock Exchange becomes mandatory from 1 January 2017, the analysis of disclosed non-financial information refers mainly to the prescribed content of the annual report according to the Accounting Act and additional voluntary disclosure.

The volume of the annual reports of companies included in the research sample usually ranges between 90 and 120 pages. Annual reports for the two observed companies have a range of less than 90 pages, while the volume of the annual report of one observed company exceeded 120 pages. All companies publish the annual report in Croatian language, while seven of them also publish the annual report in English language.

Non-financial information, which is disclosed by the listed companies observed, is determined based on the content analysis of annual reports of the listed companies observed. Identified non-financial information is systematized in the following groups:

- company's profile
- ethical business and governance
- human capital
- empowering communities
- environmental sustainability and responsible sourcing.

Research results on the type and quantity of disclosed non-financial information in the annual reports are presented in Table 1.

The analysis of the content of annual reports showed that almost all reports from the companies observed covered in detail the information which is contained in the group Company's profile. Lower level in disclosure of non-financial information is evident in group Ethical business and governance. Unsatisfactory level in disclosing of non-financial information is present in other groups: Human capital, Empowering communities and Environmental sustainability and responsible sourcing.

In the group referring to the company's profile the largest increase in transparency is evident in the disclosure of information about the primary brands, products and services (from 60% in 2013 to 100% in 2015). At least increase in transparency relating to the presentation of information on research and development activities (from 30% in 2013 to 50% in 2015).

In the segment regarding to the ethical business and governance is very low transparency, or transparency does not exist in publication of different policies—e.g. progress policy, career development progress, remuneration policy, privacy policy and public policy engagement.

Furthermore, the research results showed that, in the companies listed, there is an unsatisfactory level of transparency in information about employees, their salaries, education, trainings, or any other benefits for them. The analysis indicated that only two (20%) of observed companies disclose information about the salaries and remunerations of management.

In the group referring to the empowering communities the largest increase in transparency is evident in the disclosure of the information about the employee giving and volunteerism (from 10% in 2013 to 50% in 2015). The least increase in transparency is relating to the presentation of information on humanitarian and disaster response (from 10% in 2013 to 30% in 2015).

In the segment regarding to the environmental sustainability and responsible sourcing is very low transparency in publication of consumption of different resources (water, gas, and electricity), information on used materials and percentage of used recycled material.

Four observed companies apply the Global Reporting Initiative Guidelines in preparing the annual report in the part relating to corporate social responsibility. Only one company for 2015, for the first time published *Integrated annual report and corporate social responsibility*.

The research results pointed out that those companies which apply Global Reporting Initiative Guidelines have few common features:

- in these companies the highest level of transparency in the publication of non-financial information was found

Table 1 Disclosure on non-financial information in the annual reports of listed companies on Zagreb Stock Exchange in the period 2013–2015

Non-financial information	2013	2014	2015
<i>I. Company's profile</i>			
Name of the company	10	10	10
Location of the company's headquarter	10	10	10
Markets on which company operates	10	10	10
Ownership and legal form	4	7	7
Primary brands, products and services	6	7	10
Applied technology	3	6	7
Production efficiency	2	3	5
Market share	8	8	9
Description of company's supply chain	5	5	6
Relations with customers and suppliers	10	10	10
Relations with investors	7	7	8
Cooperation agreements	4	4	6
Description of principle risks and opportunities	3	5	7
Key indicators	6	7	7
Research and development activities	3	3	5
Quality certification	3	6	7
Awards and acknowledgements	3	6	7
Description of the most important changes during the reporting period regarding the company's size, ownership or supply chain	1	4	5
<i>II. Ethical business and governance</i>			
Corporate governance guidelines	3	3	5
Corporate strategy—description of the company's values, principles, standards and norms of behaviour	3	3	5
Governance structure of the company, including committees of the highest governance body	3	4	6
Competencies of the governance body	2	5	6
Processes for communication between stakeholders and the highest governance body	0	3	6
Progress policy	0	1	2
Career development strategies	0	0	1
Remuneration policy	0	1	2
Privacy policy	0	0	1
Public policy engagement	0	0	1
Anti-corruption policy for representatives	0	1	2
<i>III. Human capital</i>			
Total number of employees	1	1	6
Number of employees by gender	1	1	1
Number of employees by qualification	1	1	1
Salaries and remunerations of management	2	2	2
Salaries of employees	0	1	3

(continued)

Table 1 (continued)

Non-financial information	2013	2014	2015
Ratio of basic salary and remuneration of women to men by employee category, by significant locations of operation	0	0	0
Qualification of management	2	5	6
Qualification of employees	0	1	2
Additional education of employees	3	5	7
Average hours of training per year per employee, by gender, and by employee category	0	2	3
Programs for skills management and lifelong learning	3	5	6
Additional benefits for employees (e.g. life insurance, employee stock purchase plan, paid sabbatical for qualifying employees, flexible work programs, discounts on company's products and services, wellness programs)	0	2	2
<i>IV. Empowering communities</i>			
Donations (in-kind and cash)	1	3	4
Employee giving and volunteerism	1	4	5
Humanitarian and disaster response	1	2	3
<i>V. Environmental sustainability and responsible sourcing</i>			
Types of used materials	0	0	1
Percentage of use the recycled material	0	0	1
Energy consumption	0	3	4
Water consumption	0	3	4
Greenhouse gas emissions	2	3	4
Waste management	1	2	3
Initiatives to promote greater environmental responsibility	2	3	4
The development and diffusion of environmentally friendly technologies	2	3	4

Source: Authors

- these companies operate (sell products and provide services) on the international market
- the volume of trading in shares of these companies is the largest.

In all groups and for all types of non-financial information there is an evident increase in the number of published information from year to year during the period observed. So, after the comprehensive analysis it can be concluded that the policy of publication in observed companies is improving during period observed and the level of transparency is increasing.

In this research was used NFI (non-financial information) disclosure index constructed by authors in measuring the quantity (volume) of reporting the non-financial information. NFI disclosure index is determined by adding points which were given to each type of identified non-financial information for a given year, and dividing that sum by 52 (the number of identified non-financial information). NFI disclosure index is called a scoring variable that has 52 elements based on which the level (quantity, volume) of disclosed non-financial information in the annual report is measured.

Table 2 Comparison of NFI disclosure index

	2013	2014	2015
NFI disclosure index	13.20	19.10	24.90
Difference NFI disclosure index	–	5.90	5.80
Minimum NFI disclosure index (per company)	16	18	21
Maximum NFI disclosure index (per company)	31	42	48
Median	22.50	27	37
Standard deviation of NFI disclosure index	5.03	7.87	9.79

Source: Authors

Comparison of identified NFI disclosure index showed that the level of reporting on non-financial information during the period observed increases. Average NFI disclosure index is 13.20 in 2013, 19.10 in 2014 and 24.90 in 2015. The data in Table 2 show that in the period of analysis, NFI disclosure index's value increased year by year. NFI disclosure index has increased by 5.90% points (2014 compared to 2013), and by 5.80% points (2015 compared to 2014) defined on a scale having a range from 0 to 52.

6 Discussion and Conclusion

In this paper the level of reporting on non-financial information in the annual reports of companies listed on Zagreb Stock Exchange was investigated. Final conclusion is that the overall level of reporting on non-financial information of companies listed on Zagreb Stock Exchange is unsatisfactory. But also, the analysis of content of the annual reports revealed the existence of an ascending trend in increasing transparency of companies included in research sample. The level of disclosed non-financial information in the annual reports of the company is continuously increasing. So, the trend in strengthening transparency and quality of corporate reporting through the disclosure of non-financial information is evident.

Based on the analysis of volume and quality of published non-financial information the following can be concluded:

- the volume and quality of published non-financial information increases during the period observed; it can be interpreted as a consequence of the accession of Croatia into the EU on 1st July 2013
- those companies which publish their annual reports in Croatian and English have a greater transparency
- the volume and quality of published non-financial information is affected by the participation of individual companies in foreign markets, as well as the trading of shares of certain companies on foreign stock exchanges
- the volume and quality of published non-financial information is affected by the use of Global Reporting Initiative Standards.

As mentioned above, based on the analysis of content of the annual reports, it can be concluded that there is an evident trend of increase in non-financial information disclosure in the annual reports of listed companies, but compared with the disclosure of non-financial information by multinational companies there exists a significant gap. That is why today in the area of non-financial reporting is necessary to make significant changes and initiatives to provide reliable, comprehensive, useful and timely non-financial information to stakeholders.

By analyzing the most relevant literature in the field of non-financial reporting, it can be concluded that non-financial reporting has multiple usefulness for different users and actors on the financial market—e.g. decrease information asymmetry, strengthening investors' confidence, increase liquidity of financial market, enable stability of market price of shares, improve the image and reputation of the company, create a brand value, and contribute to higher profitability and minimization of risk.

In accordance with the principle of significance, only events which have a significant impact on business operation are presented in financial statements. Non-financial disclosures are more informative to investors and other users than mandated financial statements. Finally, it can be concluded that communication between managers and investors (and thus decrease the information asymmetry) is the elementary reason for preparing and reporting on non-financial information. Also, the standardization of corporate social responsibility reports will ensure their transparency and clarity.

The implementation of Directive 2014/95/EU should contribute to improved comparability of non-financial statements among EU member states and it should improve the usefulness of information presented in non-financial statements.

Further research should focus on a larger sample which will include all companies listed at Zagreb Stock Exchange. In order to generate more specific results, observed companies should be grouped in separate industries. Furthermore, the period should be extended (more than 3 years) in order that the research results will be more objective and reliable. Also, in further studies, the relationship between the volume of disclosure the non-financial information in company's annual reports and the market price of shares as well as business performance of the companies listed at Zagreb Stock Exchange can be investigated.

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Part III
Financial Economics

New Financial Reality as Evolution Result of World Financial System



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Abstract In recent period the number of studies on the phenomenon called “new economic reality” is sufficiently large. However, the literature does not usually tend to differentiate economic and financial aspects of this phenomenon. Objective of the current study is to identify changes and trends in the world and national financial systems determining the new economic reality and caused by it. As the methods of research analytical and synthetic aspects of the system approach were used. Tendencies of changes in the basic element of financial system—money as the medium of financial-relations, were identified. The paper deals with the role of information technology in the formation of the identified trends. Conclusions about supranational money and suitability of cryptocurrency as the money of new financial reality were made.

Keywords World financial system · Money · Monetary system · Information technology · Cryptocurrency

1 Introduction

The finance as the world of money is one of the most complex systems of the market, and there is no physical or legal entity which would not be affected by monetary relations every day. Perhaps, money is, one of the greatest inventions of human thought having no analogies in living nature. The whole structure of the modern economy is predetermined by the existence of money. Money was born from trade, and since trade is one of the oldest occupations of mankind, the roots of the monetary system also go to the ancient ages, although its structure (like the kind of money itself) has changed many times over the past millennia (Sokolova 2009).

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In the contemporary economic system the relations between the participants of economic processes' are mediated by money so they are "duplicated" and "lined" by finance. In the recent decades of the twentieth century and early twenty-first century some new phenomena and events appeared in the financial sector. They led to the change of redistribution processes nature and significantly transformed the structure of financial relations. This allowed our characterizing the current situation in the financial sector as a new financial reality and forced to raise the question of the necessity of its theoretical understanding. First of all, in the new financial reality the concept of money as the basis of financial relations should be revised.

Objective of the present study is to identify the changes and trends in the world and national financial systems determining the new financial reality as the evolution result. In particular the contemporary money was investigated as the evolution result of its understanding by society and manifestation of this understanding in financial reality.

2 Methodology

In the framework of research the qualitative evolution approach was applied. Logical analysis of cause-effect relationships within the world financial system allowed understanding and explaining its existing state and the dynamics of its central concept—the concept of money. Revealing the development tendencies by means of analysis of theoretical and applied scientific publications on world financial-system and monetary was focused to assume further events and the nature of the impending changes in the state of the objects under consideration. To assess the results of single currency zone the statistics of Eurostat was used.

3 Basic Provisions and Results

3.1 Evolution of Monetary Theory

There are various views on monetary system and its evolution. The retrospective analysis of financial relations shows that the declared monetary standard—gold, pound sterling, US dollar, SDR—does not always determine the value of money. It also shows that in some periods the issue of national money is irrelevant to the legal financial order.

In our opinion the monetary system is a mechanism for implementation of the financial reality, the characteristic of the economic development, which provides the most reliable functioning of the national economy and international economic relations at certain historic period. Therefore, the monetary theory distinguishes, firstly, the formal, official monetary standard, established by international

agreements; and, secondly, the actual monetary standard, which in fact becomes the base of financial reality—pure essence, *eidos* of money.

At the end of the twentieth century the new type of monetary system was established. Within such a system the money (a) can be created and issued by the state and only by the state; (b) can't be converted by law into anything else but into itself; (c) has no fixed value hence no warranty about its use in exchange. Though some contemporary researchers (Quinn and Roberds 2014) look for the roots of this monetary standard in the seventeenth century it was named “fiat” (from the Latin word “fiat” that means “Let it be”) by Keynes (1930).

Why is modern money fiat? To answer this question the stages of monetary theory development should be traced. According to the chartable concept, ancient thinkers believed that people, as participants of economic exchange, used silver or gold as a currency symbol in the role of medium of exchange (Plato 2013). Scientists of the middle ages timidly objected to the role of the state in regulating monetary circulation in part of the specie money replacement specie by notal money. Later economists still believed in the real value of currency, but told about the need to support its value by the state (Locke 1823). Physiocrats had already noticed that money have not a real but symbolic value (Quesnay 1766). Knapp (1924) justified the crucial role of the State, not people in money circulation, and pointed to the right of the state to determine the status and value of the currency symbol. Keynes (1930) finally formulated an attitude to money only as a unit of account, having certain properties, which should have the matter to be used as currency.

Once, people agreed to make payments by weighing metal. Soon coins appeared that contained a certain amount of metal money. After some time, for easy transportation coins were left in the custody of moneychangers, and replaced with their note or description of differed payment—thus money of account appeared. Coinage becomes the State prerogative. The state reduces the weight of the specie, money became representative, token (notal, para-typic). Then the state renounces the use of metal in monetary circulation and payments could be realized by piece-of-paper. Money has become a symbol: first the managed, and then the fiat. So since August 15, 1971 when US President Nixon canceled exchanging dollars for gold to nowadays financial reality is based on “fiat currencies”.

As the monetary system develops, the state appropriates more extensive rights with regard to control over money and its circulation, including the exclusive control on money issue. This led to the fact that the ability of the monetary asset to mediate commodity exchanges becomes dependent on the power and authority of the state. Money issued by the state and not related directly to the sphere of commodity exchanges has given a new aspect to the monetary system.

New financial reality can be considered as the natural result of the transformation of the world finance as the part of development of the world community in its integrity. Three provisions constitute its distinctive traits. The first may be characterized as commodification or commodity fetishism. The use of money as a measure in those areas for which it was not peculiar before becomes a characteristic phenomenon. Growing number of different products, services, human activities not originally intended for sale, including science, culture, education, family values, gets its

monetary value and actually becomes the good that can be bought and sold in the market. So, the field where money can perform its functions widens.

The second provision constitutes in the evident manifestation of the monetary function of wealth accumulation and the consequent segregation of society on this basis. This property allows using money not only as an economic regulator, but also as a tool for social relations regulation through incentive mechanisms, based on the pursuit of economic freedom and the acquisition of wealth. This manifests evidently when the state seeks to accumulate the greater share of national income in the budgets of all levels. But in even greater extent, in our opinion, it appears in the creation of large and super-large financial-industrial structures and concentration of financial resources in international financial centers which become regulators of international financial flows. Within global economic space national economies become objects of differentiation. Practice of unsecured credit money issue reinforces polarization in the world economy and fixes the backlog in economic development for the countries whose currencies are not used for payments in international trade relations.

The third provision is the exterritoriality of money and its penetration through national borders. A clear commitment to establish “supranational” currency can be explained (a) by an aspiration of economic agents from the countries with unsustainable currencies and import-dependent economies to focus on of the cost of hard currency for the valuation, despite the impossibility of its direct use as a means of circulation and payment, (b) aspiration of international corporations to get rid of governmental control, as well as to reduce the costs of internal interaction, (c) aspiration of a wider circle of people to quick and unhindered financial transactions in order to realize the information benefits and reduce costs.

Mironova and Sokolova (2000) explain the changes in the world financial system manifested by the beginning of the twenty-first century and determined in large current trends of its development by strengthening transnational capital and section the world financial market between world financial centers, TNCs and international financial organizations. The result is a growth of national financial systems vulnerability, a reduction of national states role in the world financial system, a decrease of the effectiveness of traditional levers for regulating the economy and the financial sector, virtualization of financial markets and the growth of speculative operations volume. Thus, the world financial system becomes global, which is not only and not so much a response to the challenges of new economic reality but is largely determined by the endogenous factors of its own development.

Discussing the money development in the nearest future it is worth to mention four scenarios described by Lietaer (2001): (1) “millennium of transnational corporations” when private money is replacing the usual bank debt obligations; (2) “closed communities”—local currencies issued by local communities are applied; (3) “hell on Earth”—the official monetary system is destroyed, a new monetary and credit system is not created; (4) “sustainable abundance”—various types of monetary innovations are developing, which form a system of successful preventive measures against monetary crises.

3.2 *Idea of Supranational Money*

At a certain moment, certain monetary notes are circulating in a certain limited territory. According to Yusim et al. (2016), the authorities are monitoring that there are no parallel monetary assets, because control over the money circulation makes it possible to create a state financial system, to form state revenues, to make expenses and to protect the state in the broadest sense. So, since in one way or another, unified monetary notes are circulating in a certain territory, the key question seems to be what basic theoretical principles will be laid to the basis of the new world monetary system.

There are two key economic theories which, firstly, prove, but each in its own way, the imperfection of the modern world monetary system, built on the principle that each state should have its own currency, and, secondly, substantiate profound changes in the world financial system in the near future.

First, this is Hayek's (1990) concept of denationalizing money. It is based on the system of views of Menger (1871) and von Mises (1949), which we call "monetary constitutionalism." Human society without being coerced or legalized by common consent, but freely, independently, acting only out of its own interests and economic expediency, chooses a good that will perform monetary functions. According to Hayek (1990), contemporary system of fiat money does not satisfy the society. The society wants to see money secured not only by obligations of the national bank, secured in turn by loan debts of commercial banks, but also by real assets. Such money can be the obligations (bills) of transnational corporations. As a result of fair competition, society prefers the most liquid transnational obligations. So money "oversteps" the boundaries, becomes "denational", that is, the money is circulated on territories that do not coincide with state borders.

Hayek's theory seems to be correct, reasonable and logically complete, but it has no nearest prospects. From the standpoint of discrepancy between the state borders and the borders of monetary circulation Mandell's theory of the optimum of currency zones (Mundell 1961) seems more realistic in the near future. Mundell (1961) proves that there is a certain optimum of currency zones in the world, and this optimum does not coincide with the number of states. At the same time, from the 1970s to the present day his followers formulate and prove the criteria for an optimal currency area. That is, they try to determine under what conditions a supra-national currency can be used in a group of states. So the very functioning of the Eurozone, even with an unclear prospect, proves the possibility to construct a regional currency zone in practice.

It should be mentioned that Mundell's theory is mainly dedicated to the currency used in the market of real goods, that is, material assets. To operate in such markets the velocity of money circulation comparable with the speed of real assets transportation is sufficient to support the principle "delivery versus payment" which provides the reliability of trade. Though the speed of goods transportation increased due to technical progress it still remains the factor of significant costs. So, the markets of real goods are limited in space while the financial market due to its virtualization has

no such limitations because no physical transportation is necessary. In new financial reality the tempo of financial market development is many times over that of real market due to much higher velocity of trades, hence, of money circulation, and the absence of territorial limitation dictates the requirement for its globality.

3.3 Practice of Supranational Money

Looking for pluses and minuses of supranational currency the comparative analysis of macroeconomic indicators for countries with a single European currency—Eurozone (19 countries) and all countries of EU (28 countries) was undertaken.

Unemployment in the Eurozone at the end of 2016 was 9.6%, slightly higher than 8.2% for the EU, and had tendency to decrease. Inflation level was the same, equaled to 1.1% and tended to grow. The aggregate budget deficit of the euro-zone in 2016 decreased to 2.1% of GDP compared to 6.3% in 2009, in the EU in 2016 the reduction to 2.4% of GDP took place compared with 6.6% in 2009. The state debt of euro-zone countries grew in 2016 to 90.1% compared to its historical minimum 65.0% in 2007 while in the EU these indicators had more favorable values—83.3% in 2016 and 57.5% in 2007. But it should be mentioned that the state debt of euro-zone tends to decline and it does not seem very large in comparison with other leading economies.

In December 2016 industrial production decreased by 1.6% compared with November but increased by 2.0% compared with the same period of the previous year. For the EU, this figure is slightly better: minus 1.0% and plus 2.9% respectively. GDP of euro-zone in December 2016 grew by 0.4%, compared to November, and by 1.6% to the same period of the previous year, GDP per capita was also growing and its annual figure in 2016 was equal to 29,200 euros. Despite slight decrease tendency it still constituted up 106% of the same indicator for the EU as a whole.

In the Eurozone unemployment is higher than in the EU. Inflation is rising. There is a budget deficit. The national debt is bigger than in the EU and has increased. Industrial production indicators are worse than in the EU and decreased to the end of 2016. The tendency for lower GDP growth rate per capita has manifested.

But, at the same time, unemployment though exceeds the natural level (4–6%) twice, has a downward trend towards the natural level. Inflation is the same as in the EU, currently its level is low, perhaps even below the optimal level (2–4%). The budget deficit is lower than in the EU and significantly decreases year to year. The national debt tends to decline and as a percentage of GDP it is not higher than in the USA. Industrial production exceeds that in the same period of 2015. GDP is higher than in the EU, both total and per capita GDP indicators are growing. GDP per capita is higher than in the EU.

The problem can be looked at from the other side. The USA can be viewed as a single dollar zone, comprising 51 independent entities, the United Kingdom is a zone with a single currency—pound sterling—of sovereign subjects of England,

Scotland, Wales, Northern Ireland, British overseas territories, a single Japanese currency—yen—is in use in eight regions of island formation, the yuan renminbi zone constitutes of 34 quite widely economically autonomous administrative entities of China, the Russian Federation is a ruble zone with 85 entities, India—a rupee zone of 29 independent states and seven territories, and so on. That is, a single currency can apply among the territories, to some extent economically and politically independent both of each other and of the center.

Thus, the correct question is not whether the supranational or regional currency can or be applied or not, but what degree of independence, or vice versa, what degree of integration is needed for certain single currency to be used to carry out the function of money at a certain time, at a certain level of development, in a particular limited territory.

3.4 Use of New Technology

However, the main factor, due to which the endogenous interests of the world financial system got an opportunity to be implemented, originated outside of this system but world financial system has quickly mastered, adapted, and later supported and developed this factor. Naisbitt (1982) analyzed the changes that occurred in the last quarter of twentieth century in the banking system of USA caused by and connected with new technological opportunities. According to Naisbitt (1982), contemporary banking can be characterized as information in the movement.

The financial sphere makes an active demand for global innovations (Rodionov et al. 2015). The transition to electronic payments provided by modern technology has led to a simplification of financial transactions, and disappearance of transmission delay increased their speed many times over. This means that, in fact, the clients of banks have access to the same technologies as the banks themselves. The practical consequence of this fact is that depositors of banks, having received information that allows conducting profitable transactions, can claim their money from the bank in the shortest time, when the bank is not be ready to return it. By its fundamental importance for the financial system, the transition to electronic clearing is comparable with the transition from barter to monetary trade. New technologies allowed new players to enter the market. Some of them turned out to be more successful and capable of performing financial operations on a larger scale than traditional participants in the banking business.

The changes described above represent the main features of the new financial reality. In the new financial reality some objects, including virtual, having value only in the minds of people, can become the kind of monetary units. The invention of “virtual money” or cryptocurrency can be interpreted as an evident and indisputable manifestation of Hayek’s (1990) idea about denationalization of money. The circle of participants of payment system based on cryptocurrency is formed on the basis of deliberate recognition of its “payment power”, its value in exchange depends on supply and demand.

A cryptocurrency is any kind of peer-to-peer digital money powered by the block-chain technology. Currently, there are more than six hundred cryptocurrencies, the existence and use of each is based on its own software. The most popular cryptocurrency is Bitcoin that appeared in 2009. By data of (CoinMarketCap 2017) on 18.03.2017 the cryptocurrency market included 669 currencies, 79 assets, 2737 virtual markets and had capitalization equal to \$22,771,909,402. Its turnover for 24 h constituted \$1,148,455,681. The dominance of Bitcoin constituted 72.4% in total. Market price of Bitcoin was equal to \$1010 per unit.

For cryptocurrency the absence of a single emission center is characteristic, however, the total amount of payment units in the system is linked to a specific base. For example, the number of “coins” in Bitcoin is proportional to the volume of gold production. The supporters of cryptocurrency consider it as the electronic money of the future, that is, the money of the new financial reality. Tech giants, like Microsoft, IBM and Amazon, and the major Wall Street banks, like JPMorgan Chase and Citigroup, are investing in block-chain technology. As its benefits they list the information openness and publicity of all transactions that are being made, the inflation insusceptibility (the conclusion is based on the fact that the coin generation algorithm allows their “issue” in a fundamentally limited amount, that is, gives the cryptocurrency the property of rarity and ensures the growth of its value), the impossibility of forgery, the minor state control and transboundary nature (Gevorgyan and Bugakov 2015).

However, the replacement of the fiat money by cryptocurrency currently is not fully clear. To take the place of fiat money cryptocurrency should win the competition. Marimon et al. (2012, p. 815) argue that “the quality of money can only be observed after its purchasing capacity is realized” and consider money an experience good. Answering the question, to what extent at present the cryptocurrency is able to replace money, some considerations should be mentioned.

The legal status of cryptocurrency is undefined. Therefore, trades with the use of cryptocurrency lay outside the legal field, hence, their participants can't claim the warranty of their rights and legitimate interests. The legal qualification of the cryptocurrency will require changes in the legislation, in particular, clear idea of the legal and tax implications is necessary. The nature of potentially possible credit transactions with cryptocurrency is non-trivial. The multiplication mechanism is not fully clear for cryptocurrency. The implementation of such actions will require withdrawal from the “virtual reality” to the world of real money.

De facto cryptocurrency is not a universal equivalent, because sooner or later one needs to buy cryptocurrency for real money. Cryptocurrency function as the measure of value is limited, since the notions of the relative value of goods and the prices for transactions using cryptocurrency are formed outside the Internet market. Cryptocurrency is able to perform effectively as a circulation medium, ensuring a high rate of payments. Supranational character of the cryptocurrency allows us speaking about a clear expression of the function of world money.

However, it should be noted that the actual speed of operations with real goods is determined by the time necessary for their delivery, that is, the physical movement from the seller to the buyer. Thus, the cryptocurrency becomes more convenient for

ensuring the circulation of “virtual” goods—uncertificated financial instruments, digital content, access rights, etc. Opportunity of using cryptocurrency essentially depends on technical means—computer power, availability and stability of Internet access. From this standpoint, the cryptocurrency in the purses of different users is unequal.

The growth of cryptocurrency’s popularity is facilitated by a decrease in confidence in the banking system and the opportunity to dispense with intermediation in transactions. The role of banking system in payments reduces because the banks turn away from the real economy when the opportunity for profit in volatile markets is higher than on loans.

While confident assessments of the cryptocurrency contribution to new financial reality formation are currently difficult, then the growth of electronic monetary transactions is already one of the trends determining the new financial reality. Many economically developed countries are basically able to switch to an electronic system of payment for goods and services in the nearest future.

4 Conclusions

New financial reality is the evolution result of the world financial system and requires the revision of some traditional concepts, in particular, the concept of money, its properties, its forms and the sphere of circulation. Today the fiat nature of currencies does not fully correspond to requirements of trade exchanges and this generates a search for alternative methods of payments. In globalization the decision supporting efficient international payments is preferable so the money of the future should be more or less but supranational.

The idea of supranational money was developed by Mundell (1961) but the criteria allowing determination the borders and the tense of interrelation between the countries within the zone of single currency still remains the subject under discussion. Though the scenario supposing the appearance of regional currencies with forming of appropriate zones seems plausible, the statistics did not allow drawing an unambiguous conclusion about the advantages or disadvantages of the Eurozone. It should be noticed that while the money used in trade tends to become regional to diminish the barriers within the trading zone, the money used in financial markets rather tends to turn global.

Cryptocurrency though it has already some reputational losses represents the class of electronic technologies which can potentially constitute the basic for implementation of the money in the new financial, hence, economical, reality. The most comfortable payment systems based on modern technological advances and disintermediated can stand out among these methods soon.

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Does Longer Cash Gap Require Greater External Financing?



Hrvoje Perčević, Mirjana Hladika, and Marina Mićin

Abstract Components which significantly affect the level of working capital are inventories, accounts receivables and accounts payables. Company must tend to keep inventories at an optimal level and collect receivables as soon as possible since it is important that cash is not tied up in inventories or in receivables. Cash gap represents the difference in days between the days of paying for purchases and days of collecting cash form receivables. Considering that in these days company is without cash, the cash gap must be financed. As higher the cash gap is, more funds are needed. When company is financed from other sources, there is the cost of financing, that is, interest cost. As higher the cash gap is, interest is higher. The starting point of this research is that the relation between the cash gap and the company's indebtedness is positive, in other words, the higher the cash gap is, liabilities are higher, such as interest cost. The research is conducted on the large entities in the Republic of Croatia for the period from the year 2010 to the year 2015. Cash gap was put in relation with debt indicators such as: financial expense which is interest cost and debt ratio which shows how big part of the company's asset is financed from external sources. Results showed that although there is weak positive correlation between the cash gap and interest cost, as well as between the cash gap and debt ratio, those correlations are not significant.

Keywords Cash gap · Working capital · Debt · Interest

1 Introduction

During and after the financial crisis, cash has become an important component since it is a figure which is not manipulative such as earnings. Also, regardless the manipulative susceptibility, cash is important for the liquidity and solvency of a

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company. Companies must manage their cash in order to stay liquid and not to jeopardize its profitability while in the state of illiquidity, in other words, company must manage their working capital effectively. When observing working capital, cash gap is an effective tool to manage the working capital within the company. Financial management can direct the cash flow of the company by extending the period of paying to suppliers or shortening the period to collect receivables. By managing the cash gap it is important to stay liquid and profitable, those two should be balanced because extremes lead into losses.

Cash gap is usually put into relation with profitability and the premise is that there is negative relationship between those two variables. That means that if there is a cash gap, company must finance the gap which leads to higher cost of financing and consequently to lower profit. If there is cash gap which must be financed, than the higher cash gap would require greater interest cost or greater debt ratio proving that higher cash gap require higher external financing. Cash gap could also be financed from the internal sources and in that case it will not lead to higher interest cost or higher debt ratio. The aim of this paper is to explore the relationship between the cash gap and external financing measured by interest cost and debt ratio. The assumption is that there is positive relationship between the cash gap and interest cost, as well as between the cash gap and debt ratio.

This paper is divided into four parts. First one is the introduction part in which the main research objectives are presented. It is followed by the second part which presents literature review divided into three different subparts. Its first subpart provides theoretical overview of the importance of managing the cash and cash gap in order to maintain the balance between the profitability and liquidity, while second subpart is focused on problem of financing the cash cap, while the third subpart deals with the relationship between the cash gap and profitability. After the literature review, a third part of the paper presents the research methodology and the research results. The final part of the paper is the conclusion brought after the theoretical and empirical research about the cash gap and it's financing.

2 Literature Review

2.1 Managing the Cash to Keep the Balance Between Profitability and Liquidity

Managing the cash is an important activity in every company, especially in the periods of financial crisis. To manage the cash efficiently, managers at every business function should be included, not only those on top level (Gulin 2009). Activity of managing the cash includes different spheres, among which are: how much cash company needs to maintain its business activity, on which activities and items should cash be spent, how fast the buyers are paying, is there enough money to invest in growth, and if there is not enough cash, how should company finance itself.

For the effective cash management it is necessary to plan and control current assets and short term liabilities. Companies have to maintain their activities while keeping balance between liquidity and profitability (Konuk and Zeren 2014; Padachi 2006). Balance between profitability and liquidity is important because if companies prefer liquidity over profitability, they might miss chances in profitable investments. On the other hand, high focus on investments to achieve greater profitability may lead to liquidity crisis (Konuk and Zeren 2014). Even though the primary objective of a company is to maximize the profit in long term, keeping liquidity also must be taken into consideration. If company does not take care of liquidity, it may fail bankrupted (Ghodrati and Ghanbari 2014). An example of relationship between profitability and liquidity might be if company can have favorable credit policy to their customers and therefore generate higher profitability, but also extend the cash cycle (Mathuva 2010). In this case company puts profitability in front of the liquidity which might be good if the cash cycle does not prolong longer than expected and if the rest of the company's activities are organized according to that certain credit policy.

Eljelly (2004) show there is a significant and negative relation between the profitability and liquidity indicators. Liquidity indicators are presented by current ratio and cash gap. Investing in net working capital is important to support the company's operations, because if investments are insufficient, company may not be able to conduct business and generate revenue. Management should manage that investments in working capital are well utilized because overinvestment, as well as underinvestment could cause problems. Overinvestment in unutilized working capital can cause destruction of value. On the other hand, underinvestment in working capital could cause liquidity problems because if the investment in cash, trade receivables or inventories is insufficient, company might struggle in conducting its usual business (Erasmus 2010).

Working capital can be used as a useful tool to assess liquidity of a company, in other words, to assess if the funds of a company are available to meet companies current operations (Eljelly 2004). Regardless the size of a company, working capital management is important in order to keep company in financially good health. Amounts invested in working capital of a company are high, therefore, they have to be used efficiently and effectively (Padachi 2006). It is important to manage the working capital successfully because there is money contained in inventory and receivables which are forms of current assets which can be used for financing current and future business expansion. Financial management should take care that funds contained in these forms of current assets are available in most liquid form as soon as possible in order to release and use these funds for investment activities (Tušek et al. 2014).

In the literature, the term which is used is cash gap or cash conversion cycle (CCC), but in this paper the term cash gap will be used. Cash gap presents number of days needed for cash to pass through the operating cycle of a company in different forms and come back to the initial form, the cash (Serdarušić 2007), or, expressed in dollars, it is time required to convert a dollar of cash disbursements back into a dollar of cash inflow from companies operations (Richards and Laughlin 1980). Cash gap

shows the number of days in which the company does not have money to finance its activities (Tušek et al. 2014). It is a measure of working capital which shows the difference in days between expenditure due to the purchase of materials and collection of receivables for goods sold (Padachi 2006). The cash gap measures the length of time passed between the actual cash expenditures on resources and actual cash receipt based on the sale of goods produced or services provided (Eljelly 2004). In other words, company has cash and the companies use that cash to buy inventories. If company doesn't have cash, they record liabilities to supplies, stated as, accounts payable. When company sells inventories to customers, they record receivables. When customers pay for inventories bought, company gets cash which they can use for buying new inventories or for paying suppliers what they owe.

The cash gap is calculated (Lyroudi and Lazaridis 2000; Eljelly 2004; Gulin 2009; Ebben and Johnson 2011; Tušek et al. 2014):

$$\text{Cash gap} = \text{number of days in inventory} + \text{number of days to collect receivables} \\ - \text{number of days to settle payables.}$$

The cash gap is a number and it is measured in days. Smaller cash gap means that company can quicker recover cash achieved from receivables based on the sales of a company. It positively affects the liquidity of a company. On the other hand, higher cash gap means that it takes longer for company to recover cash which means that there might be a problem with company's liquidity (Lyroudi and Lazaridis 2000). Companies can manage the cash gap to shorten it by lowering the number of days in inventory and number of days to collect receivables or by extending the number of days to settle payables. It is preferable that the cash gap is smaller because it is a sign that the company does not have a problem with liquidity, while longer cash gap means that there are days when company does not have cash to settle liabilities which is an indicator that there is a problem with liquidity.

2.2 *Financing Cash Gap*

If there is a positive cash gap, it means that there are days in which a company is without cash. Growing companies can often be short on cash, in other words, they can be in a state of cash gap which needs to be financed (Borgia and Burgess 2000). The higher the cash gap which must be financed, the higher is interest cost (Serdarušić 2007; Gulin 2009). The longer the cash gap is, the larger are funds that are blocked in the working capital (Padachi 2006), so company should tend to shorten the cash gap because costs are higher when the cash gap is longer (Serdarušić 2007). When cash is blocked primarily in inventories and accounts receivables, the period in which the company is without cash is longer.

Analysis of cash gap could give some guidelines which are the target level of inventories, receivables and payables at given sales level. Also, analysis helps to determine how high is the cash gap (the number of days which have to be financed)

and project the costs of financing the cash gap, if there is one (Serdarušić 2007). Since the positive cash gap requires funding from the company's own capital or debt financing, both of these have its consequences. Financing from its own sources leads to inability of investing its own resources into the business, while debt financing leads to increasing financing expenses (Tušek et al. 2014).

Even when the interest rates are low, the cost of financing cash gap must be calculated (Gulin 2009). It is desirable that the cash gap is shorter because the larger cash gap needs to be financed which means that there is greater need for external financing, which brings along different forms of financial costs such as explicit interest cost or implicit costs of other sources of financing (Eljelly 2004). Even though if the cash gap is financed from internal liquidity, company must know what is the financing cost (Serdarušić 2007).

Padachi (2006) showed that, according to the research results, companies which are less profitable took longer time to pay creditors. When profitability falls, it means that there is less cash generated from operations. In that case, companies must search for extension of the credit period from their suppliers. Accounts payable as a component of working capital is one of the components that do not consume resources. Instead of consuming resources, it is often used as a short term source of finance and also helps to reduce the cash gap. The negative side of extending payment period to shorten cash gap is if there is some discount in the case of early payment (Padachi 2006). Research results from the study by Lyroudi and Lazaridis (2000) showed that there is a significant positive relationship between the cash gap and the traditional liquidity measures such as current and quick ratios. Results of a research on small companies provided by Ebben and Johnson (2011) among other findings, show that companies with shorter cash gap maintains lower levels of invested capital. Also, one of the findings is that the companies with shorter cash cap had higher levels of liquidity, which means that companies can improve returns and liquidity by effectively managing cash gap.

Management should hold as little as possible cash in inventories and receivables. The company should prolong time needed to pay suppliers as much as they can, but number of days to collect receivables and number of days in which cash is hold in inventory should be brought to minimum. Reducing the number of days in inventory and number of days to collect receivables and increasing number of days to settle payables, has a positive impact on cash gap because it is shortening cash gap and it is better that cash gap is lower. Negative cash flow is a positive indicator for investors intended to invest in a specific company (Gulin 2009). To manage the cash gap with proper quality, company must take care to improve supply chain in order to minimize the inventories in warehouse. To extend the length of payables, companies should negotiate good terms related to paying the liabilities to the suppliers (Žager et al. 2008). Company must also ensure that customers are promptly paying. Cash gap can be shorten if the company works on fast moving inventory or implements just in time inventory model in order to shorten the period in which cash is tight in inventory. Other examples of shortening the cash gap are through relations with suppliers and customers, by negotiating with suppliers to extend credit terms and by getting cash out of customers through discount programs or credit card transactions. Also, one of the examples is factoring which means selling receivables and therefore getting the cash (Borgia and Burgess 2000).

2.3 *Cash Gap and Profitability*

When observing the relationship between the cash gap and the profitability, it should be negative. If the company has higher cash gap, it means that company is using different sources of financing which has negative impact on the company's profitability. Besides that, long cash gap is an indicator that company has a problem with liquidity. That problem is a bad sign to those who are analyzing company with the intention of the future cooperation with it and it can reject them in their intentions in doing business which may lead to decrease of profitability.

Erasmus (2010) examined the relationship between firm profitability and working capital management which is expressed as net trade cycle (NTC). The difference in calculation CCC and NTC is that in CCC denominators used when calculating turnover ratios for inventories, receivables and payables are different, NTC calculates them by expressing all of them as a percentage of sales. The results showed that there is significant negative relationship between profitability of a company and measures such as NTC, debt ratio and liquidity (Erasmus 2010). Based on the research made on Teheran Stock Exchange, Ghodrati and Ghanbari (2014) concluded that there is a reverse relationship between the operational earnings and independent variables such as cash cycle period, receivable accounts period and inventory flow period. Also, there is a direct relationship between payable accounts period and operating earnings. That means that when receivable accounts period, inventory flow period and cash cycle period increase, operating earnings decrease. Opposite to that, if the payable accounts period increase, operating earnings also increase.

Mathuva (2010) explored the influence of working capital components on the corporate profitability and the findings show that there is a highly significant positive relationship between inventory conversion period and profitability, and average payment period and profitability. These findings imply that companies which hold high levels of inventory reduce the cost of possible losses or interruptions while also reduce supply costs and the risk of price fluctuations. Also, the longer the period of paying to creditors is, the companies are more profitable. On the other hand, the relationship between the accounts collection period and profitability is highly significant negative. That suggests that companies which have shorter period of collecting cash from customers are more profitable. Lyroudi and Lazaridis (2000) provided evidence that there is significant positive relationship between that cash gap and the profitability measures such as return on assets and the net profit margin.

Tušek et al. (2014) conducted a research among the large and medium sized companies from the hotel industry in the Croatia which showed that there is a positive cash gap which needs to be financed. When it comes to the relationship between the cash gap and the profitability, it has been proved that there is no significant interdependence between those two variables for the period observed.

While some research results indicate that there is a negative relationship between the cash gap and the profitability, there are also those which indicated that there might also be positive relationship between those two variables, but also there are research results showing there is no relationship.

3 Research Methodology and Results

3.1 Research Methodology

The primary objective is to determine the relation between the cash gap and the external financing in the form of interest cost and debt ratio. As it can be seen from the literature review, greater cash gap requires greater financing because there are more days in which the company is without cash. The cost of financing is interest cost, so the assumption is that the higher the cash gap is, the greater is the need for external financing and there is greater interest cost. So, between the variables cash gap and interest cost positive relation is expected. Debt ratio, which is calculated as a ratio of total liabilities and total assets, is used as a gearing indicator (Žager 2008). When debt ratio is higher, it means larger part of asset is financed from the external sources. Therefore, the positive relation is also expected between cash gap and debt ratio, because if there is bigger need for external financing due to the higher cash gap, greater part of asset will be financed from external sources. Out of the 340 large companies in the Republic of Croatia (large according to the Accounting Act 2015) at the moment on analysis, for the 324 of them data was available for the period explored.

For the purpose of the research, cash gap is calculated as:

$$\text{Cash gap} = \text{number of days in inventory} + \text{number of days to collect receivables} - \text{number of days to settle payables.}$$

Number of days in inventory, number of days to collect receivables and number of days to settle payables, is calculated such as calculated by Tušek et al. (2014):

- Number of days in inventory = $365/\text{Inventory turnover ratio}$
Inventory turnover ratio = $\text{Material cost}/\text{Inventory}$
- Number of days to collect receivables = $365/\text{Receivables turnover ratio}$
Receivables turnover ratio = $\text{Revenues}/\text{Receivables}$
- Number of days to settle payables = $365/\text{Payables turnover ratio}$
Payables turnover ratio = $\text{Operating expenses}/\text{Payables}$

The research was conducted for the period from 2010 to 2015 year, which includes 6 years ($n = 6$). For each year separately, variables such as material cost, inventory, revenues, and receivables, operating expenses, payables, interest cost, total assets and total liabilities were calculated by adding all companies for each year separately. Those summed variables were used to calculate other variables according to the formulas above mentioned. Calculated variables for each year are showed in Table 1.

According to the Table 1, cash gap is positive for each of the year observed which means that it must be financed. Financing cash gap means higher interest cost and higher liabilities as an external source of financing. By analyzing the debt ratio, for each year it is greater than 0.50 which means that more than 50% of the company

Table 1 Cash gap and liquidity indicators of the large companies in Croatia for the period 2010–2015

Item	2010	2011	2012	2013	2014	2015
Material cost	166,322,772,937	182,716,673,414	187,805,256,914	186,534,328,814	184,706,575,451	187,124,844,453
Inventory	26,479,130,887	29,375,553,796	28,677,337,288	28,337,536,201	29,466,459,785	28,639,320,253
Inventory turnover ratio	6.28	6.22	6.55	6.58	6.27	6.53
Number of days in inventory	58.11	58.68	55.73	55.45	58.23	55.86
Revenues	231,267,031,645	246,024,716,039	251,564,803,400	251,733,083,592	250,080,575,953	251,124,881,309
Receivables	35,230,898,484	35,704,834,352	34,903,155,518	32,985,721,635	31,129,072,092	28,951,098,549
Receivables turnover ratio	6.56	6.89	7.21	7.63	8.03	8.67
Number of days to collect receivables	55.60	52.97	50.64	47.83	45.43	42.08
Operating expenses	234,859,828,114	248,859,971,892	259,631,551,807	260,400,949,777	255,346,195,900	256,213,809,453
Payables	36,380,420,568	37,647,747,830	38,518,136,395	36,443,773,940	33,711,084,647	32,544,164,556
Payables turnover ratio	6.46	6.61	6.74	7.15	7.57	7.87
Number of days to settle payables	56.54	55.22	54.15	51.08	48.19	46.36
Cash gap	57.17	56.44	52.23	52.19	55.47	51.58
Interest cost	10,658,318,207	11,716,878,290	9,933,878,352	11,711,123,099	13,164,885,813	11,830,829,660
Total liabilities	264,202,472,039	280,813,202,855	282,025,976,661	278,550,184,633	279,158,246,111	273,828,122,538
Total assets	505,378,290,634	521,960,711,826	523,995,359,645	524,169,149,735	530,204,696,609	532,852,625,684
Debt ratio	0.5228	0.5380	0.5382	0.5314	0.5265	0.5139

Source: Authors according to the data available from the register of annual financial statements held by the financial agency

assets are financed from the external sources. Financing from the external sources entails the interest costs. Using this table, it has been tested the nature of the relationship between the all the components, such as the significance of these relationships.

3.2 Research Results

Research results are presented in Table 2. At the beginning of the paper, two premises were stated to explore as the objectives of the paper:

1. There is a positive relationship between the cash gap and the interest cost which means that greater cash gap requires greater external financing which leads to higher interest cost.
2. There is a positive relationship between the cash gap and the debt ratio which means that greater cash gap leads to higher debt ratio, in other words, there is greater portion of the assets financed by external sources of financing.

Relationships between the components are tested using Pearson correlation coefficient and significance of the relationships is tested at 1% and 5% level. When Pearson correlation coefficient is higher than zero, it means that variables are going in the same direction, while the coefficient below zero means that when one component grows, the other one falls. Based on the research results, it is possible to make conclusions on the relationship between the cash gap and external financing in the large sized Croatian companies for the period observed.

According to the Table 2, various correlations are tested.

Relation between the cash gap and its components: There is a positive relationship between the cash gap and its components. The relationship between the cash gap and number of days in inventory is strong, positive and significant, as it was expected. That is because the longer the period that cash is tied in inventories, cash gap will be longer because company is without cash. Relationship between the cash gap and number of days to collect receivables and the cash gap and number of days to settle payables is medium strong positive, but it is not significant. While it is expected that the relationship between the number of days to collect receivables and cash gap is positive since the longer the cash is tied up in receivables, company is without cash; it is not expected that there will be positive relationship between the cash gap and the number of days to settle payables. The reason behind it is because when company prolongs the time needed to pay the suppliers, it means that company has not given cash away and the cash is inside the company. Also, mathematically, when number of days to settle payables are rising, it lowers the cash gap. According to this research, there is a medium strong positive relationship between the cash gap and the number of days to settle payables, but it is not significant. One of potential explanations is that the accounts payable are a form of financing cash gap, so they are positively correlated with the cash gap.

Table 2 Correlation between the cash gap and external financing

		Number of days in inventory	Number of days to collect receivables	Number of days to settle payables	Cash gap	Interest cost	Total liabilities	Debt ratio	Short term liabilities
Number of days in inventory	Pearson	1	0.469	0.363	0.950**	0.338	-0.211	0.101	-0.453
	Sig. (2-tailed)		0.348	0.479	0.04	0.512	0.689	0.849	0.367
Number of days to collect receivables	N	6	6	6	6	6	6	6	6
	Pearson	0.469	1	0.988**	0.673	-0.571	-0.294	0.516	0.047
Number of days to settle payables	Sig. (2-tailed)	0.348		0.000	0.143	0.237	0.572	0.295	0.929
	N	6	6	6	6	6	6	6	6
Cash gap	Pearson	0.363	0.988**	1	0.565	-0.661	-0.201	0.590	0.184
	Sig. (2-tailed)	0.479	0.000		0.243	0.153	0.703	0.218	0.728
Interest cost	N	6	6	6	6	6	6	6	6
	Pearson	0.950**	0.673	0.565	1	0.139	-0.387	0.131	-0.479
Total liabilities	Sig. (2-tailed)	0.004	0.143	0.243		0.793	0.448	0.805	0.336
	N	6	6	6	6	6	6	6	6
Debt ratio	Pearson	0.338	-0.571	-0.661	0.139	1	0.180	-0.305	-0.342
	Sig. (2-tailed)	0.512	0.237	0.153	0.793		0.732	0.557	0.507
Short term liabilities	N	6	6	6	6	6	6	6	6
	Pearson	-0.211	-0.294	-0.201	-0.387	0.180	1	0.657	0.815*
Debt ratio	Sig. (2-tailed)	0.689	0.572	0.703	0.448	0.732		0.157	0.048
	N	6	6	6	6	6	6	6	6
Short term liabilities	Pearson	0.101	0.516	0.590	0.131	-0.305	0.657	1	0.785
	Sig. (2-tailed)	0.849	0.295	0.218	0.805	0.557	0.157		0.064
Short term liabilities	N	6	6	6	6	6	6	6	6
	Pearson	-0.453	0.047	0.184	-0.479	-0.342	0.815*	0.785	1
Short term liabilities	Sig. (2-tailed)	0.367	0.929	0.728	0.336	0.507	0.048	0.064	
	N	6	6	6	6	6	6	6	6

Note: **Correlation is significant at the 0.01 level (2-tailed) and *Correlation is significant at the 0.05 level (2-tailed)

Relationship between the cash gap and interest cost: The Pearson correlation coefficient is 0.139 and the correlation between these two variables is not significant which means that although there is weak positive relationship between the cash gap and the interest cost, that relation is not significant. Therefore, the premise stated that there is a positive relationship between the cash gap and the interest cost as an indicator of the level of external financing must be rejected. It cannot be concluded that the level of cash gap is correlated with the interest cost, although there is positive cash gap among Croatian companies.

Relationship between the cash gap and the debt ratio: The correlation between the cash gap and the interest cost is not significant with the value of Pearson correlation coefficient 0.131 which indicates weak positive correlation. According to the value of the correlation coefficient calculated and the fact that it is not significant, there is no connection between the company's cash gap and the debt ratio. That means that when the cash gap of a company grows, the portion of the total assets financed from external sources is not in a relationship with it.

Relationship between the cash gap and liabilities: A liability represents the external sources of financing. Since the interest cost and debt ratio didn't prove evidence that higher cash gap require greater external financing, cash gap was also put in a relation with the value of total liabilities, and with the value of short term liabilities. As it can be seen in Table 2, there is no significant relationship between the cash gap and the liabilities, neither total nor short term. But, when observing the value of Pearson correlation coefficient, it can be noticed that its value is -0.387 for the relationship between the total liabilities and cash gap. That means that there is a weak negative relationship between those two variables, although is not significant. The Pearson's correlation coefficient for the correlation between the cash gap and short term liabilities, which is -0.479 , and that means there is also a weak negative relation, which is also insignificant. That would indicate that when the cash gap is rising, the liabilities are falling which is contrary to the logic stated in the paper that since the cash gap must be financed, it requires greater financing which usually refers to greater liabilities.

It can be concluded that the level of cash gap is not significantly correlated with the level of neither short term liabilities nor the total liabilities. It can also be concluded that there is no significant relationship between the cash gap and the interest cost or the debt ratio. The reason behind it is not familiar; it is possible that companies finance their cash gap from the internal sources, and not in the form of credit or some other interest bearing model of financing. Also, the potential reason behind these research results is that all large companies in Croatia are put together in this research, regardless their activities. For example, there are companies which provide services, as well as those which are manufacturing companies.

4 Conclusion

Cash gap is a tool which indicates to financial management the state of company's liquidity. If the cash gap is high, company may reach in the state of illiquidity when the cash should be raised by using external or internal sources of financing. On the

other hand, if the cash gap is negative, it means that company collects their cash from buyers in a short time and that cash is not tight up in inventories for the long time. While cash gap can be shortened by shortening the days to collect receivables, that might mean that the credit terms to buyers should be tighten which might lead to fall in sales and endanger company profitability. Also, cash gap can be shortened by extending the days to settle payables which may lead to extra cost or might ruin the relationship with the suppliers. Third component which can affect the cash gap is the number of days in inventory which should be shorten to minimize the cash gap. That means that planning is important to produce inventories at the level which follows the level of selling. Therefore, companies have to manage with their working capital in order to maintain its liquidity and profitability.

Since in the paper the accent was on the relationship between the cash gap and financing, that relationship was tested on the 324 large companies in Croatia for the period from 2010 to 2015. In the large companies in Croatia cash gap is positive for the period observed. Since the positive cash gap must be financed either from internal or external sources, the relationship between the cash gap and the cost of financing expressed as an interest cost was examined, such as the relationship between the cash gap and debt ratio. Research results showed that the relationships tested were weak and positive, but not significant. That means that in the Croatian companies higher cash gap does not require higher external financing as it is stated in the theoretical overview.

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Crowdfunding as a Model and Financing Instrument in Social Enterprises



Ubaldo Comite

Abstract Access to credit and financial inclusion are decisive instruments in promoting the economic development and social cohesion of a community and territory. Helping social enterprises grow and compete is an essential priority for all economies, as they carry out fundamental and necessary functions. Consequently, the search for new methods of financing must become a challenge to pursue and overcome. One of the main problems that social enterprises face is access to credit. In fact, access models to traditional financing instruments fail to comprehend the peculiarity of this type of nonprofit entrepreneurship. To this, the so-called “credit crunch” is added, that is, the restriction of credit offers that affected all enterprises indiscriminately, further aggravating the circumstances of social enterprises. To deal with this situation, a new model, easily applied by social enterprises, is crowdfunding. It is one of the swifter, more social and transparent solutions to gain capital, in stark contrast to the bureaucratic approaches by banks and credit institutions. This paper highlights how the crowdfunding model has become an instrument with a notable impact in terms of fundraising and low implementation costs.

Keywords Crowdfunding · Management · Transparency · Financing · Social enterprise · Economic development

1 Introduction

Crowdfunding is an innovative instrument used to finance projects with entrepreneurial, cultural and social aims. Its success is tied to the development of online platforms that have become widespread and have had a global impact. These platforms allow for large numbers of individuals (crowd) to offer the capital necessary to finance (fund) projects that are promoted by organizations, enterprises, and

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single individuals. Those financing can make a simple donation or obtain a reward in exchange, such as a share in the risk capital (equity) or interest on the capital lent (lending).

For third sector organizations, crowdfunding can represent a new fundraising tool that complements traditional methods. Crowdfunding can, in fact, allow social enterprises (those already in place, or in the startup phase) to finance innovative and impactful projects using pre-existing platforms found on the web, drawing upon small contributions offered by large numbers of supporters.

In the literature, crowdfunding has been recognized as the new tool that “changes the rules of the game” in regards to financing enterprises (Lehner 2013). The dynamism that characterizes crowdfunding is probably facilitated by the difficulty for enterprises, third sector organizations and individuals to access credit, due to the global financial crisis. New trends are represented by the emergence of local and niche platforms, by the development of hybrid platforms that offer more than just one model of crowdfunding, and by the growth of popularity of “Do-It-Yourself” crowdfunding.

2 From Nonprofit Organization to Social Enterprise

To understand the reasons behind the concept of “social enterprise” or an “enterprise with social aims”, it is necessary to recall the recent evolution of the nonprofit sector. As is well known, nonprofit organizations, although associated with the obligation of distributing profit, can carry out more than one role, which differs based on economic relevance. Among these roles, the most important are the protection and promotion of the interests of citizens in general or specific groups, the redistribution of resources between individuals or groups, or between alternative uses and the production of socially useful services, on a temporary or stable basis, with varying degrees of autonomy from the public administration (Kramer 1981).

Compared to these potential roles, actual roles are determined largely by the importance that the different national welfare systems assign to public intervention. In European countries characterized (at least until the 1980s) by highly developed public welfare systems, the role of protection and promotion was attributed to the nonprofit sector almost exclusively, while its contribution to both the redistribution of income and the production of socially useful services was considered irrelevant. In countries where it was at least partially recognized (such as Germany, France, Holland, and Ireland), nonprofit organizations, while common, were characterized by limited decision-making autonomy and a high reliance on public funding. This institutional framework has changed since the 1980s. The growing demand for socially useful services and its ever-increasing differentiation, on one hand, and the financial crisis of welfare systems, on the other, have opened spaces for the development of nonprofit formats geared towards the production of socially useful services. They are more autonomous from public administrations than those already in existence, especially in the identification of services to be produced and in the manner in which they are realized.

Defining these new types of organizations simply as ‘nonprofit’, that is, as organizations identified only or mainly from the obligation to not distribute profits, did not seem sufficient in understanding the details. To highlight these, compared to other members of the sector, entrepreneurial characteristics and productive purposes, the use of the term “social enterprise” or “enterprise with a social purpose” has spread (Borzaga and Defourny 2001).

With this, organizations whose main characteristic does not constitute an obligation to distribute profits to its owners, but to combine an entrepreneurial nature, with its connotations of volunteerism, autonomy, risk, and inclination towards innovation, with the production of a service for the benefit of the community in which they operate, or for certain groups of citizens, are identified.

Most notably, from a comparison between the varied experiences of social entrepreneurship which developed in Europe, it is possible to identify the essential characteristics of these organizations. Their entrepreneurial nature is demonstrated by the possession of four requirements:

- (a) the prevalence of a production activity of goods and/or services on an ongoing basis; the distinction between social enterprises and other nonprofit organizations is based, therefore, on the presence, in the former, of a stable production activity directly managed by the organization;
- (b) a high degree of autonomy; social enterprises are generally created voluntarily by a group of agents that govern them autonomously, without obligations, either directly or indirectly, towards public authorities or other organizations, except for contractual obligations voluntarily approved. The owners benefit from both the rights of voice and exit since they have both the right to choose the activity and to manage the organization, as well as the possibility to leave the organization or decide upon its dissolution;
- (c) a significant level of economic risk; the promoters of social enterprises and their owners directly take on the risks of the enterprise, committing both financial resources and, above all, their labour, and the corresponding investment in specific human capital;
- (d) the presence of a certain amount of paid work; in terms of human resources, social enterprises turn to both to volunteer work and remunerated work, with an increasing tendency towards the latter.

Moving on to the ‘sociality’, it is defined not in relation to the type of services produced, but according to the objectives of the organization and the management methods used by the organization. As far as the objectives of the organization are concerned, social enterprises work towards realizing activities that bring benefits to members of the community, rather than profit for the owners. While nonprofit organizations are defined in the “negative” as organizations that do not distribute profit, social enterprises are defined in the positive, according to the objectives pursued. The obligation to distribute profit can also be partial, permitting, as in the case of social cooperatives, that a limited part of the profits can be distributed to members, to remunerate the provision of risk capital or to subsidize the performance of assigned tasks. As far as management methods are concerned, social enterprises are generally characterized by democratic decision-making processes geared towards

favoring a participatory dynamic among the investors, the involvement of the different stakeholders in governing the organization (paid workers, volunteers, users, etc.), and the absence of proportionality between the right to vote (or to weigh in on internal decisions) and the subscribed capital.

It follows that from these characteristics, social enterprises, unlike for-profit enterprises and public production units, can generally count on a mix of resources with very different backgrounds and retrieval costs, usually inferior to those of other types of organizations. Financing the activity through the sale of socially useful services or other goods and services is supported, in fact, by subsidies and non-commercial resources from public sources and private donations (Comite 2011).

3 Different Interpretations of the Concept of Social Enterprise

Kramer (1981) first, and then other authors (Wamboye et al. 2015) attempted to interpret social enterprises and observed peculiar characteristics such as the protection, development, and promotion of needs and interests spread out among the citizens in general, or specific groups, or in the inclusion of products the production of socially useful goods and services that can occur in a stable or temporary manner, either dependent on the public administration or autonomous; the social redistribution of resources.

One interpretation tied to the difficulties of the State to fully satisfy the demand for public goods is provided by Weisbrod (1975, 1988) who emphasizes how the “median demand” for goods and services tends to leave all those with needs that do not fall within that range dissatisfied. As a result, the demand for the goods and services that are not fulfilled by for-profit enterprises or by the State will be intercepted by nonprofit organizations. Other authors highlight how social enterprises are the result of certain factors: the typology of certain entrepreneurs who intend to relaunch their own image or broaden their influence, religious and non-religious groups, the reinvestment of undistributed income, and shares of multinational corporations (Young 1983, 1997). One widespread and agreed upon interpretation identifies, in the constraints of profit distribution, a method of overcoming the failure of the contract determined by the existence of asymmetry of information between producer and consumer (or donor), which impede the latter to evaluate and check the quality of the product *ex-post* with that which was agreed upon *ex-ante* (Hansmann 1980).

Binding itself to not distribute profit, the organization sends a signal to the consumer that it is not interested in exploiting these asymmetries *ex-post*, reducing the quality of the final product in order to maximize profit. Broadly speaking, all social enterprises are characterized by the strong social impact of the activity carried out (Borzaga and Defourny 2001).

Over time and by comparing the experiences of social enterprises that have developed around the world, common elements and characteristics can be identified (Defourny and Nyssens 2008): permanent establishment managed directly by the

enterprise, which may consist of the production of goods or services, or in promotion; in general, activities that are beneficial to members of that community or specific groups of citizens; stronger governance autonomy (in most cases), compared to other organizations or public authorities, participatory and democratic deliberation processes; high economic risk, therefore difficulties in sourcing borrowed funds, a mix of resources from very different sources and management costs. Social enterprise activities tend to somewhat finance themselves through the sale of goods and services produced, but mainly through subsidies and resources from public sources or private donations. Another common element is the presence of paid work. In fact, although volunteering could be a characterizing part of social enterprises, in truth, there is a rising trend in paid work (even if it is often characterized by the provision of a lower compensation than the market (Borzaga and Depedri 2011)).

To date, one of the main issues facing social enterprises is access to credit. In fact, access to traditional financing instruments models fails to grasp the peculiarities of this specific type of nonprofit enterprise. The credit crunch, or rather, the restriction of credit, generally hit businesses, further aggravating the circumstances of social enterprises. In this context, it was, above all, the big banks, more exposed to the crisis and so-called “innovative finance”, who selected clients, reducing the amounts of credit limits granted to businesses with the worst of capitalization requirements, thus exacerbating the problems. To all this was added the failure to reduce the cost of credit. This set of circumstances has made the use of alternative forms of financing such as crowdfunding essential.

4 Crowdfunding

To date, crowdfunding is one of the fastest, simplest, and most social solution in obtaining capital, in stark contrast to the bureaucratic approach of banks and credit institutions. Crowdfunding platforms can be accessed by individuals, established businesses, or start-ups, those who intend to start for-profit businesses, as well as all those who are driven by mutual and nonprofit purposes.

From a conceptual and terminological point of view, crowdfunding generally indicates the financing of projects by large numbers of investors (the crowd), through donations of money (funding) given through the internet. Indeed, the expression represents a constantly expanding reality, consisting of collaborative processes in which non-professional investors (so-called crowdfunders) commit to supporting the efforts of people and organizations with a high creative potential, but who lack the necessary funds to put their ideas into effect. In other words, per some doctrinaire ideas, it is a tool that creates a kind of “democratization of finance”, which allows its creators to sponsor themselves online, using new resources that put the ability to generate wealth in support of the most deserving initiatives into practice (Piattelli 2013). The elements that differentiate this phenomenon from traditional channels (e.g.: venture capital and business angels) can be identified on the one hand by the prevailing

participation of non-professional investors, and on the other by the method chosen, that is, the use of online platforms where supply and demand meet (Manzi 2013).

Thus, the operations take place entirely online: the creator publishes their project on the platform's website, indicating the sum deemed necessary for its implementation, and any future remuneration (not necessarily financial) with which they intend to acknowledge the subscribers. As concerns the purely operational aspects, the instrument in question can be applied based on different approaches, which can be traced to the following types of crowdfunding:

- (1) Equity-based: investors, in return for their contribution of financial resources, receive a share of the business's capital. Equity financing is a well-established practice and it is in this manner that private equity, venture capital and informal investors (angels) have long played an important role in the development of enterprises. The main difference between equity crowdfunding and these traditional models is the opening to a wide range of potential investors, some of which may also be current or future clients. The main features and requirements related to this type of crowdfunding can be summarized as follows. It is necessary to adequately establish the terms of the operation, defining the quota of capital that is intended to be sold, defining the price and the manner in which to reward investors; the costs incurred in the launch of an equity financing through crowdfunding platforms are usually represented by a success fee, and by legal and administrative costs related to the initiative, as well as any other expenses for consultants; the operation will have many co-owners instead of few big investors, with lower expenses from a financial and organizational point of view than the stock exchange listing. Moreover, although it is a simple way of raising capital, it is in any case necessary to demonstrate that the business is ready for the investment planned, through the presentation of a business plan and financial projections. Finally, the rights of investors can vary, although generally, the members have the right to vote on the main aspects of the management, on the issuance of new shares, etc. In the planning phase, it is necessary to make accurate assessments in relation to the proportion of control that the entrepreneur is willing to cede to external shareholders.
- (2) Donation based: the supporters, in this circumstance, make donations freely, in order to advance a cause deemed worthy, without receiving a reward or goods of equivalent monetary value.
- (3) Lending based: investors are rewarded for their investment over time, with a profit margin represented by the interest agreed upon during the resource intake phase. This is an alternative to bank credit with the difference that, instead of borrowing from a single source, companies can obtain resources by the dozens; sometimes hundreds of people are willing to lend money. In many cases, they are the same investors to launch offers, indicating the interest rate at which they would be willing to grant a loan. Compared to traditional banking channels, crowdlending has the following characteristics: an increase in the possibilities of access to credit, tout court; more flexibility in interest rates in the event that the campaign reaches great popularity; since the minimum loan threshold is generally low, the operation may have appeal, and can push towards wide audience

participation; the loan is repaid through direct payments to the platform, which then distributes the repayments to the lenders.

- (4) Reward based: it is a support mode related to a specific reward, which in most cases is not of a financial type, but can be represented by the goods or services to be enjoyed at a later stage. From a strictly managerial perspective, this type of crowdfunding, if well structured, allows businesses to start with orders already on the balance sheet and an ensured cash flow (an element of great importance for start-ups), as well as creating an audience and contacting a potential target market even before the actual launch of the product. In the reward-based form, therefore, the funds received do not need to be returned, even if obligations exist towards the business to provide the service and/or the goods promised: similar features render this instrument a greatly appreciated option among start-ups and entrepreneurs; it is particularly suitable to convey innovative products and services or to stimulate the curiosity of consumers.
- (5) Pre-purchase model: it is an evolution of the reward-based model, and in a sense, it represents a moment of transition towards participatory schemes, particularly used by newly formed companies. This type of crowdfunding foresees that, for the backers, in addition to the advantageous conditions connected to the use of services provided by the company or the purchase of its products, potential right of first refusal to purchase can be attributed to units or shares at a later date.

Albeit for entrepreneurial and social purposes, the equity-based model assumes the greatest interest, depending on the type of activity, the stage in the life cycle, the financial needs and so on, and businesses will be able to move towards forms of crowdfunding that are more appropriate and more convenient from an operational point of view, as summarized in the following table (Table 1).

Table 1 The most appropriate and convenient forms of crowdfunding from an operational point of view, adopted by businesses

	Equity crowdfunding	Rewards crowdfunding	Peer-to-peer loans
Pre-trading		✓	
Pre-profit	✓	✓	
Profitable venture expanding			✓
Mature company in constant expansion	✓		✓
Mature stable company	✓		✓
Launch of new products/ services/brand	✓	✓	✓
Acquisitions			✓
Expansion into new territories	✓	✓	✓
Investment in new facilities			✓
Need for refinancing	✓		✓
Need for capital restructuring	✓		✓

Source: European Commission Staff Working Document: Crowdfunding in the EU Capital Markets Union, Brussels (2016)

Depending on the purpose or the subject, is easy to see how a platform is better suited to one project than another (e.g. a nonprofit organization that aims to raise funds for an orphanage will be more inclined to promote the project on a crowd donation platform. In contrast, a start-up that wants to create its own prototype will target a crowd equity platform). Given the vast development of the crowdfunding model, it is possible that there are hybrid models in addition to those mentioned above, and at times authors identify new models (Hermer 2011).

5 Opportunities and Limitations of Crowdfunding

Crowdfunding is designed as an innovative opportunity to raise funds, and whose limits appear unexplored by virtue of its democratic and participatory dynamic; it offers, to all those intending to finance interesting initiatives, to address the crowd. Crowdfunding as an instrument of economic recovery has also been the subject of much criticism, as declared by numerous scholars and industry professionals. It is, without a doubt, a practice that opens new economic scenarios, offering alternative forms in financing enterprises, which leads to participatory economics, redefining the role of the consumer as an individual rather than a component of an indistinguishable throng. However, in order to understand the potential of this tool, a quantitative analysis cannot be disregarded, as it can highlight and investigate the phenomenon in the light of the opportunities and limitations that it reveals. The tool used to support this investigation is the SWOT Analysis, which will establish the integration of critical issues and opportunities that can be obtained from the use of this financing method and the external forces of the macro environment as drivers of success (or failure) of the campaigns (Table 2).

Table 2 SWOT analysis

<i>Strengths</i>	<i>Weaknesses</i>
High degree of control	Administrative complexity
Easy access to financing sources	Financial transaction
Prior assessment of feasibility	Risk of appropriation of the initiative
Benefits to the local community	Risk of fraud for the investors
Benefits to the economy	Informative asymmetry
No geographical barriers	
<i>Opportunities</i>	<i>Threats</i>
Computer literate society	Insufficient culture
Mitigation of the effects of the economic crisis	Incomplete regulations
Niche markets	

Source: Personal elaboration

Strengths, weaknesses, opportunities, and threats of crowdfunding

5.1 *Strengths and Weaknesses*

In view of the risk capital gathered, the first detectable point of strength concerns the degree of control that the entrepreneur retains on the decisions related to the business they intend to launch. Unlike traditional forms of financing, such as recourse to debt financing, participation in the risk capital of professional investors more often than not requires a close collaboration between the entrepreneur and the investor who shares the business risk and is jointly interested in the success of the same. Professional investors will further qualify the proponent team; they will contribute to the validation of the economic initiative and, therefore, may intervene by changing the product/market/technology combinations upon which the business idea is based or will object to significant considerations regarding investment decisions. The logical consequence of this engagement process is the loss, sometimes even significantly, of the degree of control of the proponent team on defining corporate strategies. The use of grassroots financing, instead, does not involve this risk. Funding from a crowd of people will not lead the entrepreneur to lose decision-making powers; they will continue to be able to autonomously define all strategic aspects, and the intervention of the crowd will be limited to the phase in which capital is raised.

Secondly, the use of crowdfunding allows for a pathway around the difficulties, now chronic, of raising funds through traditional channels of credit. The incredible ease of access to grassroots financing applies across the board to any type of proponents, and is likely to bridge the information and offers gap between institutional investors that markets are experiencing. The individual proponent will be able to ask the crowd for funding without having to face the bureaucratic slowness and lack of perception of financial institutions. Businesses, especially small and medium-sized ones, can turn to the crowd when several impediments occur: lack of an active market for institutional investors, an unsatisfactory track record, lack of guarantees or unsatisfactory prospective growth rates.

The third point to make for the strength of crowdfunding lies in the real possibility of breaking down a large part of the market risk that characterizes new products, particularly during the launch phase onto a traditional market. The development of a new product, even in view of widening the range or revitalizing products that are in decline, involves a long process.

The crowdfunding operation mechanism is based on attracting as wide an audience as possible; an audience that finds the idea interesting, and upon deciding to contribute financially, unknowingly validates the idea as able to approach the real market. The launch of the campaign then unifies phases of the normally distinct process, and at the same time pre-tests, through the support of the crowd, the feasibility and commerciality of an idea. From this consideration, others, which are just as significant, are derived. The ability to pre-test business ideas will make the action of the proponent more effective and efficient, not only in terms of the squandering of financial resources, but above all in allowing timely corrective actions on commercial or technical aspects of the product, especially in the case of campaigns that give

voice to the technical and commercial capabilities of supporters, as well as the ability to predetermine the quantity of goods to be produced.

From a purely financial perspective, the opinion that the use of grassroots financing allows a considerable reduction of cost of capital, a reduction mainly due to the specific characteristics that distinguish the financial relationship between the participants appears to be a solid doctrine. The cost of capital is, in relation to the specific components of a given financial structure, the cost that the business incurs to appoint itself with useful capital. It, therefore, indicates the remuneration required by each lender category. The magnitude of the cost of capital is, therefore, determined by the bargaining power of the lender and the opportunity cost expressed by the latter; given that employment options are varied, the opportunity cost will indicate the remuneration surrendered by not using these resources in other activities identified by the same risk level.

The remuneration offered using capital obtained by way of equity or debt must therefore be able to meet the opportunity cost of the investor, ensuring a satisfactory return compared to prospective alternatives. In crowdfunding, ignoring the equity segment in which these considerations are necessary, the proposer does not face an excessively onerous opportunity cost, given that the contribution made by the crowdfunder-financier often takes the form of negligible sums, and is possibly re-paid, with symbolic rewards or the chance to get a product in pre-sale at an attractive price. The sensation is of finding oneself in the realm of more of a mutual exchange, rather than as part of a veritable financial operation. The opportunity cost for the crowdfunder does not solely comprise of the expected return in relation to potential scenarios, but also by gaining emotional value that finds its counterpart in social participation and sharing, and not specifically only by an economic return. Thus, when compared to the cost of capital, even in the absence of specific evidence-based comparisons, it can be said that in crowdfunding, raising capital has a much lower cost. The specification is needed since the construction of a crowdfunding campaign still has specific costs, mainly related to content production, the presentation of the team and project pitch, and to promotion, and ongoing communication, necessary to obtain approval from the crowd. In light of this, it is not possible to ignore that, where the cost of raising capital appears lower, the cost of producing and managing the campaign, especially in terms of time resources, can easily be very high.

Among the strengths that emerge from crowdfunding is its aptitude to become an instrument of economic recovery for the nation. Experimentation of new products directed towards the crowd creates the possible emergence of new markets, attracts innovation and the concentration of nascent professionalism, while the creation of businesses financed from the bottom-up creates an increase in jobs with no corresponding increase in public expenditure for support programs. Crowdfunding could, therefore, become a strategic asset in restoring national economy stability and self-sufficiency.

The social and participatory dimension of crowdfunding is the nourishment of a dual process of growth—the individual and the group—which continuously feeds itself thanks to the benefits of the individual proponent, which extend to the entire

community, both in economic and social terms. Positive experiences for the individual produce awareness and urge other individuals in the same community with limited resources to take action to free their entrepreneurial creativity; at the same time, the community will bond further and will tend to give value to and support its members. This mechanism appears particularly evident in civic crowdfunding campaigns, where the crowd is involved in sustainable regeneration projects in their city. These campaigns greatly amplify the individual's social dimension as a member of society and have the construction of a civic consciousness oriented to community development as their final goal.

Lastly, one of the main strengths of crowdfunding is the complete absence of geographical barriers due to the ability of the Internet to overcome distances. Each project can expand the search for funding to, potentially, the entire globe, attracting funds not only from their own community but also by drawing on resources and expertise from the European and international market. Crowdfunders can correspondingly choose to join foreign communities and support projects and ideas for projects from any nation. Moreover, if a crowdfunder is from a different nationality than that of the country where they currently find themselves, thanks to a global network, they can support active projects in their native communities. The geographical variable is highly modular. If the proponent intends to have global exposure, they will design a campaign capable of reaching overseas and attracting the largest possible audience; differently, crowdfunding can become an instrument of involvement in a geographically defined community, in which the same components encode real needs and convert them into local campaigns.

Launching a crowdfunding campaign also implies numerous critical aspects that cannot be underestimated. First of all, compared to traditional forms of capital raising, greater administrative and organizational complexity linked primarily to the relationship the proponent must attend to in each phase of the campaign can be observed. As part of a successful campaign, the proponent must first and foremost efficiently activate their networks of acquaintances and friends and persuade them to help. For each contribution received, even at short intervals, the proponent will undertake to personally thank each contributor and will provide daily content production related to the progress of the project. In addition, especially with reference to the practice of equity crowdfunding, communication with non-professional investors does not allow the use of codified financial communication and is generally accepted by specialized investors. The coexistence of two categories of investors, completely antithetical, will result in the production of periodic reports dependent on completely different communication techniques, not only in the language used but above all in its aim to intercept and hit upon different *modus operandi*.

The domestic market presents a significant point of weakness pertaining to the manner in which funds are transferred from the supporters to the proponents. Currently, the most common method used is PayPal. Many platforms require that donations are made via a registered PayPal account, as it represents the only money transfer system that allows a "promise to pay", unlike bank accounts or credit cards. Clearly, the online account requires expertise in the use of technology, which not all supporters may have. Moreover, PayPal allows its users to make donations only to

reward or donation platforms, while in the equity segment, it is not relevant, and could limit or delay exchanges on the lending platform due to the current lack of alternative technologies in digital fund transfers.

The natural habitat of a crowdfunding campaign is the web; thus, presenting an idea to the masses can also shoulder the risks related to the nature of the Internet, such as the global spread of its contents. One point of weakness that is generally identified concerns the possibility that proponents, who are especially creative and innovative, see their idea replicated in a short time by big companies or investors with greater financial resources. The risk that the idea can be stolen from its creator is high, especially in campaigns that result in bankruptcy, not due to the vision of the project, but rather due to the campaign structure itself (wrong platform choice, lack of a relational network activation, poor communication, etc.). The risk of fraud also equally affects supporters. Platforms do not provide assurance as to the good faith of the proponents; therefore, it is not possible for the backers, at least in the approach phase, to assess the credibility of the proponent and defend themselves from any potential fraud.

The weaknesses highlighted can be seen as consequences of the presence of asymmetric information in the market. The asymmetric information theory, developed for the first time in 1970 by Akerlof (Akerlof 1970), shows how the balance between supply and demand can be distorted by the imperfect information of the agents. A market characterized by the perfect symmetry of information assumes that all users have access, at no additional cost, to all the information they need to make their own consumption and/or production choices. Asymmetric information leads to a condition in which relevant information is not fully shared between individuals; therefore, one part of the agents involved has more information than the rest of the participants and can gain an advantage from this configuration. In the practice of crowdfunding, the presence of asymmetric information is an endogenous condition of the offering mechanism (online submission of projects) that threatens to become pathological and determine opportunistic behavior both ex-ante and ex-post the launch of the campaign. The proponent usually has all the information about their project. The part-conveyance of information to the crowd may be implemented consciously, in cases, for example, of fraud, but it is not excluded that it can take place in a totally unconscious manner.

5.2 Opportunities and Threats

Continuing the discussion of crowdfunding and its specificity, the assessment of the opportunities and threats arising from the external environment is viewed as a logical and consequential step in providing a comprehensive, but certainly not definitive, perspective of the phenomenon. The opportunities arising from the macro environment are attributable to the technological challenges that have led to a radical socio-economic change in the wake of the progressive development of the means of communication and connection with other individuals. To date, much of the world's

population is connected to the web; the development of an increasingly computerized society favors crowdfunding operators, ensuring the instant processing, transmission, and sharing of all relevant information for the agents.

The turnover recorded by the crowdfunding industry in only a few years has raised strong expectations by numerous industry scholars and professionals about the ability of grassroots financing to have a positive influence on economic systems. The construction of networks for the sharing of innovative ideas and the possibility of offering their resources in support of projects with a high social and ethical value represents just some of the benefits of crowdfunding. In this regard, De Buysere et al. (2012) identified the benefits derived from the practice of crowdfunding on the domestic market: resilience of the system, determining the best market rates, diversification of financing, financial stability, alternative financing channels.

- Resilience of the system: Crowdfunding represents a concrete opportunity to start a turnaround in the financial system whose degree of concentration is so high as to have led to the affirmation of the so-called “too big to fail” model. Few large institutions hold most of their net wealth, thus sustaining the risk of bringing about the collapse of the entire system.
- Determining the best market rates: The determination of current interest rates does not appear efficient, and the concentration of wealth in the hands of a few large institutions creates a strong bargaining power of the same. Crowdfunding platforms would allow, in the view of the European Commission, fairer market rates and prices to be generated, thanks to the re-injection of liquidity in the market and to the expansion of credit offerings.
- Diversification of financing: Crowdfunding, in addition to guaranteeing easier access to new forms of financing, allows beneficiaries, be they businesses or private individuals, to diversify financing sources, creating value for the system as a whole and making the business less vulnerable to any shortcomings of funds.
- Financial stability: The chronic difficulties found in the market for enterprises to make strategic investments is debatable only within an incisive economic recovery plan on a European scale. Crowdfunding can, however, help restore confidence to market participants. Even small amounts of investments into concrete projects directs the crowd to the use of resources in the real economy, representing an alternative to the inflationary crisis caused by artificial inflows of investments in the financial market.
- Alternative financing channels: The spread of projects on platforms, similar to what happens to businesses looking for ideas, can direct governments and public authorities towards a more efficient use of public funds. The presence of a highly interconnected network will lead to the emergence of the unexpressed needs of the community, generating a chain of government interventions targeted to crucial sectors or activities. The economic ecosystem, characterized by an increasingly large number of niches, represents a further opportunity for the proponents, as well as for the platforms. The identification of a specific target is facilitated by direct brokering offered by the platform with a homogeneous community, characterized by specific interests or needs.

Upon completion of the analysis, possible threats to the spread of crowdfunding and its continuing experimentation in the financing models of business investments are identified. Firstly, there is still an insufficient collective culture as regards the phenomenon at a national level, from both the supporters and the project designers. The rapid evolution of crowdfunding followed an urgent approach, rather than a strategic approach. Numerous actors have oriented themselves towards crowdfunding with a make-shift attitude towards the lack of credit alternatives; they are, therefore, both poorly structured and informed. The direct consequence of this attitude was the lack of understanding of the true potential obtainable by crowdfunding in view of a lack of culture surrounding the instrument itself, starting from the most suitable model of the campaign to be launched. The cultural spread of the phenomenon is due mainly to the platforms, which, to ensure their survival in the market, have increased their communicative activities, including through the organization of events and seminars.

6 Crowdfunding and Social Enterprises

Helping social enterprises grow and compete is an essential priority for all economies, as they carry out basic and necessary functions; consequently, finding new methods of financing must become a challenge to pursue and overcome. Social enterprises can be defined as private organizations whose mission is to produce goods and services in the pursuit of objectives of general interest for the local community, people or social groups (Borzaga and Defourny 2001). Numerous studies on social enterprises have shown that traditional fundraising tools are not very effective, especially in supporting the startup and growth of social enterprises (Ridley-Duff 2008; Fedele and Miniaci 2010; Nicholls 2009).

The inadequacy of traditional financing instruments is also evidenced by the creation of organizations that focus on new investment logic—so-called social finance—that call for the use of financial resources for activities aimed at achieving social and environmental returns, as well as financial returns (Moore et al. 2012). Although many feel an increasing need to bridge the gap between the instruments offered by social finance and the financing needs of social enterprises (Nicholls 2009; McWade 2012), it remains complicated, both in the literature and among practitioners, to define effective operational models. The main research areas of social finance are micro-finance (Burgess and Pande 2005), impact investing (Mendell and Barbosa 2013), venture philanthropy (Daly 2008) and the financing of public-private social partnerships (Lehner and Nicholls 2014). Research in these areas has largely focused on the analysis of factors that explain the demand for financing by social enterprises (Moore et al. 2012) and less on the understanding of the variables and mechanisms that can lead to finding solutions.

Generally, financing instruments for social enterprises are traditional debt products—such as long and short-term loans promoted by banks—and mutual loans, for social cooperatives. The development of more innovative inclusive finance instruments, both debt and equity, is still in the early stages, although there have been

several important instances reported (Melandri et al. 2014), albeit of limited size (Calderini and Chiodo 2014).

The main problems identified in the relationship between social entrepreneurship and traditional intermediaries are related to the characteristics that distinguish activities with social purposes in regard to those with a productive purpose. There are cultural and cognitive barriers between the instruments adopted by traditional investors and social entrepreneurship, which can hinder communication processes among stakeholders (Lehner 2013; Brest and Born 2013). In particular, traditional lenders are not used to negotiating with social missions, or considering the social impact in the analysis of cash flow, adding it to the financial returns and integrating it into planning and control phases (Brown 2006; Ridley-Duff 2008).

The credibility of the social investor is of great importance in the definition of the social enterprise. The assessment of the social investor requires a close examination of the degree of prevalence of the business project's social aim for its effective implementation. This variable has been analyzed by specialized literature as well, especially in relation to the level of accountability of nonprofit organizations (Ebrahim 2005; Jordan and Van Tuijl 2006), understood as transparency and reliability in accounting for fundraising processes. In the light of the aspects highlighted by the literature, crowdfunding can represent an alternative tool capable of combining the transparency and potential for the accountability of organizations with social aims, through a project design based on innovative reward systems (Lehner 2013; Comite 2011).

In crowdfunding campaigns, the aim to raise funds for a given project is commonly accomplished by communicating through various social networks—Facebook, Twitter etc.—as well as through specialized blogs (Belleflamme et al. 2014). So-called community experience is a key feature of crowdfunding; it can be used in combination with traditional methods of (offline) fundraising. Moreover, the logic of crowdfunding, while being similar to that of philanthropy and mutualism, which is the basis of social cooperation, is different from these because the supporters invest money not only to get intangible returns—such as social status and recognition of their actions (actions of good citizenship etc.—Ordanini et al. 2011), but also for material and experiential rewards, and, at times, for financial benefits.

Lehner (2013) stresses that the supporters of a crowdfunding project look very closely at the ideas and fundamental values underlying the initiative for which financing is sought, and thus its legitimacy. From the social enterprise perspective, crowdfunding can thus provide an instrument of supplementary legitimacy for the business activity, based on a selection process of highly democratic projects by potential supporters (Drury and Stott 2011). Those who want to support a project can analyze them and then decide which to fund and how; moreover, they can share information about the project through social media within their own social network.

In essence, for many lenders, investing in a crowdfunding campaign allows them to gain access to preferential information about the company's social proponent, through the communication tools offered by the crowdfunding platforms themselves.

Financing social impact projects may also generate benefits in terms of creating a sense of belonging to an entrepreneurial initiative, as well as to the co-creation of social values (Brest and Born 2013; Ordanini et al. 2011). These elements fill the gap left by traditional financing instruments and can become important variables for the creation of appropriate management models for social entrepreneurship financing processes. With crowdfunding, the *crowd*—an indistinct mass of potential investors—becomes *peers*, community supporters, and co-creators who share values and have an interest in realizing the project (Comite 2010).

7 Conclusion

Crowdfunding, which has a high social value, can change the rules of finance for the business. It has been seen not only by traditional companies but also by social enterprises, which with crowdfunding are able to finance social innovation projects. An important element of social crowdfunding is communication. It is indispensable to speak to communities through targeted communication involving people by convincing them to give their contribution. In this regard, socials play an important role by communicating messages and driving communication. The strength of crowdfunding is just to start from the bottom, to involve a territory by proposing initiatives that may actually affect citizens.

Crowdfunding is truly an instrument that can represent one of the greatest sources of fundraising for social enterprises since its potential is unlimited. In fact, through a crowdfunding platform millions of users can be reached in very little time; even the collection of money in the form of donations does not encounter limitations, and costs are minimal.

In conclusion, crowdfunding is not a temporary phenomenon but can be considered the financing model of the future, in view of the increasing levels of fundraising volumes at a global level and the continuous evolution and experimentation of support models in the development of innovative organizations. In this context, it is important to choose, use and develop the most appropriate technology for fundraising, management and disbursement of funds as they represent the discriminating elements that can be used as a lever for the increase in online collection.

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The Perspective of the Green Bonds as Novel Debt Instruments in Sustainable Economy



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Abstract Being relatively new, even definition of green bonds is under scrutiny. As the market of green bonds is rapidly growing (with the small recent setback in growing rates), it is crucial to establish the main determinants of the green bonds market growth and evaluate the perspectives of green bonds in sustainable economy. The main objectives of the research are the following: to evaluate the need for the green bonds as instruments, fostering the sustainability of economy; to identify the determinants of both green bonds related and green investment; to analyze the green bond yields and prices in comparison to non-green bonds; to estimate the perspective volatility of the green bonds price. Green bonds characteristics were compared against characteristics of the non-green bonds. Covariation and regression based analysis was used for the identification of green investment determinants. Variance was estimated in the assessment of bond price volatility. The results showed that price of both green bonds and non-green bonds has tendency to fluctuate in the similar trend; green bond appeal determinants are in coherence with the determinants of green investment; green bonds tend to be less volatile than non-green bonds. It is concluded that the use of green bonds has significant potential to add to the sustainability of the economy.

Keywords Green bonds · Green bond yield · Green investment · Financial instruments · Green debt securities · Debt instruments

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1 Introduction

The word “green” in nowadays economy is associated with the green growth, which in turn often means the way of economic development that is oriented towards the sustainability of the economy. Simultaneously, the term alludes to the saving or preserving the natural resources so that natural assets would be sustainable as well (OECD 2011).

But in order to save or preserve or even increase the natural assets, funding is necessary. Especially in case if there is a need for structural changes to meet the green economy challenges. Nevertheless, the importance of funding the green growth is recognized more and more clearly. Therefore, special tools for funding the green economy and tools for green economy development encouragement are being developed and used. For example, the so called green bonds were introduced in the market. First green bonds issuance was made in year 2007 by the World bank (i.e. International Bank for Reconstruction and Development). The main aim and intend of the green bonds is to raise funds for the projects that are carried out in order to increase the green growth or to add to the sustainability of the green economy mostly through addressing the challenges of the climate change.

As it is relatively new tool, it is important to analyze its effects on the green growth and sustainability of the economy on the whole. Different aspects of green economy and green growth itself is quite wide analyzed (Barbier 2016; Criscuolo and Menon 2015; Loiseau et al. 2016; Ng and Tao 2016; Shah et al. 2016; Vazquez-Brust et al. 2014; Yue et al. 2016 etc.).

The other reason for the closer analysis of green bonds as a debt instrument is also important, because there is obvious increase of the green bonds based investment. Therefore, it is important to analyze also the incentives behind the investment in the green bonds. The green investment aspects have been analyzed by Voicaa et al. (2015), Martin and Moser (2016), Mella et al. (2016), Markandya et al. (2015), Lesser et al. (2016) and González Ruiza et al. (2016).

Furthermore, since the first issuing of the green bonds, today there is much wider scope of the emitents of such bonds. For the first time, green bonds are issued not only on the international institutions or governments level, but also on the company level. And the increase of demand of such bonds is also increasing in the market.

Therefore, it is important to examine the incentives of the investors, as well, as the green bonds' input in the sustainable economy. Different aspects of the possibilities and effects on the sustainability and green financing of the economy have been analyzed by Yadav et al. (2016), Silva and Cortez (2016), Little et al. (2015) and Heckerta and Rosan (2016) etc. Considering all this, the aim of the paper is to analyze the perspectives of the green bonds as novel debt instrument in the sustainable economy. Respectively, the main objectives of the research are the following: to evaluate the need for the green bonds as instruments, fostering the sustainability of economy; to identify the determinants of green bonds related investment and the green investment; to analyze the green bond yields and prices in comparison to

non-green bonds; to estimate the perspective volatility of the green bonds price volatility.

The historic data was used for the analysis. In the paper, green bonds related data covers period from the issue of first green bonds, i.e. from year 2007, to year 2016. Green investment related data covers period of year 2000–2016. Green bonds characteristics were also compared against characteristics of the non-green bonds. The covariation and regression based methods were used for identification of green investment determinants. Variance was estimated for the assessment of the bond price volatility. Bloomberg database, databases of World Bank, European Investment Bank, public official statistics and public market databases were used.

2 The Concept of Green Bonds as Debt Instrument

As the term green bonds is relatively new (to compare with the bonds history), even up to this day there are cases, where it is interpreted differently. But despite some differences in the aspects of the concepts of green bonds, generally it is agreed that green bonds are the debt instrument that raises funds for the causes, one way or another related to the green economy.

On the other hand, there is a lot of evidence that green economy is directly linked to the sustainability of the economy. And there is a little or no doubt that green economy is kind of an attribute of the sustainable economy.

Furthermore, green economy is directly linked to the green investment, which is already more familiar concept in the economy. Therefore, for the investors, acquiring the green bonds, it is way of making the green investment. The emittents of green bonds use them to accumulate the needed funds for the green economy enhancement. The object of the intended funding is under scrutiny since the beginning of the issuance of green bonds. It was not clear, what the green project is or how green should the project be to pass for the funding. To address this problem, in many cases, green bonds issuers apply specific criterions. Therefore, green bonds can be treated as a debt instrument for the specific funding purposes. And, being also part of the green investing, investment in green bonds should share the same determinants as green investment. It is evident that investors base (market) is rapidly growing (Fig. 1).

Therefore, in normally cyclical economy *ceteris paribus* the market for the green bonds is growing. The rate of the green bonds market growth is already slowing down at times though. Indexes of green bonds show the same trend in the market. S&P green bond index is shown in the Fig. 2 (as the index was created in year 2014, data is backtested for the period before year 2014). It is understandable that highly rated green bonds of respectful international institutions are appealing to many investors in fixed income market. Recently, there is also increase of the green bonds, issued by the companies.

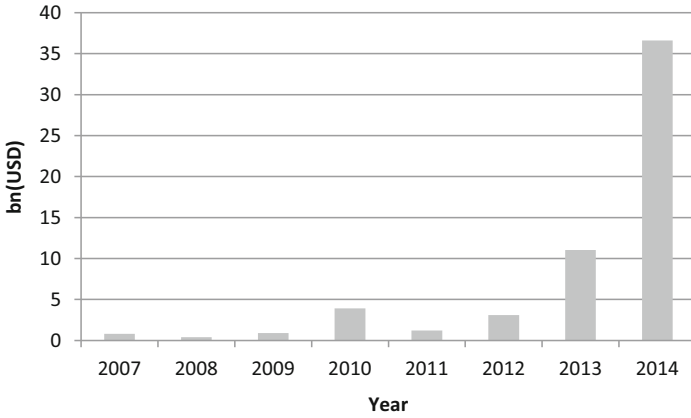


Fig. 1 Green bonds market growth, year 2007–2014. Source: Climate Bonds Initiative (2017)

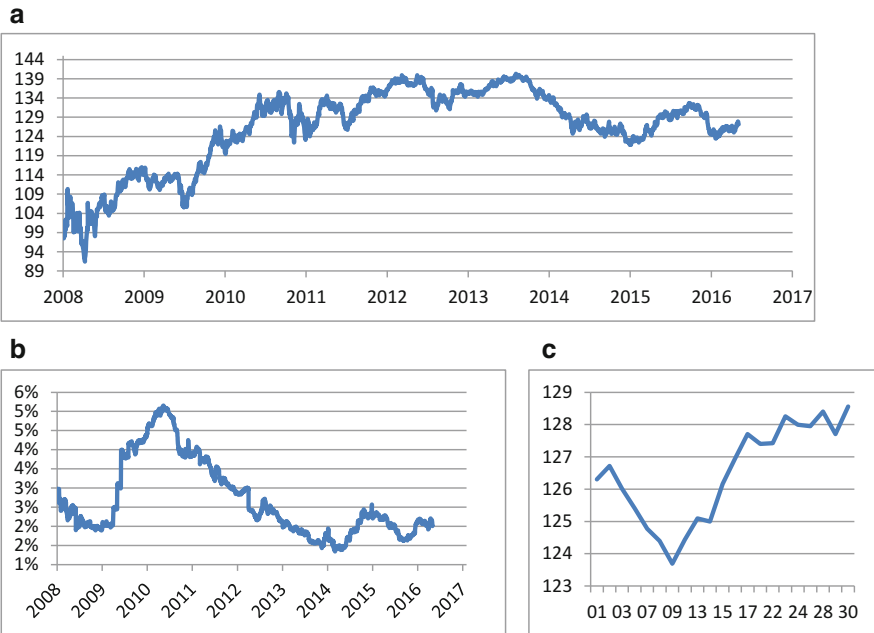


Fig. 2 S&P Green bond index for performance (a) and yield to maturity (b) (both back tested before 2014), 2008–2017 (Barclays Green Chips TR USD Index, 2017–03 (c)). Source: S&P Dow Jones Indices (2017), Barclays (2017)

3 The Perspective Impact of Green Bonds on the Economic Sustainability

Sustainability of economy does not depend only on the green growth or the green economy sustainability. But it is obvious that green investment and thus the green bonds (which also could even be referred to as green borrowing from the bond issuers' position) directly impacts the sustainability of the green economy and economy as a whole. In this paper we use the term sustainable economy to describe the general economy, not specific to any particular country, but the one, that is affected by the funds, raised by launching the green bonds.

So, there is no question if the green bonds add to the sustainability of the economy. The question is how sustainable is it as a novel tool altogether. Even best intended debt tools can be even harmful if not effective. Therefore, it is important to analyze the relatively novel debt instrument and its perspective to add to the sustainability of the economy. Obviously, the debt instrument can add to the sustainability of the economy if it has ability to attract investors and thus raise the funds. On the other hand, it is important to consider the use of the funds, raised by green borrowing. In this sense, if green borrowing stays true to the concept of green bonds (i.e. where the funds, raised by the green bonds, are used to fund the green projects), the problem of using these funds becomes not so much about the use of funds, but the criteria for the projects that can be funded. Again, the question of the greenness of the project becomes of the essence.

Because of relatively short history of green bonds, as of yet it is impossible to perform comprehensive analysis of the green bond market behavior. But, given the available data and within the research limitations, we can make conclusions on the perspectives of green bonds as a debt instrument in sustainable economy. In this paper, it is assumed that increase of demand of green bonds would have positive effect on the sustainability of the economy.

As already discussed, market of green bonds is growing relatively rapidly. Also, considering the results of researches mentioned above, the main incentives of investors in the green bonds can be grouped in the following main groups: the prestige of investing in the green economy, the reliability of the bonds (due to the high rating) and the positive effects of the growing market itself.

The prestige stimulus is likely less important to the mass market if to compare it for example with the financial incentives, such as reliability of the investment (especially in case of investment in fixed income markets) or the profit of the investment. In perfect scenario, the reliability of the investment should be also accompanied by the appealing yields. If the yields of green bonds would be lower than the non-green bond yields, *ceteris paribus* investor most likely would prefer the investment in non-green bonds. In this case, the perspective of green bonds as debt instrument would not be bright in terms of becoming important factor to the sustainability of the economy. The investors' expectations also reflect on the results of green bond markets.

Furthermore, the bond price sensitivity is one of important factors in the fixed income market. The interdependence between the price and interest rates directly affect the value of the investment. This can also cause the increase or the decrease of demand of green bonds if to compare its price volatility to the price volatility of the non-green bonds. This, in turn also affects the perspectives of green bonds as debt instrument in the sustainable economy.

Also, the beneficiaries of the funds, raised by issuing the green bonds add directly to the enduring sustainability of the economy. Therefore, in case of well performing green bonds market, the green bonds have potential to add to the sustainability to the economy.

4 Research Methodology and Results

As the history of the green bonds is relatively short, we compare performance of green bonds against the non-green bonds. Also other green bonds characteristics were compared against characteristics of the non-green bonds. Non-green bonds' performance is well documented and can be forecasted to some degree (within the applied limitations frame).

For the comparison we select green bonds and non-green bonds of the same issuer, i.e. bonds, issued by the European Investment Bank (as it is the biggest issuer of the green bonds (considering the respective market share), also issues bonds with the highest rating). The necessary data was obtained in the Bloomberg database and European Investment Bank database. The historic data was used. Green bonds related data covers period from the issue of first green bonds, i.e. from year 2007, to year 2016. Green investment related data covers period until year 2016. We have analyzed 32 investable green bonds, issued by European Investment Bank.

Due to lack of information about the floating rate green bonds (e.g. World Bank launched first 550 million USD 18 month floating rate green bond in year 2014), only fixed rate green bonds and non-green bonds were analyzed.

The determinants of the green investment were selected based on the concept of both the investment and green investment. Based on the results of the above mentioned researches, the concept of green bonds and the limitations of this research, interest rates, population, income level, production costs, economic growth (GDP and GDP growth), income level, R&D spending, etc. as they are described in the paper by Eyraud et al. 2013. For this calculation the following regression equation was used (Eyraud et al. 2013):

$$y_{it} = a_i + \sum_{k=1}^K \beta^{k*} x_{it}^k + \varepsilon_{it}, \quad (1)$$

where y denotes green investment, x —the covariates, a —country-specific fixed effects.

As this research includes also the determinants of any investment, and based on the given above reasoning of interdependence between the green bonds and green investment, within limitations of this research, we conclude that determinants of investment in green bonds are in coherence with the green investment determinants.

Variance was estimated for the assessment of the bond price volatility. Databases of Bloomberg, European Investment Bank, public official statistics and market databases were used. As the evaluation methods are common and due to the limited size of the paper, in the paper we do not show the formulas/equations that are classical, but present the main results. Example of the used data is shown in Table 1.

The following indicators were examined: ask price, ask yield to convention, spread to benchmark, interpolated spread to government curve, interpolated spread to swap curve, option adjusted spread, default swap basis, asset swap spread, also zero volatility spread. Example of the pricing is shown in Table 2.

In analysis of the value, bid price, bid yield, current bid yield, respectively also lowest and highest value, also change in basis points from average, standard deviation from average, and standard deviation from average difference to the sector were analyzed. Example of the data for the standard deviation calculation is shown in the Table 3.

Also the correlation was analyzed. The results show positive or negative correlation. Example of the correlation is shown in the Table 4.

Table 1 Sample of the green bonds, used for the analysis

Issuer name	Ticker	Issue date	Coupon	Amount issued	Maturity
European investment bank	EIB	11/19/2013	6.750	225.78MM	09/15/2017
European investment bank	EIB	09/10/2014	1.250	1.94MMM	11/13/2026
European investment bank	EIB	07/18/2013	1.375	3.93MMM	11/15/2019
European investment bank	EIB	04/13/2016	2.125	1.5MMM	04/13/2026
European investment bank	EIB	10/05/2016	0.500	560.29MM	11/13/2037
European investment bank	EIB	04/08/2014	2.250	3.01MMM	03/07/2020

Source: Bloomberg

Table 2 Sample of the analyzed indicators

Security	Price	Yield	Spread	G-Spread	I-Spread	OAS	Basis	ASW	Z-Spread
1–2 years									
EIBKOR 1 3/4 02/27/18	100.65	1.695	58.45	79.5	52.1	80.9	–38.7	50.8	51.5
EIB 7 3/4 03/12/18	99.767	7.903	–16.11	–12.6	40.8	–8.1	–10.9	22.4	22.9
2–3 years									
EIB 8 1/2 03/27/19	95.529	10.479	8.87	8.6	–98.3	–5.4	120	–97.4	–107
EIB 3 04/23/ 19	107.613	–0.198	50.04	48.1	16.9	47.4	–4.1	17	17.4
EIB 1 3/4 11/15/19	105.111	–0.355	32.96	31.9	–27.6	21.8	41.6	–28.1	–27.4

Table 3 Sample of data for standard deviation

Security	Bid price	Bid yield	Yield	Low	High	bps	SDs	S.SDs
1–2 years								
EIBKOR 1 3/4 02/27/18	99.97	1.774	1.774	1.3	2.1	0.1	0.4	–1.8
EIB 7 3/4 03/12/18	99.634	8.018	8.018	6.4	8.7	0.3	0.5	–1.5
2–3 years								
EIB 8 1/2 03/27/19	95.239	10.625	10.625			0	0	0
EIB 3 04/23/19	107.467	–0.14	–0.14	–0.2	0.7	–0.3	–1.2	–0.4
EIB 1 3/4 11/15/19	105.061	–0.338	–0.338	–0.5	0.3	–0.2	–0.9	–1.9

Table 4 Example of correlation results

Security	EIB 0 1/2 03/16/16	EIB 6 3/4 09/15/17	EIBKOR 1 3/4 02/27/18	EIB 7 3/4 03/12/18
EIBKOR 1 3/4 02/27/18	0.67	0.75	1.0	0.5
EIB 7 3/4 03/12/18	29	0.86	0.5	1.0
EIB 8 1/2 03/27/19	0.78	0.74	0.84	0.47
EIB 3 04/23/19	0.53	–0.67	–0.35	–0.52

Table 5 Sample results of standard deviation analysis

Security	EIB 0 1/2 03/16/16	EIB 6 3/4 09/15/17	EIBKOR 1 3/4 02/27/18	EIB 7 3/4 03/12/18
EIBKOR 1 3/4 02/27/18	1.9	2.48	1.0	2.07
EIB 7 3/4 03/12/18	1.98	–29	–2.07	1.0
EIB 8 1/2 03/27/19	1.13	1.19	0.85	1.14
EIB 3 04/23/19	2.12	1.92	1.43	2.17

In analysis of standard deviations, standard deviations that the spread exceeds its trailing average and those of which spread is below its trailing average were analyzed. Example of standard deviation case is shown in the Table 5.

Also, the performance of the green bonds was analyzed. The change in yields and returns was analyzed. Example of the green bond performance data is shown in the Table 6.

Respective analysis has been done using data of non-green bonds, issued by European Investment Bank. We had no means to take into calculation all the existing bond data due to the limitations of the evaluation tools used. But the used amount of the non-green bonds exceeds the green bonds amount by at least 200 times, therefore we consider the results reliable within the research limitations. Based on the results, green bonds tend to be less volatile than non-green bonds. Also, the results show that prices of green bonds and non-green bonds have tendency to fluctuate in similar trend. More detailed research would show the specifics of the difference between the

Table 6 Green bond performance data sample

Security	1mYch	3mYch	6mYch	1yYch	2yYch	1 m R	3 m R	6 m R	1y R
1–2 years									
EIBKOR 1 3/4 02/27/18	−0.398	−0.563	−0.332	0.36	0.5	−3.4	−0.72	0.885	2.025
EIB 7 3/4 03/12/18	−0.045	0.257	0.448	−0.2	−2.4	5.85	7.98	8.311	7.367
2–3 years									
EIB 8 1/2 03/27/19	−1.796	−3.542	−2.971	1.06		−14	−6.57	2.251	9.386
EIB 3 04/23/19	−0.394	−0.947	−1.285	−1.9	−2.5	−2.6	−1.23	−0.5	0.87
EIB 1 3/4 11/15/19	−0.224	−0.849	−0.905	−0.7	−0.6	−1.4	−2.03		0.623

green and non-green bonds price fluctuations. Therefore, these results are only reliable within limitations of this research. In the future researches, we intend to use different analyzing tools that would allow taking into account even bigger amount of the non-green bonds issued.

5 Conclusions

The rapid growth of green bonds market shows the increasing demand for this kind of financial instruments. This might be also effect of the new market, as the first green bond was issued only in year 2007. Being new tool for raising the funds for mostly environmental causes, it adds to the green growth of the economy.

Results of the analysis of green and non-green bonds showed, that within the construct of the research, green bonds prices and non-green bonds prices have tendency to fluctuate in the similar trend. In this sense, both markets function similarly and the sensitivity of prices depends mostly on coupon rate, time to maturity and the demand for the bonds.

Also, it is argued that green bond appeal determinants are in coherence with the determinants of green investments. For the investors, acquiring the green bonds, it is way of making the green investment. As part of the green investing, in the long run investment in green bonds should share the same determinants as green investment. Based on the research results, green bonds tend to be less volatile than non-green bonds. As all the conclusions are reliable within limitations of the research, further more detailed investigation might show somewhat different results. Considering all the research results, it is concluded that the use of green bonds has significant potential to add to the sustainability of the economy by creating value to both the investors and beneficiaries of the proceeds from the bonds.

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Comparison of Borrower Default Factors in Online Lending



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Abstract The factors describing the P2P borrower late payments and defaults are analyzed in the paper. Credit scoring and credit rating techniques are developed and used by finance institutions, but the features of online lending encourages to apply new practices in order to develop the decision support patterns for online lenders that are not professional investors. P2P platforms use credit scoring usually based on third party calculations, but they may be improved using wider soft information sources. The credit risk valuation of online borrowers is relatively new research area, where hard and soft information is used and assessed with different statistical methods, including the big data analysis. The paper aims to define the factors of online borrower late payments by systemizing the recent research findings and comparing them with results got from Lithuanian P2P platform data. The groups of factors researched are borrower and loan characteristics, borrower assessment and creditworthiness. The main findings allow to form specific propositions for lender decision support pattern suggesting the factors explaining the default: lower credit ratings and higher interest rates; greater loan amount and loan purpose for business, consolidation, home improvement and other; borrower indebtedness, employment length, age.

Keywords Credit risk · Credit score · Default · Borrower assessment · Online lending · Peer to peer lending

1 Introduction

Being a part of disruptive innovations in financial services, online lending platforms are evolving rapidly with continuous pressure to innovate, that shapes customer behaviors and business models (WEF 2015). P2P marketplace can develop

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successfully if both—borrowers and lenders—can benefit. Although delinquencies, late payments and defaults show the growing risk for lenders and the need to invest more carefully. Different strategies may be used when solving the problem: learning by doing (Freedman and Jin 2011), investing with high interest rates and/or high turnover (Serrano-Cinca et al. 2015), using social networks to keep preferences (Everett 2015). P2P lending marketplaces should also strive to help lenders make good investment decisions (Greiner and Wang 2009). Thus the environment developed by P2P platform is very important as creates incentives for certain behavior. The central is the quality information with verified content, analytical tools, social networks. It is important, as lenders in P2P market are usually not professionals, the market is new itself, and lenders a priori have less information about the borrower's willingness and ability to repay the loan. The default risk falls on lenders, usually having limited proficiency in credit risk valuation and portfolio formation. Online platforms take the role in assessment process by selecting, verifying, organizing the information, providing grade category, programs for automated decision making, possibilities to communicate (Railiene and Ivaskeviciute 2016).

Having different and constantly changing environment it is important to separate the relevant borrower default factors and to help to improve the lender's decision-making by providing additional information beside the borrower's grade category. The aim of the paper is to define the factors of online borrower late payments by systemizing the recent research findings and comparing them with results got from Lithuanian P2P platform data. The default factors researched are mostly concentrated on borrower and loan characteristics, borrower assessment and creditworthiness. The P2P platform researched has no listing text or social networks, thus the default risk valuation using informal soft information is discussed based on other research findings. The defined borrower default factors allow to form specific propositions for lender decision support pattern.

2 Theory Considerations on Borrower Default Factors

The main problem in relations of lenders and borrowers is information asymmetry with adverse selection and moral hazard problems as consequences (Chen and Han 2012; Yan et al. 2015; Emekter et al. 2015), which are even more complex in online lending. The lending decision is made relying on information provided by lending platform, thus the quality of information is important, especially having in mind that online lenders are not professionals. As found by Freedman and Jin (2008) online lending is faced with the same problem as traditional lending: higher interest rate tends to attract worse borrowers, thus credit rationing should be exercised. It's a challenge for online lender to understand and process a large amount of borrower-related information for improving the lending decision-making. There are several factors included in this process, and the most important of them are the type and quantity of information and the way of processing it. Even the traditional lending practice where the models of credit scoring are developed face a challenge to reveal

useful knowledge from large volumes of data and enforce it in lending decisions (Eletter et al. 2010). The valuation is also costly in monetary and timing terms and involves the microfinance market risks. As concluded by Serrano-Cinca et al. (2015), lending strategies in microfinance market are related either with high interest rates or with high turnover strategy. Freedman and Jin (2011) find that P2P lenders are learning and improving their decision making by doing. Although some lenders are still better informed than others, as described by inefficient markets.

Online lending is developing as innovative service and online lenders may be analyzed as active responders replying to pre-existing options offered by the platform. Online lenders as prosumers are motivated by individual and social factors and seek benefits that cannot be delivered by firms (Chandler and Chen 2015). The ability to engage service users in borrower assessment process allows to provide more accurate and reasonable information, develop informative borrower assessment models.

The major risk of online lender is a borrower's default, when the borrower either is unwilling or is not able to repay the loan. Measuring this type of risk is complex and costly, especially in case of personal lending in small amounts. The factors influencing the default may be also grouped relating to ability and willingness to repay. The ability to repay would be tested measuring the financial strength, i.e. incorporating hard data, and willingness to repay—measuring past performance, motivation, recent behavior, i.e. incorporating soft data.

Credit scoring helps to determine the financial strength of borrowers, approximate the probability of default and reduce the risk of default to an acceptable level. Credit score involves a set of variables and provides the grouping of borrowers' with similar creditworthiness characteristics. Although the cutoff point or inclusion into neighboring group is objective and includes similar borrowers into different groups. The problem is named in Freedman and Jin (2008) research, stating that the increased adverse selection is faced as actual credit score can't be observed (only the grade). The judgment on probability of default is partly made by platform assigning the credit score and suggesting the scale of interest rate. Despite that, the risk of default remains in all categories and requires more accurate information from the platform and objective decision from the lender. The additional information is especially important when screening borrowers of lower credit quality (Iyer et al. 2009). According to Iyer et al. (2009) lenders effectively use nonstandard or soft information in their screening process.

The typical credit scoring models supporting traditional judgmental methods are developed and may correctly classify loan applications (Malhotra and Malhotra 2003), but recent studies emphasize using multiple classifiers over single ones and using big data analysis (Yan et al. 2015). The credit scoring is one of the most important criteria for lenders (Chen and Han 2012; Lin et al. 2013; Guo et al. 2016), but there is limited and rear explanations on credit scoring methods and variables provided (Raiiene and Ivaskевичiute 2016). The information and reliability of credit scoring differs, as online lending companies may use the third party ratings (as FICO score in US) or calculate by themselves (Chen et al. 2014). In both cases the details of credit score or rating calculations are rarely disclosed, thus reliability depends on experience and expertise and is a subject of practical and theoretical discussions.

When defining the borrower default different factors should be analyzed. Traditional models classify borrowers by categories and use characteristics as age, income, debt to income ratios, marital status, payment history, time on a current job (Chen and Huang 2003). Kocenda and Vojtek (2009) argue education as a fundamental component of credit scoring, i.e. debtors having high level of education would default less compared to debtors with low level of education. Malhotra and Malhotra (2003) additionally include such variables as home ownership, length of time at current residence (years), credit card, the credit score. Informal or not traditional variables are related with *social capital* (Lin et al. 2013), as group membership, leadership, support by friends, and provision of *additional information in a listing*, as personal introduction, image, place of residence, description of situation, etc. The latter information is usually not verified by the platform. The summary of factors used in studies of borrower default factors are presented in Table 1.

Credit score, interest rate, annual income, debt-to-income ratio, loan purpose, housing situation, credit history, and indebtedness were found as being important default determinants (Emekter et al. 2015; Serrano-Cinca et al. 2015). In retail banking Kocenda and Vojtek (2009, pp. 21–22) defined “the most important financial and behavioral characteristics of default behavior: the amount of resources a client owns, the level of education, marital status, the purpose of the loan, and the years of having an account with the bank”. P2P loans with lower credit score and longer duration are associated with higher default rate, thus lending to highest grade borrowers would be least risky (Emekter et al. 2015). But the majority of P2P borrowers are not the highest grade representatives, thus other type of assessment is needed. Li et al. (2016) supplemented these findings by stating, that interest rates are positively related not only to default, but to prepayment risk as well, i.e. with higher interest rates borrowers face incentives to prepay loans in order to have better conditions in the future. Miller (2014) found that borrowers tend to default when economic conditions are weak, loans have shorter term, there is less time remaining

Table 1 Variables used in studies of borrower default factors

<i>Personal</i>	<i>Credit score</i>	<i>Informal</i>
Age, Gender	Grade and sub-grade	Place of residence
Marital status	<i>Assets</i>	Image placed in listing
Number of dependents		Listing text characteristics
Education		Group membership
Length of time at current residence		Leadership
Time on current job		Friend endorsements
Job position		Group size, type
		Funding by members
<i>Financial</i>	<i>Loan</i>	<i>Behavioral</i>
Net income	Amount	Past bankruptcies
Total and open credit lines	Period	Payment history
Total payment to total income	Purpose	Public records
Debt (and loan) to total income	Interest rate	Delinquencies

Source: developed by author based on the literature

to maturity, and the property is in a more volatile market. Relation of P2P borrower default with macroeconomic data is rare, but Li et al. (2016) found that improving economic conditions reduce the default (and prepayment) risk, increase in the base rate of Federal funds increase default (and repayment) risk, as cost of financing increases, and higher consumer bankruptcy rates (filings from banks) are positively correlated with P2P borrower default.

The other flow of research findings is associated with informal or not traditional information leading to different default levels. The use of soft or informal information for borrower assessment was proved by Iyer et al. (2009) and Lin et al. (2013). It may be summarized, that soft information used compensates at least partly the weakness of relationship lending absence, that online relationships and friend endorsements are associated with lower default rates. Research findings are ambiguous, as Freedman and Jin (2008) find that loans with friend endorsements have fewer missed payments and yield higher returns, but their findings also suggest that the positive signaling effect may be underestimated and negative signal not discounted. Everett (2015) finds that loans granted by relationship lenders with accurate soft information have a lower risk of default and a lower cost. But if soft information is maintained as proprietary, the hold-up problem appears, which is also driven by information asymmetries. Greiner and Wang (2009) research results suggest that social capital does not provide equal benefits to all members of P2P platform as serves better high risk borrowers helping to receive funding, thus social capital is not a good predictor of timely payments. The advantage of social networks is firstly the transparency, when verified information is provided in detail on the web (Freedman and Jin 2008; Chen and Han 2012). By researching the herding behavior Herzenstein et al. (2011) found that herding in the loan auction is followed with borrowers payments on time. Thus, fast successful lending with auctions motivates borrowers to prove their creditworthiness.

The further research of borrower default factors may be done taking the different viewpoint. P2P lending is not currently a fully efficient market and Serrano-Cinca and Gutierrez-Nieto (2016) propose profit scoring instead of credit scoring systems and develop the profit scoring Decision Support System for investing in P2P lending.

3 Methodology

Empirical research is based on online lending data from Lithuanian P2P platform "Savy" from September 2015 to October 2016. The P2P market in Lithuania is relatively young thus the period and number of cases are limited. These conditions were followed when selecting the method of statistical data analysis. The methods used for empirical research were determined by the dataset containing the continuous and binary variables. The groups of variables researched are loan characteristics and purpose, borrower, assessment (grade and sub-grade given by platform), characteristics and indebtedness (Tables 2 and 3). The initial testing of relationship between variables was done using Pearson's and point biserial correlation. In order

Table 2 Results of default variables t-test

	All (N = 912)		Not late (N = 750)		Late (N = 162)		T-test; Sig.
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
<i>Borrower assessment</i>							
Grade	2.79	0.861	2.69	0.846	3.25	0.775	56.693**
Interest rate	24.3%	6.4%	23.5%	6.0%	28.3%	6.3%	73.539**
<i>Loan characteristics</i>							
Loan amount	2274.7	1412.8	2232.3	1422.0	2471.1	1356.5	5.753*
Loan period	34.13	14.295	33.92	14.410	35.11	13.749	0.7400
<i>Borrower characteristics</i>							
Employment years	14.83	10.40	15.53	10.47	11.59	9.42	20.485**
Age	37.71	11.269	38.55	11.229	33.83	10.657	24.918**
Education	2.88	0.930	2.89	0.938	2.83	0.891	0.7030
Monthly income	795.67	591.86	802.34	600.56	764.80	550.49	1.0090
<i>Borrower indebtedness</i>							
Debt-to-income	23.1%	8.9%	22.8%	8.9%	24.5%	8.7%	5.157*
Loan to income	30.4%	21.5%	29.4%	21.1%	34.9%	22.5%	9.201**
Installment to income	18.0%	27.0%	17.5%	29.3%	20.2%	11.1%	15.474**
Credit history months	20.84	25.550	20.40	26.119	22.88	22.694	13.772**

Source: Author own calculations

**p < 0.01; *p < 0.05

Table 3 Descriptive of discrete variables and chi square results

	Late		Late and not late in the category, Chi square, Sig.	% of category in a sample
	% from all defaults	% of defaults in a category		
<i>Grade</i>	100			100
A	0.9	2.3	7.362**	4.2
B	26.8	9.6	21.821**	30.6
C	51.8	17.0	0.212	33.3
D	65.2	34.3	51.851**	20.8
<i>Loan purpose</i>	100			100
Wedding	0.0	0.0		0.5
Education	0.6	10.0	0.417	1.0
Medical	0.6	6.3	1.478	1.6
Major purchase	0.6	6.7	1.286	1.5
Car	5.6	14.8	0.405	5.9
Home improvement	4.9	7.3	9.424**	10.7
Other	6.8	8.5	8.774**	12.6
Business	6.8	33.3	5.682*	3.2
Consolidation	74.1	22.5	19.818**	51.9
<i>Gender</i>	100			100
Women	69.6	15.5	3.908*	55.2
Men	75.0	20.5		44.8

Source: Author own calculations

**p < 0.01; *p < 0.05

to test the significance of variables' association the chi-square test and t-test were performed. The variables were treated as statistically significant if $p < 0.05$.

The limitation of the research is the comparatively short period, as longer term and longitudinal survey would show the developments and errors. Having this type of data single classification methods were applied, but it would be valuable to test timing of default and use modern statistical methods. The analysis of soft information in the case researched is impossible, as no social networks are available for borrowers and lenders. These limitations highlight the main further research areas.

4 Research Findings

The results of empirical analysis allow to compare them with other research findings, supporting the view that late payments and defaults are more frequent with lower grade and higher interest rates, with interest rates being better default predictor (Tables 2 and 3). There are four grade groups in a sample with the highest grade group being the smallest. Distribution is as follows: 4.2% of A, 30.6% of B, 33.3% of C, 20.8% of D. There are 17.8% of late and defaulted loans and 82.2% of not defaulted. Late payments are more frequent in case of lower grade (mean 3.25, compared to 2.69 mean of not late ones, Table 2). The difference in interest rates is more obvious; in average interest rate was 24.3%, where not late and defaulting borrowers were assigned with 23.5% and 28.3% respectively. The difference in grade and interest rate between not late and late groups was found as statistically significant ($p < 0.01$), the difference in interest rates is even 4.8%. These findings are consistent with Serrano-Cinca et al. (2015) and Emekter et al. (2015), concluding that higher grade loan is associated with lower default risk, and that interest rate is a relevant default predictor.

The association of defaults and loan amount is ambiguous, although the present research supports the fact that defaults are more frequent with greater loan amounts. There is a statistically significant difference in defaulted and not defaulted group ($p < 0.05$), in average defaulted loans were 10.7% larger in value. Loan period in researched groups differs (average period of defaulted group is slightly longer), but was found as not statistically significant.

Borrower characteristics researched as continuous variables were found as relevant default predictors in case of employment length and age. The higher default risk is when lending to younger and having less work experience borrowers. Although it shouldn't be applied only to youth, as the average age of defaulted group borrowers is 33.83 years and average years of employment 11.6. These findings have no strong support from previous studies, as findings differ. For example, Serrano-Cinca et al. (2015) and Li et al. (2016) find no significant differences in length of employment. The education level, contrary to Kocenda and Vojtek (2009), was not proved as significant default predictor as no statistically significant differences were found, and mean value in both groups is almost equal to 2.8 (from 1 being the highest and 4 the lowest level of education). The mean value of monthly income is higher of not

defaulted group (802 Euros and 764 Euros respectively), but contrary to most of the studies no statistically significant differences were found.

The borrower indebtedness indicators researched present the statistically significant differences and the differences are as expected. The level of debt, current loan, and installments compared to income is higher in defaulted group, thus corresponding the Serrano-Cinca et al. (2015), Everett (2015), Li et al. (2016) results—the higher the indebtedness, the higher the probability of default. There is statistically significant difference in credit history, and it is important to note that not defaulted group of borrowers have in average shorter borrowing experience compared to defaulted group.

The analysis of discrete default variables supplement the findings arguing for grade as default indicator (Table 3). The relationship between grade and payments is as expected, the lower the grade the higher the percent of defaults, measured from the total sample and in a grade category. Differences between groups measured by categorical variables are statistically significant, except the C grade. In total 4 out of 9 loan purposes were found with statistically significant differences. The highest default risk is in case of small business and consolidation purposes: 66.7% and 77.5% of repayment rate in a category ($p < 0.05$). Less and least risky are home improvement and other purposes: 92.7% and 91.5% of repayment respectively ($p < 0.01$). Wedding purpose had no defaults in a sample researched, and the least risky loan purposes in a sample were medical and major purchase, but no statistically significant differences were observed.

The differences in gender groups provide interesting results, as women are defaulting less ($p < 0.05$) and constitute the larger part of the sample. There are studies researching discrimination in P2P lending based on race, age, gender, etc. Pope and Sydnor (2011) find that women are less likely to have their loan requests funded from hard information summary statistics, but if all else equal listings with a picture of a woman is more likely to fund. In recent sample researched women are funded more based on summary statistics and meet expectations as default less.

5 Conclusions

There are different P2P borrower default factors researched, extending the previously known literature on credit risk assessment by finance institutions and consumer credit providers. The feature differentiating the research environment is the transparency and public availability of data. The features of variables researched ranges from traditional financial and personal experience to loan, behavioral and informal. Despite some intense studies of default factors, there is no consensus on the most appropriate group of variables.

The results of empirical analysis support the view that late payments and defaults are more frequent with lower credit scores and higher interest rates, with interest rates being better default predictor. The association of defaults and loan amount is ambiguous, although defaults were found as more frequent with greater loan amounts, but

are not related to loan period. The borrower indebtedness indicators were found as significant default determinants, as well as particular borrower characteristics—employment length, age and gender. Loan purpose was proved as predictive default factor, with higher defaults in case of purpose for business, consolidation and lower in case of home improvement and other.

This paper contributes to the growing literature of P2P risk assessment, providing the comparison of default factors and findings that form specific propositions for lender decision support pattern.

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Pricing of the License Agreements: Improvement of the Methodology on the Basis of the Game Approach



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Abstract Dealing with practical issues concerning pricing is a topical problem of innovation commercialization and is related to controversial approaches of experts to evaluation of profits or losses when using intellectual property items and establishing “fair” amounts of payoffs under license agreements. Based on this approach, the authors created the methodology of pricing of the license agreements. In the result, authors can conclude that the game approach is developed and reviewed statistical methods and made possible to take in touch factors which are not represented explicitly, such as the preferences of constituent entities of the transaction. Obtaining a coherent assessment under conditions of incomplete and insufficiently accurate information makes it possible to justify the formation of a value chain in the process of commercialization of innovation and to assess the effectiveness of the strategy.

Keywords Pricing of the license agreements · Game approach · Innovative development

1 Introduction

The major reasons why controversies appear in terms of license agreements and the price of license concern the royalty rate and its change when it is affected by pricing variables, as well as estimated volumes of sales of innovative products, their price and net cost. The most significant contribution to the solution of problems of innovative development and strategic management of the innovation process was made by Ansoff and McDonnell (1988), Bonner et al. (2002), Mintzberg et al. (2009), Druker (2014), Copeland et al. (2005), Porter (1980), Pisano (1990) and Slywotzky et al. (2007).

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The study and solution of problems of innovative development of economy in the theoretical and methodological aspects devoted to the works of Kozlovskaya et al. (2010), Nikolova et al. (2015), Titov (2000), Antonets et al. (2009) and Glukhov et al. (2009). At the same time, despite a lot of the relevant research, issue of implementation of the corporate strategy of innovative development is not considered adequately.

In addition, one should consider that the character of the problem is connected to the need to coordinate the interrelated strategies of competing parties—a licensor and a licensee. We should refer to the following ones as methods that help tackle this problem: methods of game theory, which allows finding a strategy to ensure the optimal result for every party in a given situation. Game approach makes it possible to find a solution in a conflict situation between parties with differing interests and to accommodate these interests.

The authors have developed a technique for defining the weighted mean complex price of a license. The technique has been tested on the data related to the use of a new technology in the production of polyarothene. As a result, it can be concluded that game approaches significantly expand the studied statistic methods and allow considering indirectly the factors which are not presented explicitly, such as, for example, preferences of the bargaining parties. They also give a chance to analyze and forecast response reactions of the market. Coherent estimation, in the conditions when information is either incomplete or not reliable enough, contributes to reasonable formation of the value chain in the innovation commercialization process and allows assessing the efficiency of a strategy. Thus it makes the present research important from the scientific and practical points of view. The rest of the paper is structured as follows: first, we present proposed framework and research methodology, followed by results, and the last section outlines a conclusion.

2 Research Design and Methodology

Transfer of innovation solutions and innovation rights for them calls for defining a “reasonable” compensation, since, in case a licensee has alternative options with relatively low costs, he is not going to agree on high prices. If an intellectual property item is protected by a strong patent, embracing an important field of expertise, a licensee may agree on high rates.

In the practice of license trade, license price is an amount of payoffs a licensee makes to the licensor. In the practice of developed countries payments for the use of an intellectual property item are made under a license agreement in one of the forms which is stipulated in such an agreement. In the Russian license trade practice there are no reliable statistics about the amount of royalty in license pricing. Foreign sources are used most commonly, and it often results in their random choice. In this respect the problem of intellectual property appraisal has become nationwide, which is proven by a number of Government Decrees.

Quite a lot of scientific publications look into the major principles and approaches to setting the price of a license when the rights for the use of innovative objects (IO) are bought. Types of agreements (license contracts), studied by various authors, and payment terms are given in Table 1.

Table 1 Approaches, principles and methods for defining the price of a license

Boer (1998)	Azgal'dov and Karpova (2006)	Methodical recommendations about definition of market cost of intellectual property (2002)	Antonets et al. (2009)
<i>Principles of estimation</i>			
<ol style="list-style-type: none"> 1. One-off payment (lump sum payment) 2. Minimum annual payment 3. Shares from value added 4. Regular payments on a share of annual sales 5. Combination of approaches 1, 2 and 4 	<ol style="list-style-type: none"> 1. In a form of royalty 2. Lump sum payment 3. Combination 1 and 2 	<ol style="list-style-type: none"> 1. Cost approach 2. Original cost method 3. Reproduction cost method 4. Replacement cost method 5. Sales comparison approach 6. Income approach <ol style="list-style-type: none"> a. segregation of the cash flow created by an intangible asset (IA) b. projection of future cash flows 	<ol style="list-style-type: none"> 1. Royalty from sales 2. Lump sum payment 3. Combination 1 and 2
<i>Basis for calculation</i>			
<ol style="list-style-type: none"> 1. Share of annual sales 2. Value added of the created innovations 3. Annual profit on the deal (placements + investments in R&D + (RIOC – WACC) + license fee 	<ol style="list-style-type: none"> 1. Volume of sales (gross revenue) 2. Net earnings 3. Price of a product unit 4. Additional profit from the use of an IPI 5. Net cost 6. Licensee's production profitability <p><i>Calculation methods</i></p> <ol style="list-style-type: none"> 1. Use of standard rates 2. Comparison to analogues under the concluded deals 3. Method for analysis of the deals previously concluded by the licensor 		<ol style="list-style-type: none"> 1. Cost of the products sold under license (royalty 5%) 2. Profit and proportions of its distribution (25–35%) <p>For know-how 20–40% of costs of patent licenses</p>

According to the data in Table 1, the main methods for calculating the price of a license are:

- Method when standard royalty rates are used with the correction according to price-forming variables;
- Method of comparison with analogues under the previously concluded deals;
- One-off payment (lump sum);
- Guaranteed minimum payments (lump sum);
- Combined ones

The most common approaches to appraisal include royalty, lump sum payment, combined ones.

The volume of sales, price of a product unit, additional profits obtained from the use of IO, and the net costs of products are used as a basis for calculation. Thus, selection of a basis for calculation is not clearly defined. In a number of cases royalty rates are used, which fall into industrial branches and are seen as standard average. Since there are no average statistics on standard rates in the Russian practice of license trade, it is recommended to use royalty rates from foreign sources, but given the changes caused by pricing variables. The amount of average “standard” rates can be from 0.5 to 14%. As we can see the range varies quite a lot, which does not allow approaching reasonably the estimation of royalty rates and, consequently, the price of a license.

Royalty as a minimal acceptable fee must cover the licensor’s costs related to the preparation of an agreement on IPI transfer. If there is need for staff training, further research, participation in the launch of a license object, etc. the licensor should include these expenses in the minimal fee. Royalty rate must also compensate lost profits due to the appearance of a competitor in the market represented by the licensee.

One of the payment methods under a license agreement is a lump sum payment. It is used rather infrequently and connected to such factors as operations with a firm relatively unknown in the market, doubts if successful assimilation and launch of the license product is possible, complexity of control over the volumes of output and the licensor’s doubts in the licensee’s actual intentions in relation to the assimilation of the license product, in cases, when the licensee strives to “take away” the innovation from a competitor. Also a lump sum payment is calculated when the amount of royalty cannot be estimated effectively.

There are two options in the practice of license pricing in a form of a lump sum payment: one-time lump sum payment and periodical lump sum payments (for example, annual ones).

The frequency of lump sum payments can be accommodated with the stages of IO assimilation. For example, 10–15% is paid when the license agreement is signed, 15–20% is paid after the technology is assimilated, and 65–75% is paid after the first year of product output is over Antonets et al. (2009).

It should be noted that a lump sum payment can be seen only as a procedure which does not solve the problem of sound determination of the license price. Royalty is most often the basis for calculating the amounts of lump sum payments. In case of this form of payment, the licensor strives to get an amount of payments ensuring that his income by a deposit account is not lower than the amount calculated on the basis of royalty.

If the licensor finds it unprofitable to confine himself to a lump sum payment only, especially with a considerable growth in the output of the product manufactured under the license, then a combined calculation method is used, when the one-off lump sum payment is supplemented with royalty payments. In this case the lump sum payment can be seen as an advance payment and can amount to, by various estimates, between 10 and 30% from the calculated price of the license.

Given that in case of a lump sum payment the licensee acts as a lender (advance payment) and the licensor acts as a borrower, for the licensee it is advantageous to reduce the estimated price down to such a value that the difference between the royalty and the lump sum payment is equal to the cost of a loan.

If the above is summarized, the following major ways for calculating the price of a license can be defined:

1. Based on the established annual percentage deductions (royalty) per product unit given the quantity of the sold products, license period, pricing variables:

$$Dl = \sum_{t=1}^T \frac{D_t * q_t * \frac{P_t}{100} * \left(1 + \sum_{i=1}^n Kdf_i\right)}{(1+r)^t}, \tag{1}$$

where Cl—price of a licensed product unit in year t, RUR/pc.

q_t —quantity of products sold in year t, pcs. $t = \overline{1, T}$

D_t —standard royalty rate in the t-th year, % of a product unit

Kdf_i —correction coefficient of P_t by the i-th pricing variable, $i = 1, n$

n —number of considered pricing variables

T —license period, years

r —discount rate.

2. Based on percentage deductions (royalty) from the volume of sales given the license period and pricing variables

$$Dl = \sum_{t=1}^T \frac{Q_t * \frac{P_t}{100} * \left(1 + \sum_{i=1}^n Kdf_i\right)}{(1+r)^t}, \tag{2}$$

where Q_t —volume of sold products in year t, RUR.

3. Based on percentage deductions (royalty) from profits given the quantity of sold products, license period and pricing variables

$$DI = \sum_{t=1}^T \frac{(D_t - C_t) * q_t * \frac{P_t}{100} * \left(1 + \sum_{i=1}^n Kdf_i\right)}{(1+r)^t} \quad (3)$$

where C_t —net cost of a licensed product unit in year t .

Thus, the royalty rate and its change affected by pricing variables, the projected volume of sold innovative products, their price and net cost are to be considered as the main reason for difficulties occurring when a license agreement is signed and the price of a license is set.

Furthermore, it should be considered that the nature of the problem is related to the need to coordinate the interdependent strategies of the competing subjects—the licensor and the licensee. Among the methods which allow solving this problem one should mention the methods of game theory, which make it possible to find a strategy ensuring the optimal result for each of the parties in whichever situation.

The specifics of the license market concern the fact that in case there are several interested buyers, tenders are held. As a result no unambiguous estimation of the value may be achieved. In addition, one should remember that costs and value are not synonyms, i.e. costs only reflect the proven fact as applied to production, whereas if innovation and a license related to it are evaluated, it is important to track the value chain from the licensor to the consumer—licensee. Game approach allows finding a solution in a conflict situation between parties with different interests and ensuring accommodation of the latter.

Conflict solving depends on the decisions taken by each participant, so the behavior of every participant in a conflict, if it is reasonable, must consider the possible behavior of all the participants. In a conflict situation it is common that none of its participants knows what decisions other participants take and, consequently, every participant makes a decision in the conditions of uncertainty. In the context of the problem that we are seeing into, game is an action or a formal conflict with at least two participants—licensee and licensor—each of them trying to achieve their own objectives.

The mathematical apparatus of game theory allows finding a solution that would ensure the best accommodation of the parties' interests. At this, the following main concepts are used:

- if there are several conflicting parties (individuals) and each one takes a certain decision, defined by a given set of rules, and each individual is aware of the possible final condition of the conflict with payments predefined for each of the parties, they say that there is a game;
- unambiguous description of players' selection in every possible situation where a personal move is to be taken is called the “player's strategy”. Strategies may concern substantiation of price, volume of sales, costs etc.

- for every player there is a set of strategies S_i , $i = 1, 2, \dots, N$. The set of strategies selected by every player defines the profile of a strategy or a situation. For player i in every situation S_{ij} a certain number (W_i) is accredited, which expresses the degree to which his interests are satisfied in this situation. This number is called “payment”. Payments may be expressed in standard “utils”, material assets or monetary units;
- in a game situation, not only the way in which a player is going to act is defined, but also a plan of actions or a complex of measures is set. This is reflected in the matrix of strategies (payoff matrix);
- in a game a certain correspondence must be set between the profile of strategies and payment of the player i . Such a correspondence is called a payoff function (or gain function) of player i [$P_i(S)$]. Thus, there is its own payoff function for every player.

There are concepts of pure and mixed strategy. The set of strategies predetermined for every player is called pure strategies. They give a complete certainty over the options for action a player has and the result of every possible option. It is believed that a game is solved in pure strategies, if the players choose one strategy out of a set of pure strategies and would select these strategies whenever the game is played again.

A strategy is called mixed if it represents a set of pure strategies selected randomly with some probabilities. I.e. a player’s mixed strategy is a probable combination of his pure strategies or a combination of the “weights” of his net strategies. The sum of the vector components of the mixed strategy equals one and the components are positive numbers. A player’s strategy is called optimal if, in case of multiple repetition of the game, it ensures the player the largest possible average gain (loss).

According to the major theorem of matrix games (the Stone–von Neumann theorem) any matrix game has a solution in mixed strategies. The solution to the game implies defining the optimal strategies and the value of the game. The value of the game shows which gain player 1 can guarantee to himself under the possible actions of player 2. It is defined as a mathematical expected value of the payoff matrix in case of various strategies. It should be considered that in game tasks, uncertainty is a principally significant fact, which is not connected to the players’ conscious, purposeful counteraction. It can be generated owing to various reasons.

As applied to the problem of license pricing, it can be due to the following causes: presence of different pricing variables, uncertainty of the demand in the innovative product market, ambiguity of the estimated profits in case IO are introduced, a licensee’s unpredictable behavior in terms of launching the new innovative product in the market, lack of the justified rates of deduction amounts.

In the process of game-solving (defining the price of a license) we use the following theorem: if one of the players accepts an optimal mixed strategy, then his gain is equal to the value of the game “V” independently on how frequently the second player will apply optimal strategies (including pure strategies).

The pay-off matrix, which reflects the players' interests (their strategies) in license pricing while coming into a license agreement, is as follows:

$$A = (A_{ij}) = \begin{pmatrix} A_1 & 0 & \dots & 0 \\ 0 & A_2 & \dots & 0 \\ \dots & \dots & \dots & \dots \\ 0 & 0 & \dots & A_n \end{pmatrix}, \quad (4)$$

where A_i is the price of the license calculated by the i -th method considering various variables,

A_{ij} is the gain of player 1 in the situation (ij) (being at the same time the loss of player 2).

Zeros outside the main diagonal mean, in this case, that opposite strategies cannot be chosen.

This task does not have a saddle point, i.e. the lowest value of the game $\alpha = \max_i \min_j A_{ij} = 0$, and the top value of the game $\beta = \min_j \max_i A_{ij} > 0$. But, as any matrix game, according to the Stone–von Neumann theorem, it has an equilibrium point in mixed strategies. The task to accommodate the results of the defined license price (solution of the game) is reduced to searching for the value of the game and the usage rate factors of the evaluation methods (optimal mixed strategies) and, based on them, defining a complex (weighted) estimate of the license.

Optimal strategies, defining the usage rate of evaluation methods may be found on the assumption of the conditions: player 1, sticking to his optimal strategy will get, on average, gains, which must be equal to the value of game:

$$\begin{cases} A_1 I_1 = V \\ A_2 I_2 = V \\ \dots \\ A_n I_n = V \end{cases}, \quad (5)$$

V —value of the game,

I_i —usage rate of the i -th method of license pricing.

Hence

$$\begin{cases} I_1 = \frac{V}{A_1} \\ I_2 = \frac{V}{A_2} \\ \dots \\ I_n = \frac{V}{A_n} \end{cases}. \quad (6)$$

Putting together these equations we shall obtain:

$$I_1 + I_2 + \dots + I_n = V \left(\frac{1}{A_1} + \frac{1}{A_2} + \dots + \frac{1}{A_n} \right). \tag{7}$$

Since according to the condition $I_1 + I_2 + \dots + I_n = 1$ we shall obtain

$$V = \frac{1}{\frac{1}{A_1} + \frac{1}{A_2} + \dots + \frac{1}{A_n}} = \frac{1}{\sum_{i=1}^n \frac{1}{A_i}}. \tag{8}$$

Then

$$I_i^* = \frac{1}{A_i \sum_{i=1}^n \frac{1}{A_i}} \tag{9}$$

Parallel arguments result in finding an optimal strategy for player 2

$$Z_j^* = \frac{1}{A_j \sum_{j=1}^n \frac{1}{A_j}}, \tag{10}$$

Where $j = \overline{1, n}$

The obtained values $I_i^*, i = \overline{1, n}$ allow us to define the complex evaluation of the license price by formula:

$$I_l = \sum_{i=1}^n A_i I_i^*. \tag{11}$$

Positive values of all the components of the optimal strategies of the first ($I_i > 0$) and second ($Z_j > 0$) players means that the examined game is quite mixed (the assembly of optimal strategies coincides with the entire set of strategies) and has a single equilibrium point.

3 Result

The license price has been calculated given game approach on the data in Bonner et al. (2002) connected with the use of a new technology in the production of polyarothene. The value of the license agreement is determined by the royalty rate, set with the use of standard rates for the chemical industry given the pricing

variables, which include the following ones: the technology is patented, but not tried; license is granted for 10 years, during this period the volume of production is expected to grow and, correspondingly, its profitability should change. Given the above variables royalty rates are defined in the amount of 5, 3, 7%, according to which the variants of the license price have been calculated.

The pay-off matrix is as follows:

$$A_{ij} = \begin{pmatrix} 32.3 & 0 & 0 \\ 0 & 19.4 & 0 \\ 0 & 0 & 45.2 \end{pmatrix}$$

Where the elements of the pay-off matrix are equal to the price of the license. According to formula (1) the game value is defined from the ratios:

$$\begin{cases} 32.3 * I_1 \\ 19.4 * I_2 \\ 45.2 * I_3 \end{cases}$$

Where $I_1 + I_2 + I_3 = 1$, hence

$$\begin{cases} I_1 = \frac{V}{32.3} \\ I_2 = \frac{V}{19.4} \\ I_3 = \frac{V}{45.2} \end{cases}$$

Let us define the game value based on the represented ratios:

$$\begin{cases} I_1 = \frac{V}{32.3} \\ I_2 = \frac{V}{19.4} \\ I_3 = \frac{V}{45.2} \end{cases}$$

The game value equals:

$$\begin{aligned} 32.3 * (1 - I_2 - I_3) &= V \\ 32.3 - \frac{32.3 * V}{19.4} - \frac{32.3 * V}{45.2} &= V \\ 32.3 &= V + 1.665 * V + 0.715 * V \\ V &= \frac{32.3}{3.38} = 9.556 \end{aligned}$$

Let us define the usage rate of the methods:

$$I_1^* = \frac{9.556}{32.3} = 0.296$$

$$I_2^* = \frac{9.556}{19.4} = 0.493$$

$$I_3^* = \frac{9.556}{45.2} = 0.211$$

Thus, using the proposed method it is possible to calculate the average price of a license (in this example it is 28,665 billion RUR, which can be used as a base by the seller by setting the license agreement. So it is the solution of actual problems of innovation commercialization.

4 Conclusions

The transition to new technological paradigms not only empowers enterprises, but also the range of scientific and technical proposals in the innovation process. This has led to the emergence of the pricing problem in the field of innovation. This is due to the ambiguous approach to the assessment of benefit or damage of intellectual property and to the justification of “fair” payments under the license agreements. The main causes of disagreement at the conclusion of the license agreement is the justification of a royalty rate and its changes under the influence of pricing factors and predictive estimates of sales of innovation products, its prices, and cost. Furthermore this problem is associated with reconciling interdependent strategies of competing entities—the licensor and licensee.

In the result of our research, we can conclude that the game approach is developed and reviewed statistical methods and made possible to take in touch factors which are not represented explicitly, such as the preferences of constituent entities of the transaction. Thus, the proposed method contributes to the development of effective tools to put fair price for R&D. Obtaining a coherent assessment under conditions of incomplete and insufficiently accurate information makes it possible to justify the formation of a value chain in the process of commercialization of innovation and to assess the effectiveness of the strategy.

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Part IV
Industrial and Public Policy

The Impact of Global Economic Crisis on the Functioning of Special Economic Zones in Poland



Katarzyna Przybyła and Alina Kulczyk-Dynowska

Abstract The article attempts to determine the impact exerted by the global economic crisis on the efficiency of selected Special Economic Zones (SEZ) functioning in Poland. The research covered four SEZ functioning in Polish northern and north-southern macro-regions (NTS 1). The article analyses changes in such dimensions as e.g. the number of valid permits to perform economic activities in the discussed zones, investment expenditure incurred by entrepreneurs or employment size. The study covered the period 2005–2015. The conducted research allowed concluding that the phenomena related to global downturn, even though somewhat delayed, were present in the aforementioned zones. More serious symptoms could have been observed in 2008, whereas the years 2009–2012 turned out to be the critical ones. As it seems, starting from 2013 certain symptoms of the situation improvement could be observed, predominantly within the scope of investment expenditure incurred by businesses.

Keywords Economic crisis · Special economic zones · Poland

1 Introduction

The characteristic feature of contemporary economy is its global nature along with the strong dependencies occurring between the economies of particular countries. Free flow of production factors, primarily capital, can result in the gradual transfer of both positive and negative phenomena between them. The economic crisis initiated in 2007, resulting from the pathological situation on the real estate market in USA, augmented by the bankruptcy of Lehmann Brothers investment bank in 2008 was gradually spreading over the economies of the majority of countries worldwide.

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Table 1 Indices of gross domestic product (constant prices, previous year = 100)

Regions/Country	2000	2005	2008	2009	2010	2011	2012	2013	2014
World	104.2	103.5	103.1	100.0	104.1	103.0	102.4	102.5	102.6 ^a
EU	103.9	102.2	100.7	95.7	102.0	101.8	99.6	100.1	101.4
Poland	104.2	103.2	103.9	102.6	103.7	104.8	101.8	101.7	103.4 ^b

Source: Ministry of Economy (2015)

^aIMF estimates

^bGDP in Poland in 2015 against the previous year increased by 3.6%

The situation of Polish economy, at the background of both the Euro zone countries and the countries in the region, remained relatively good. The crisis related phenomena, which reached Poland with some delay, were not accompanied by rapid market adjustments in either the business sector or the household one (Department of Analyses and Forecasting 2011). However, taking an objective approach to the problem the slowdown of economic development processes was observed and in simple terms, manifested by e.g. GDP change dynamics (Table 1).

The purpose of the article is an attempt to determine the impact exerted by the global economic crisis on the efficiency of the selected SEZ functioning in Poland. The presented discussion is the continuation of research presented in previous studies conducted by the author (Przybyła 2014, 2015).

Special Economic Zones function based on the Law on special economic zones dated 20th October 1994 with later amendments. It can be assumed that SEZ represent one of the regional policy instruments aimed at attracting capital for the purposes of economic activation of the selected areas and thus their economic development stimulation (see Kiryło 2000; Kryńska 2000). By means of creating favorable conditions for investors they result in the improvement of economic competitiveness (see Liu 2002; Przybyła and Kulczyk-Dynowska 2012) and affect important social, diversified in spatial perspective, factors (see Zhao et al. 2010; Kazak and Pilawka 2013; Świader et al. 2016).

Currently 14 economic zones are functioning in Poland, which are present in the form of subzones in all Polish regions. They are as follows: Kamienna Góra SEZ for Medium Business, Katowice SEZ, Kostrzyn-Slubice SEZ, Krakowska SEZ Krakow Technology Park, SEZ Legnica, Lodz SEZ, Mielec SEZ Euro-Park Mielec, Pomeranian SEZ, Słupsk SEZ, Starachowice SEZ, Suwałki SEZ, Tarnobrzeg SEZ Euro-Park Wisłosan, Wałbrzych SEZ Invest-Park, Warmia and Mazury SEZ.

The article discusses changes in such dimensions as e.g. the number of valid permits to perform economic activities, investment expenditure incurred by entrepreneurs or employment size in four SEZ, the headquarters of which are seated in northern and north-southern macro-regions of Poland. The northern region covers the following provinces: Kuyavian-Pomeranian, Pomeranian and Varmian-Masurian. Three SEZ are located in this region—Pomeranian SEZ and Słupsk SEZ (Pomeranian Province) as well as Varmian-Masurian SEZ (Varmian-Masurian Province). In the north-western region covering Lubusz, Wielkopolska and West Pomeranian provinces only one SEZ is located, i.e. Kostrzyn-Slubice SEZ (Lubusz Province).

2 The Effects of SEZ Functioning in the Conditions of Economic Crisis

Entrepreneurs planning to run a business in the area of SEZ and wishing to obtain the State aid should apply for an adequate permit. After consulting the zone management the minister responsible for economy issues such permit, which specifies e.g. the business category and the conditions regarding the required employment size and investment value.

The analysis of the number of valid permits (Fig. 1), its change dynamics (Table 2) and the number of permits issued in particular years (Fig. 2) allow concluding that the first symptoms of economic prosperity downturn could be observed in the discussed zones already at the end of 2007. It mainly refers to Kostrzyn-Slubice SEZ (Fig. 2). The period 2001–2010 was characterized by a decline or a relatively low growth dynamics of the analyzed parameters in all studied zones, and the downturn primarily affected Kostrzyn-Slubice SEZ and Słupsk SEZ. 2011 brought about some improvement of the situation, but unfortunately in the years to follow the total number of valid permits declined in both Słupsk SEZ and Warmia and Mazury SEZ (Fig. 1). Additionally, the number of issued permits in 2012 was also lower than the year before in Kostrzyn-Slubice SEZ (Fig. 2). 2013 represented the period of stability and some situation improvement in terms of the analyzed parameters in all zones. The years 2014–2015 were characterized by the continuation of this tendency, however, it should be noticed that the total dynamics increase in the number of issued permits for 2015 was lower than in the previous years, which was the immediate consequence of a relatively low number of the new permits issued.

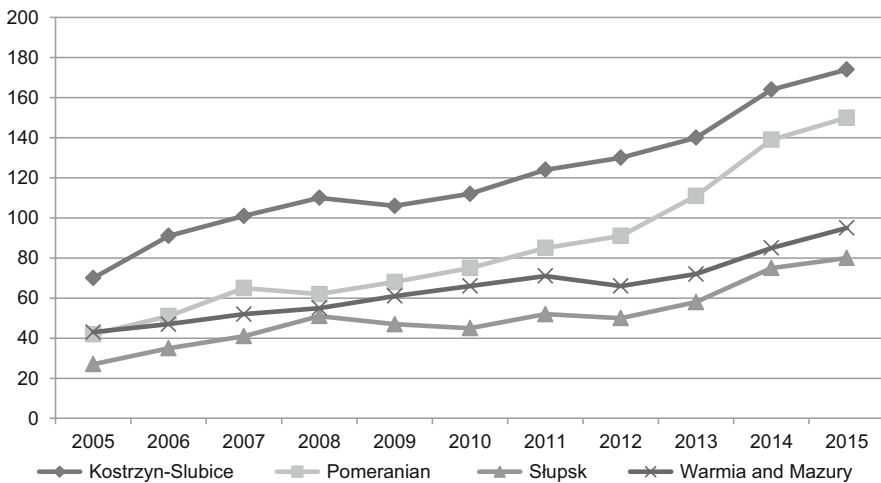
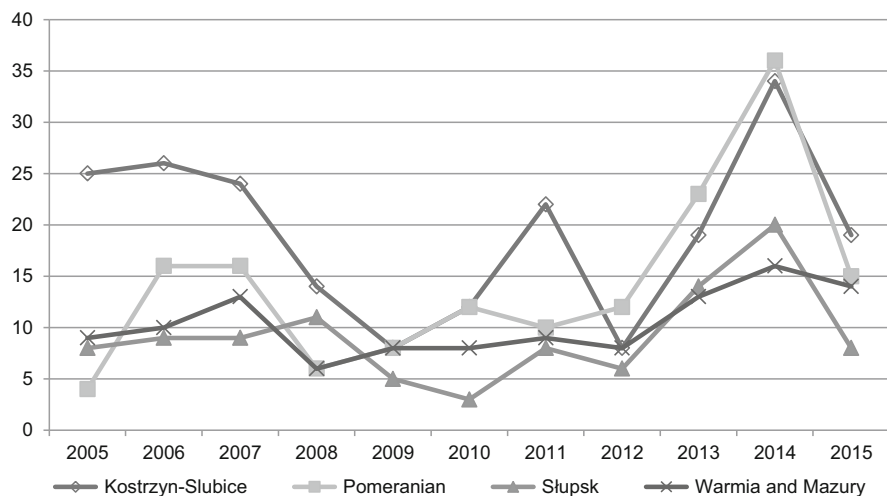


Fig. 1 Total number of valid permits (year by date) in the years 2005–2015. Source: Author’s compilation based on Ministry of Economy (2008, 2011, 2014, 2016)

Table 2 The dynamics of changes in the total number of valid permits in the years 2005–2015 (previous year = 100)

Year/SEZ	Kostrzyn-Slubice	Pomeranian	Slupsk	Warmia and Mazury
2005	140	89.4	128.6	110.3
2006	130	121.4	129.6	109.3
2007	111	127.5	117.1	110.6
2008	108.9	95.4	124.4	105.8
2009	96.4	109.7	92.2	110.9
2010	105.7	110.3	95.7	108.2
2011	110.7	113.3	115.6	107.6
2012	104.8	107.1	96.2	93
2013	107.7	122	116	109.1
2014	117.1	125.2	129.3	118.1
2015	106.1	107.9	106.7	111.8

Source: Author's compilation based on Ministry of Economy (2007, 2008, 2011, 2014, 2016)

**Fig. 2** The number of permits issued in SEZ in the particular years 2005–2015. Source: Author's compilation based on Ministry of Economy (2008, 2011, 2014, 2016)

The investment expenditure, measured by face value, incurred by the entrepreneurs who located their businesses in the area of SEZ, was steadily increasing. The only exception was Warmia and Mazury SEZ in 2012 when the outlays amounted to 93.2%, as compared to the previous year.

Table 3 Total investment expenditure in fixed prices from 2004 (million PLN)

Year/SEZ	Kostrzyn-Slubice	Pomeranian	Slupsk	Warmia and Mazury
2005	1017.9	1399.4	132.8	584.9
2006	1454.8	1678.2	501.6	1526
2007	2318.3	2505.9	582.6	1899.4
2008	2837.4	3361	661.3	2217.7
2009	2923.6	5184.6	674.7	2314
2010	3237.3	5752	823.9	2593.6
2011	3455.7	5983.4	907.1	2728.9
2012	3730.4	5781.6	929.9	2453
2013	4161.8	6159.8	965.1	2588.4
2014	4591.3	7101.9	1084.0	2889.1
2015	5000.5	8400.5	1179.6	3337.0

Source: Author's compilation based on Ministry of Economy (2008, 2011, 2014, 2016)

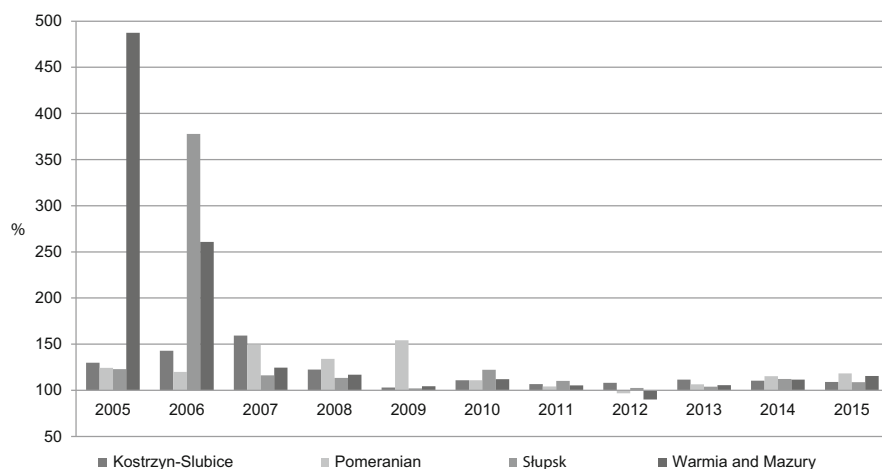


Fig. 3 The dynamics of investment expenditure in SEZ (previous year = 100). Source: Author's compilation based on Ministry of Economy (2007, 2008, 2011, 2014, 2016)

The analysis of actual investment expenditure (Table 3), taking into account the inflation rate in Poland¹ as well as the analysis of this parameter dynamics (Fig. 3), allows observing that the period 2009–2013 was significantly worse for all SEZ. In 2009 the increase in investments was much slower than in the previous years, even though it was noticeable that the downturn trend reached Pomeranian SEZ somewhat delayed. This phenomenon was advancing in 2012 when Pomeranian SEZ and

¹Central Statistical Office data about the inflation rate in Poland: 2005—2.1%, 2006—1%, 2007—2.5%, 2008—4.2%, 2009—3.5%, 2010—2.6%, 2011—4.3%, 2012—3.7%, 2013—0.9%, 2014—0.0%, 2015—0.9%.

Warmia and Mazury SEZ recorded a decline in the values of the actually carried out investments below the level of 2011. Some symptoms of the situation improvement in the discussed zones were recorded already in 2013, whereas the period 2014–2015 brought about a noticeable improvement in this matter. It should be emphasized that in spite of significant fluctuations in the dynamics the real investments in Kostrzyn-Slubice SEZ and Słupsk SEZ were presenting a continuously increasing tendency in the entire analyzed time range.

As it has already been mentioned the purpose of SEZ establishment was to accelerate economic development of the selected areas. In Art. 3, point 6 of the Law on SEZ the legislator provided that this goal can be achieved by e.g. opening new jobs. Having considered the fact that subzones are usually established in the areas where unemployment rate remains relatively high, this aspect of their functioning should be regarded as important. The analysis of employment size generated in the years 2005–2013 by the studies SEZ (Table 4) and the dynamics of this parameter changes (Fig. 4) allows concluding that after 2008 (and already in 2008 in case of Pomeranian SEZ and Warmia and Mazury SEZ) the situation deterioration was observed in this particular area in the discussed SEZ. The period 2009–2013 was characterized by the decline or a relatively low growth dynamics of the analyzed parameter in all studied zones. It was particularly visible in case of Pomeranian SEZ where the total employment after 2010 was continuously decreasing. After the significantly better 2014 the situation continued to improve in three SEZ and this trend also covered 2015, however, in case of Słupsk SEZ it was worse (the loss of over 250, i.e. 6.9%, jobs). It should be noticed that in the scale of fourteen SEZ functioning in Poland in 2015 the employment rate declined in three SEZ only: Mielec, Tarnobrzeg and Słupsk SEZ.

It is interesting that in Warmia and Mazury SEZ, in spite of an occasionally low growth dynamics, the total employment was continuously increasing in the entire period covered by the study.

Table 4 Total employment (year by date) in the years 2005–2015

Year/SSE	Kostrzyn-Slubice	Pomeranian	Słupsk	Warmia and Mazury
2005	7241	10,152	1541	5960
2006	10,075	12,013	1926	7206
2007	12,891	17,493	2180	8415
2008	16,446	17,545	2728	8933
2009	15,601	19,013	2383	9799
2010	17,252	19,275	2683	10,558
2011	19,089	18,812	3390	12,135
2012	20,144	15,536	3632	12,616
2013	22,630	15,394	3515	13,063
2014	28,157	17,709	3656	14,995
2015	30,907	19,654	3403	17,355

Source: Author's compilation based on Ministry of Economy (2008, 2011, 2014, 2015)

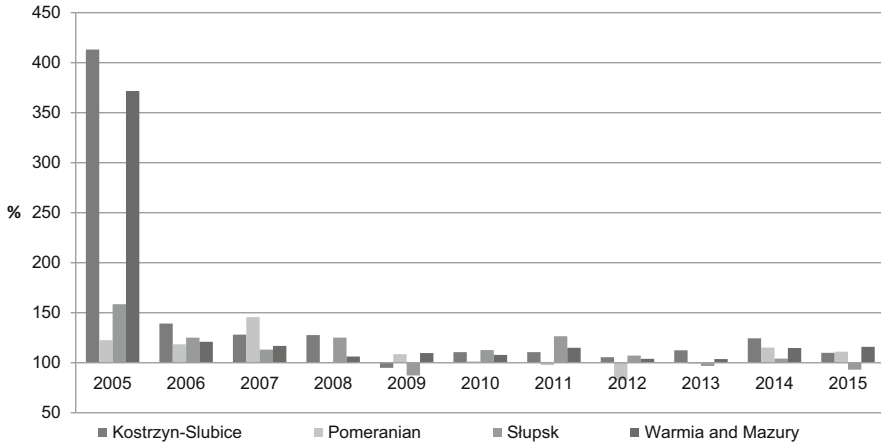


Fig. 4 Total employment dynamics (previous year = 100). Source: Author’s compilation based on Ministry of Economy (2007, 2008, 2011, 2014, 2016)

3 Conclusion

The share of Polish capital invested in SEZ in Poland in 2015 presented the level of 19.8%, which amounted to 22.1 billion PLN of investment expenditure. Simultaneously, the total capital investment of 15 largest investors at the end of 2015 reached almost 26.9 billion PLN, which was 24.1% total value of the investments carried out in the zones. The leading investors came from outside Poland (Ministry of Economy 2016). Such situation persisted for a long time. Due to the fact that foreign capital businesses have been primarily investing in SEZ transferring the consequences of the global economic crisis to Poland seems inevitable.

The phenomena related to global downturn appeared in the analyzed zones with some delay—more serious symptoms were observed in 2008, but the period 2009–2012 was critical. As it seems, starting from 2013 certain symptoms of the situation improvement have been observed, predominantly in the area of investment expenditure incurred by business. It confirms the positive evaluation given by entrepreneurs to the occurring economic changes and should, in the course of time, become reflected in employment size in the zones. Additionally, the previously carried out research illustrated that similar tendencies were observed in other Polish SEZ in terms of the analyzed phenomena (see Przybyła 2014). Concerns are raised by the smaller number of permits issued in 2015 in all SEZ in Poland—comparing to 2014 their number was lower by 50% (Ministry of Economy 2016). To some extent, it results from the fact that in accordance with the legislation in force SEZ are supposed to function till 2026, which in case of some investments could mean insufficient time span to use all the State aid available to entrepreneurs. It should, however, be emphasized that the time range for SEZ functioning was extended several times before and it was also suggested that they should carry on functioning

for an indefinite period of time. It seems that the continuation of SEZ functioning in Poland depends, to the same extent, on political and socio-economic factors (see Przybyła and Kulczyk-Dynowska 2012).

The particular zones showed varying degrees of resistance to negative consequences of the global crisis. It can result from their location, the size of particular zones, their development level and the infrastructure at their disposal. Moreover, such factors as involvement and creativity of local authorities in the particular zones as well as SEZ managing boards were also of significant importance (Przybyła 2014).

In spite of the negative downturn effects, described in the article, it should be emphasized that in the entire analyzed period the zones also experienced phenomena confirming the development and increasing SEZ importance for Polish economy. The total numbers of important permits issued in 2015 were much higher than in 2004, in case of the least developed in this matter Warmia and Mazury SEZ by 52 permits. The total incurred investment expenditure in fixed prices from 2004 in Kostrzyn-Slubice SEZ were almost five times higher against 2005, in Pomeranian and Warmia and Mazury SEZ about six times, whereas in Słupsk SEZ almost nine times higher. The total employment also presented a significant increase in all SEZ in the analyzed period of time. Therefore, it can be concluded that during the entire analyzed period the development of SEZ was advancing, however, as a result of the global economic crisis it did experience a slowdown.

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Analysis of Spillover Effects of Crisis in Conflict-Ridden Regions on Top Tourism Destinations



Elimdar Bayramov and Harun Ercan

Abstract Different studies on tourism showed that negative cases in the region have a significant negative impact on the tourism industry of that region. Consequently, it may also have positive or negative spillover effects on other regions and tourist destinations. The consequences of the Arab Spring uprising started at the end of 2010 had a negative impact on the tourism industry in the Middle East following the shocks of 2008 financial crisis. The aim of this article is to analyze the spillover effects of the crisis in conflict-ridden areas on top tourist destinations and provide a descriptive analysis of the tourism indicators over the period from 2005 to 2015. The data of main tourism indicator of the world's top tourist destinations was used to present the annual percentage growth rates for illustrating the effects spillover from the period of conflicts. The results show that there is similar growth rate pattern of top tourist destinations and linear trend after the conflicts started. We also used the cluster analysis to illustrate if the spillover effect patterns depend on the distance from the conflict-ridden regions.

Keywords Top tourism destinations · Conflict-ridden areas · Arab spring · Spillover effects · Tourism growth trends · Descriptive analysis

1 Introduction

The vulnerability of tourism industry to different conflicts and crises can be exposed by their growing effect on tourism numbers. However, only a few research has been conducted on the impact of conflicts to the tourism industry (Ritchie 2004). The aim of this study is to identify the spillover effects of the crisis in conflict-ridden areas on the world's top tourist destinations: France, The United States, Spain, China, Italy,

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Turkey, Germany, United Kingdom, Mexico, Russian Federation, and illustrate it in their main tourism indicators.

The aimed contribution is to provide a descriptive analysis and illustrate the spillover effects of conflicts in other regions on top tourism destinations according to the changes in their percentage average annual growth in relation to tourism and economic indicators during the period from 2005 to 2015. Most tourism studies have focused on well-known top tourism destinations such as France, Spain, Italy (UNWTO 2016a), while not considering conflict-ridden areas and doing less research on the destinations with much greater challenges and their effects on other destinations (Clements and Georgiou 1998; Gartner and Shen 1992; Hall 2002, 2010; Rittichainuwat and Chakraborty 2009; Thapa 2004). Tourism as an industry contributes to many economies in big proportions by almost 10% of Global Gross-Domestic-Product (GDP), according to the UNWTO (2016a), meanwhile, wars and conflicts creates an obstacle to the development of tourism industry and usually leads to the failure and drops in tourist arrivals.

This study employs graph analysis and cluster analysis to show the differences before and after Arab Spring in top ten destinations in the world according to visitors. In the first section, tourist arrivals and the growth is observed by the graph analysis. Changes in South Europe and the rest of the countries are shown separately. To show the importance of tourism sector in their economy, contributions of tourism to GDP of top ten destinations are graphed, and changes are observed. Tourism receipts as the share of total exports and growth are also shown in this section to provide a better understanding. Later, countries are ranked in regard with the averages of the changes in arrivals and rankings are compared before and after Arab Spring. In the last section, cluster analysis is employed in two time periods (2005–2010 and 2011–2015). This analysis aimed to reach an observation to of the differences caused by Arab Spring in top ten destination countries.

2 Literature Review

World tourism is affected by the events and crises in an external environment, for instance, small conflicts have a considerable effect on a destination image (Ritchie 2004). International conflicts between countries play a significant role in forming the destination image since they affect the knowledge of the potential tourists about the destination (Alvarez and Campo 2014). Also, different studies showed that negative cases in the region have a significant negative impact on the tourism industry and tourism indicator of that region (Clements and Georgiou 1998; Gartner and Shen 1992; Hall 2010; Rittichainuwat and Chakraborty 2009; Thapa 2004), however, the effects on other regions have not been studied yet.

The aim of the study is to focus on crisis, Arab Spring started at the end of 2010, as the conflicts are caused by political issues, a situation originated from the inside of the organisation as defined by Faulkner (2001). The scale of crisis should be considered as sustained crises: that may last for weeks, months or even years, one of

the Parsons' (1996) suggested three types of crises. The crisis started in one the neighboring countries, Tunisia, starting with mass uprisings, which were followed by similar events in Algeria, Lebanon, Jordan, Mauritania, Sudan, Oman, Saudi Arabia, Egypt, Yemen, Iraq, Bahrain, Libya, Kuwait, Morocco, Western Sahara and Syria. The events were central world media coverage, and consequently, it had an effect on destination selection of tourists. Hence, western tourist arrivals and interregional tourist arrivals have been challenged, as tourists were seeking alternative destinations (Morakabati 2012).

The analysis of spillover effects was firstly adopted in the finance studies. Engle (1982) and Bollerslev (1986) analyzed the mean and variance of inflation in the United States and the United Kingdom using the concept of spillovers. Subsequently, this concept was utilized by Engle et al. (1990), Lin et al. (1991) and Grossman and Helpman (1993) to investigated exchange rates, stock indices, and technological transfers within the spillover concept.

There are several reasons why tourism numbers in one geographic region are affected by events in other regions. Our analysis focuses on the negative events referring to political and social events (such as threats of disease, terrorism, political conflicts, disasters) within a Middle-East region. The negative events in one region threaten the growth of tourism and show the significant decrease in the number of tourists as the results of high-risk perceptions. Consequently, crisis and negative events within one region may influence tourism growth in other regions. Neumayer (2004) found in the investigation of spillover effects from political violence that tourists tend to visit neighboring regions with similar attractions and gets a positive spillover effect. It is worth to note that according to a study by Drakos and Kutan (2003), the positive spillover effects within a region can be generated if the scale of violence is modest. Only when political violence is modest could positive spillover effects be generated. In our analysis, we extend the general idea that crisis in the region may have negative or spillover effects on tourism growth to nearby destinations (Drakos and Kutan 2003; Neumayer 2004).

In tourism studies, Drakos and Kutan (2003) can be considered as pioneers studying spillover effects in tourism using data from three Mediterranean countries—Greece, Israel, and Turkey, with results of significant spillover effects of terrorism on tourism market shares. The effect of political violence on tourism demand and indicators was investigated by Neumayer (2004), showing the strong evidence that human rights violations, conflict, and other politically motivated violent events negatively affect tourist arrivals resulting in intraregional, negative spillover, and cross-regional substitution effects. Gooroochurn and Hanley (2005) used the concept of spillover effects to investigate whether Northern Ireland long-haul tourist numbers, income from tourism operations may affect the numbers of Republic of Ireland. Hence, the concept of spillover effects in tourism literature has been used by different researchers using different methodologies and models (Morakabati 2012; Lazzeretti and Capone 2009; Gooroochurn and Hanley 2005; Li et al. 2011). We analyze the spillover effects of the crisis in conflict-ridden areas to top tourist destinations.

3 Data and Methods

The study focuses top tourism destinations ranked by World Tourism Organization (UNWTO 2016a) according to international tourist arrivals statistics. Consequently, the study focuses on ten destinations France, United States, Spain, China, Italy, Turkey, Germany, United Kingdom, Mexico and Russian Federation. The data covers two periods before the start of Arab Spring crisis and after the start of Arab Spring uprising from 2005 to 2015. Data from the Compendium of Tourism Statistics provided by the World Tourism Organization (UNWTO 2016b), World Travel and Tourism Council (2016), and World Bank (2016) are used. Tourism indicators include the number of international tourist arrivals (millions), tourism receipts (US\$ millions), direct contribution to GDP (US\$ billions), direct contribution to GDP (% share).

In this study, we complement the cluster analysis with a graphical analysis of the evolution of the main variables between 2005 and 2015. Due to the lack of data in 2015, in some analysis, we had to limit our graphs until 2014. We have also ranked in decreasing order the top ten destinations according to the average annual growth in arrivals over the period comprised from 2005 to 2015. We also separated the years after Arab Spring to observe the differences in the growth after 2010.

In graph analysis section, observations about tourism statistics are graphically illustrated to provide better and precise understanding of the topic. To show the importance of the tourism in top ten destinations and to describe the changes in tourism receipt shares and growth graphs rates are illustrated. As our analysis focuses on the arrivals, we try to illustrate the changes, especially with an emphasis on Arab Spring by using the EU and Rest of the World comparison. Ranking tables of the growth rates of arrivals are prepared to identify the changes after Arab Spring in top ten destinations.

In the cluster analysis, these top ten countries are grouped according to the changes in the number of arrivals and the changes in the direct contribution of tourism to GDP. Average changes in these variables before and after Arab Spring are calculated and separated. The aim of this analysis is to observe the differences caused by Arab Spring in clusters according to these variables in top destination countries. Countries clustered into two groups due to the fact that we have only ten countries in our analysis. On the other hand, dendrograms are providing enough information for the details of the clusters.

4 Results

This section presents the results of statistical analyses of main tourism indicators of world's top tourism destinations over the period of 10 years, from 2005 to 2015. The aim is to visualize and identify the trends of tourists' arrivals, tourism receipts and contribution to GDP. Also, 2010 has been selected as a break point of the period as

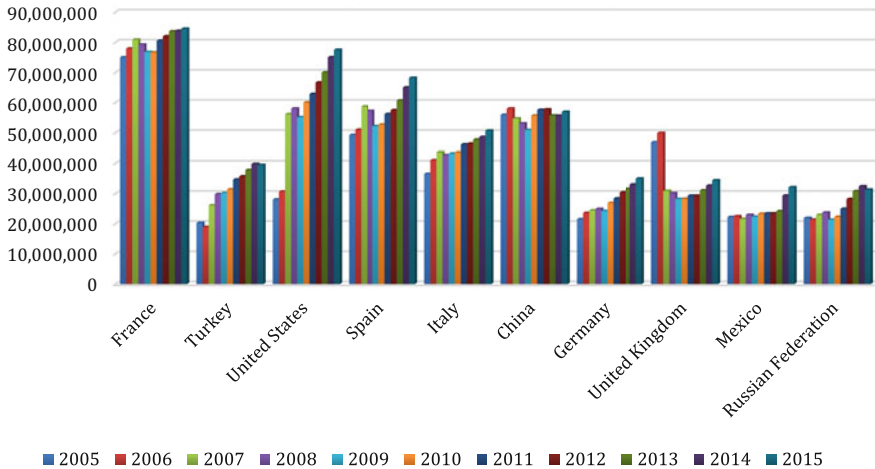


Fig. 1 Tourism arrivals from 2005 to 2015. Source: World Bank (2016)

Arab Spring uprising started in Middle-East. The presented graphs and tables provide the information about the changes in tourism growth trends in selected sample of tourism destinations and depict if those changes were significant after the crisis in Middle-East. Figure 1 shows the change of international tourist arrivals at top tourism destinations. It is obvious that France holding highest share of tourist arrivals between 75 and 85 million people annually. Overall, all destinations have the increasing number of tourist arrivals over the period, especially after 2010. The decline in tourist arrival can be observed in 2007 and 2008 during the period of financial crisis. The world’s top tourism destinations: France, United States, Spain, China, Italy, Turkey, Germany, United Kingdom, Mexico and Russian Federation receive almost 50% of worldwide tourism arrivals.

Tourism receipts as a share of total exports explain the importance of this sector. Especially Turkey and Spain are heavily dependent on this type of income to keep their budgets balanced. Therefore, any negative shock on tourism can affect the whole economy. Figure 2 presents a significance of tourism industry in world’s top tourism destinations economy and its change over the period. Despite France receives the highest number of tourists, Turkey and Spain are leading in the largest share of tourism receipts in total exports by more 15%, while the rest of destinations accounts to relatively lower share in total exports between 3% and 10%. This is showing that French economy has developed other sides although they are the leading destination point. It is also worth to note that the share of tourism receipts in total exports plummeted from 17% to around 3% in China after 2007, which can be associated with economic reforms in the country.

The trends analysis of the changes in tourism receipts (Fig. 3) represents a significant volatility from 2006 to 2008, the period of financial crisis. However, the general trend levelled off after 2008. The general slight decreasing trend in all countries can be observed from 2009 to 2010, however starting from 2011, after the

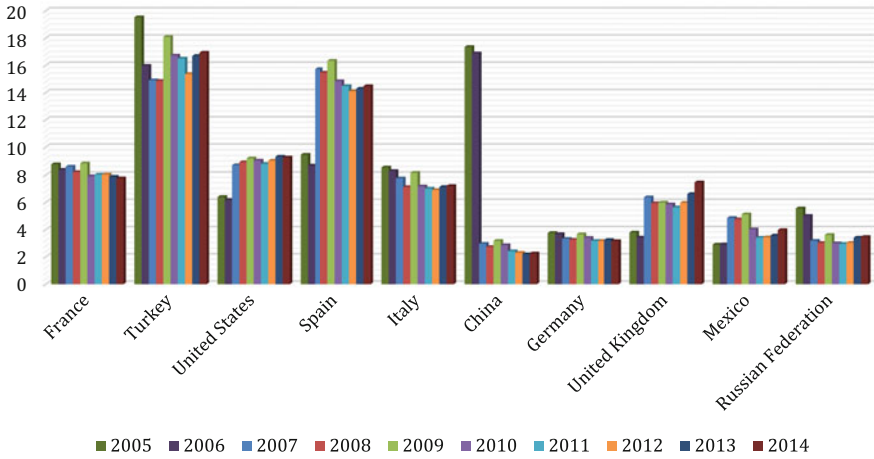


Fig. 2 Tourism receipts (% of total exports) from 2005 to 2014. Source: World Bank (2016)

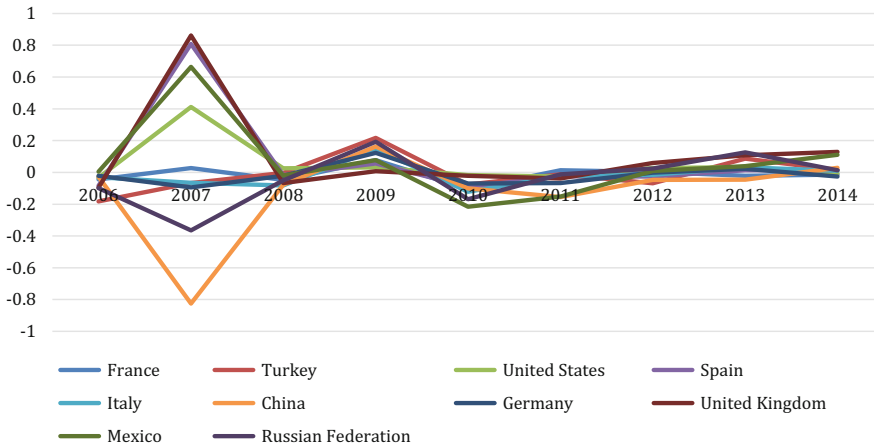


Fig. 3 Changes in tourism receipts (% of total exports) from 2005 to 2014. Source: World Bank (2016)

Arab Spring uprising started, the general trend of changes in tourism receipts was positive. According to this graph, it is visible that tourism income trends are going in line with exports. Therefore changes are showing a trend near the horizontal line.

Figure 4 shows the changes of the contribution of tourism to the GDP of world’s top tourism destinations. The graph shows that all the destinations had a fluctuating contribution of tourism to GDP over the period, except the United States with a steady trend. It is worth to not that contribution of tourism to GDP decreased from 2007 to 2009 in all the destinations, excluding the United States. However, the

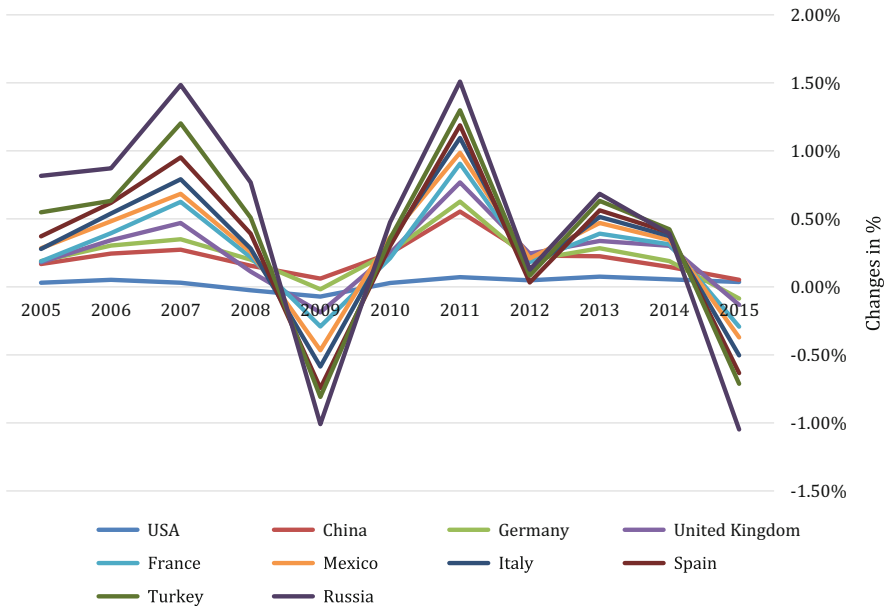


Fig. 4 Change of contribution of tourism to GDP (%). Source: World Bank (2016) and World Travel and Tourism Council (2016)

contribution rates started to increase starting from 2009 and reached its peak in 2011, just after the start the crisis in Middle-East. This trend can be associated with a positive spillover of the negative events in Middle-East on top tourism destinations. However, these effects can be considered temporary as the number continued with fluctuation and declining trend.

Figure 5 shows the trends in changes of the number of arrivals in top tourism destinations from 2005 to 2015. Similarly, to changes in tourism receipts, the growth rates of international tourist arrivals fluctuated between 2007 and 2008, which is followed by a steady increasing trend in the following years. Over the period, the trends in changes of the number of arrivals were similar and did not show any significant difference in comparison to tourism receipts. Taking into the distance from the crisis zone, we separated the South European countries and Non-South European Countries, for better analysis and observation of the changes of tourism arrivals and added the changes in world tourism arrival to the study for comparison.

Figure 6 illustrates the changes in the percentage growth of tourist arrivals top tourism destination in South Europe: France, Turkey, Spain, Italy in comparison with world tourism arrivals. Because south Europe can be taken as an alternative tourism destination to the countries where Arab Spring occurred, Fig. 5 aimed to show the positive effect especially in 2011. Overall, world tourism arrival change had a decreasing trend till 2009 which is followed by a significant increase in 2010. Later, the world tourism arrivals continued with steady growth with some fluctuations. It is important to emphasize that while world tourism arrivals percentage

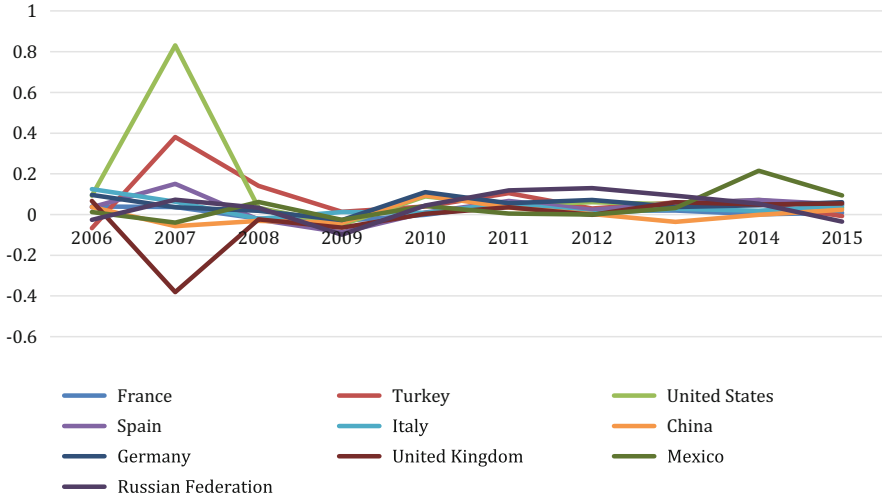


Fig. 5 Changes (%) in number of arrivals from 2006 to 2015. Source: Derived from World Bank data

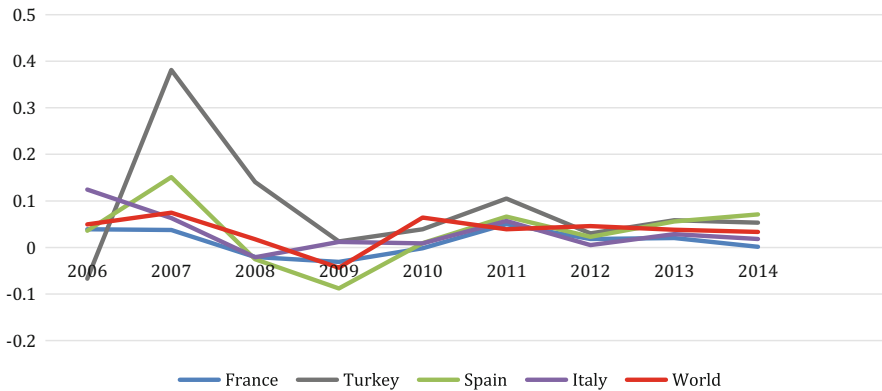


Fig. 6 Changes (%) in tourist arrivals in top South European destinations compared with world tourism arrivals. Source: World Bank (2016)

growth rates decreased in 2011, just after the crisis, tourism arrivals percentage growth rates increased for France, Turkey and Spain.

The changes in percentage growth rates in top Non-South European destinations: China, Germany, United Kingdom, Mexico, Russian Federation and the United Kingdom in comparison with world tourism arrival changes are illustrated in Fig. 7. It is interesting that from 2010 to 2011 all the destinations showed a similar decreasing trend with world tourism arrival changes except Russian Federation and the United Kingdom. Hence, non-significant spillover effects are observed in top Non-South European tourism destinations.

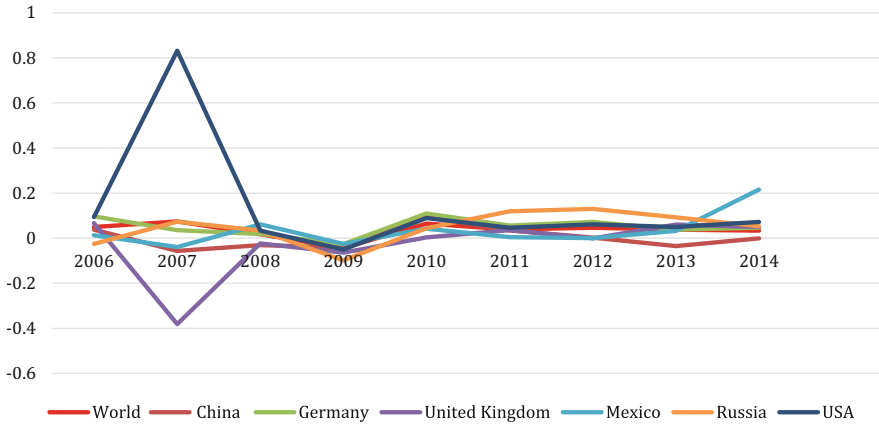


Fig. 7 Changes (%) in tourist arrivals in top Non-South European countries compared with world tourism arrivals. Source: World Bank (2016)

In the later stage of analysis, we ranked the top tourism destinations according to their growth rates in tourist arrivals from 2005 to 2015 (Table 1). Turkey received the highest position in the rank with 0.075 average growth rates. Germany, United States, Mexico and Russian Federation are amongst the top five destinations with highest growth rate ranks. We conducted the ranking analysis after the Arab Spring, from 2011 to 2015, to reveal the if there are a significant differences changes. Table 2 shows changes (growth rates) in tourist arrivals (ranked) from 2011 to 2015, after the Arab Spring uprisings. Turkey has dropped from the first position to 6 with 0.048 average growth rate, and Russian Federation climbed to first place in the rank with average 0.072 growth rate. Turkey has lost its first place in the ranking, especially in the year of 2015 on average. Germany, United States, China have also been negatively affected and showed decreasing growth rates in tourist arrivals.

In the next part of the study, Cluster analysis, which is a technique that identifies the complex relationships between variables, without imposing any restriction is used. Cluster analysis is a useful method for examining complex relationships among national characteristics and international linkages without imposing any a priori restrictions on these interrelationships (Sorensen and Gutierrez 2006).

This study employs a Hierarchical Cluster Analysis to identify the clusters in top tourism destinations. Average changes in the number of arrivals and average changes of contribution to GDP for each country have been selected as the variables to observe the similarities of the countries before and after Arab Spring. In this respect, we use a hierarchical cluster analysis with Ward’s method by considering two sub-periods: a “pre-crisis” (2005–2010) and after “crisis” period (2011–2015).

In each dendrogram, the vertical axis represents countries in the analysis, and the horizontal axis illustrates differences between countries. Vertical lines in the dendrogram indicate the linkage of two countries or clusters. Similar countries are combined at low heights, whereas countries that are showing differences are combined higher up the dendrogram. Due to a number of countries in the analysis, only

Table 1 Changes (growth rates) in tourist arrivals (ranked) from 2005 to 2015

R	Countries	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Mean
1	Turkey	-0.067	0.381	0.14	0.013	0.039	0.105	0.03	0.059	0.053	-0.008	0.075
2	Germany	0.096	0.036	0.019	-0.027	0.11	0.056	0.072	0.037	0.046	0.061	0.051
3	USA	0.036	0.101	0.033	-0.05	0.089	0.047	0.061	0.05	0.072	0.033	0.047
4	Mexico	-0.026	0.012	0.061	-0.026	0.042	0.005	0	0.032	0.215	0.094	0.041
5	Russia	0.013	0.019	0.033	-0.099	0.044	0.119	0.13	0.093	0.053	-0.035	0.037
6	Italy	0.124	0.063	-0.021	0.012	0.009	0.057	0.005	0.029	0.018	0.044	0.034
7	UK	0.093	0.007	-0.024	-0.064	0.003	0.036	-0.001	0.061	0.05	0.055	0.022
8	Spain	0.037	0.011	-0.025	-0.088	0.01	0.066	0.023	0.056	0.071	0.049	0.021
9	China	0.066	0.096	-0.031	-0.041	0.094	0.034	0.003	-0.035	-0.001	0.023	0.021
10	France	0.039	0.038	-0.02	-0.031	-0.002	0.05	0.018	0.02	0.002	0.009	0.012

Source: World Bank (2016)

Table 2 Changes (growth rates) in tourist arrivals (ranked) from 2011 to 2015

Rankings	Countries	2011	2012	2013	2014	2015	Mean
1	Russian Federation	0.119	0.130	0.093	0.053	-0.035	0.072
2	Mexico	0.005	0.000	0.032	0.215	0.094	0.069
3	Germany	0.056	0.072	0.037	0.046	0.061	0.054
4	Spain	0.066	0.023	0.056	0.071	0.049	0.053
5	United States	0.047	0.061	0.050	0.072	0.033	0.053
6	Turkey	0.105	0.030	0.059	0.053	-0.008	0.048
7	United Kingdom	0.036	-0.001	0.061	0.050	0.055	0.040
8	Italy	0.057	0.005	0.029	0.018	0.044	0.031
9	France	0.050	0.018	0.020	0.002	0.009	0.020
10	China	0.034	0.003	-0.035	-0.001	0.023	0.005

Source: World Bank (2016)

Table 3 Cluster membership of top tourism destinations from 2005 to 2010

Case	Two clusters
1: France	1
2: Turkey	1
3: United States	1
4: Spain	1
5: Italy	2
6: China	1
7: Germany	1
8: United Kingdom	1
9: Mexico	2
10: Russian Federation	1

Table 4 Cluster membership of top tourism destinations from 2010 to 2015

Case	Two clusters
1: France	1
2: Turkey	2
3: United States	2
4: Spain	1
5: Italy	1
6: China	2
7: Germany	1
8: United Kingdom	2
9: Mexico	2
10: Russian Federation	2

two clusters are provided. According to the results, there have been significant changes observed. In the period of 2005–2010 (Table 3), only Italy and Mexico are clustered as the second group and well differentiated from the others. France, UK, US, Spain and China showed high similarity and clustered together. On the other hand, the averages between 2011 and 2015 (Table 4) showed that US, UK,

Russian Federation, and Turkey showed the resemblance. However, the EU countries showed are clustered and their averages are close enough to be grouped together.

5 Conclusion

This study aimed to explore the changes in trends over the last decade in the world's main top ten tourism destinations from 2005 to 2015. It provides an overview of the changes and difference in the main trends in the world's top ten destinations before and after the Arab Spring Uprisings started in 2010. The analysis of main tourism indicators: tourism arrivals, tourism receipts, the total contribution to GDP sheds some light on how the top tourism destinations may be affected by spillovers of negative events in other regions, in our study the case of Middle East.

The descriptive analysis of main tourism indicators revealed that tourism plays a significant role in the economy of top tourism destinations by receiving almost half of the world tourist arrivals. However, there is not collinearity of tourist arrivals and contribution of tourism to GDP. France receives the highest number of tourist annually hovering around 80 million tourists. However, the share of tourism receipts in total exports is not more than 10%. Turkey and Spain receive less tourist arrival but have the largest share of tourism in their total exports changing between 15% and 20%.

The trends analysis in main tourism indicator showed the significant volatility and significant difference in growth rates of top tourism destination during 2007 and 2008 financial crisis. However, it is followed by relatively similar trend from 2009 till the end of the decade. The interesting results are that all top tourism destinations reached the peak in the contribution of tourism to GDP in 2011, just after the start of Arab Spring. This trend may be related to the positive spillover effects of Arab Spring crisis in the Middle East on top tourism destinations. The other observed similar trend was the tourism arrivals growth rate of South European Countries: France, Turkey, Spain, Italy and Non-South European Countries Russian Federation and the United Kingdom. In contrast to declining growth rate in world tourism arrivals, those destinations showed increasing trend and reached the highest growth rate in last 5 years. Observed trends ultimately affect the positioning of destinations. It is important to note that despite having positive spillover from a crisis in other regions the effect was temporary, and growth rates were followed by declining trend in following years.

Ranking of top tourism destinations according to their overall growth rates and growth rates after the Arab Spring revealed a significant difference in Turkey, Germany, United States, China and Russian Federation. Turkey was negatively affected destination plummeting from the first position to the sixth position in the ranking. Similarly, Germany, United States and China also had decreasing growth rates after Arab Spring. However, Russian Federation the highest growth rate after Arab Spring and reached the first position in the ranking. These results show how the

dynamics of growth in the tourism industry after the Arab Spring were affected differently in each destination.

Cluster analysis provides a quick look at two different ratios effecting tourism sector of top ten destinations. In this analysis, the EU countries convergence takes attention according to averages after 2010. This study is trying to fill the gap to explain the importance of tourism in these top destined countries and aiming to explain the impact of conflict happened in an alternative region.

The research provides an understanding how political conflicts and a chronically negative event may change the tourism growth trend in other regions. However, this study is not without limitations. The sample size is small, and only limited top tourism destinations. In addition, this study used descriptive analysis. Therefore, the results cannot be generalized. The more extended analysis is required to fully understand the factor affecting the change in tourism growth, and measure the real spillover effects of the crisis in one region in a different region. This study can be examined by different methods and extended for future researchers.

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Public Supervision of Public Procurement Market: A Contribution to Debate



Wojciech Szydło

Abstract In the EU and in individual Member States some deficiencies in the functioning of the public procurement market may hinder or, in some cases, even prevent the achievement of basic objectives of the legal regime of public procurement. Such deficiencies can be eliminated successfully or, at the very least, mitigated through establishment of a public (administrative) supervision over the public procurement market. The purpose of this article is, first of all, to determine the need for a public (administrative) supervision over the public procurement market in UE. Also, upon prior verification of this need, to propose some essential elements of the legal structure of such public supervision over the public procurement market in the UE. An analysis of various elements of the said structure will be made from two points of view: the actual and/or anticipated impact of these elements on the public procurement market; and the relation of those elements to the basic national constitutional legal principles relating to the organisation of public authorities and to the relationship between public authorities and individuals.

Keywords Public procurement · Public supervision · Procurement market · Procurement EU directives · Court of justice of the European Union · Judicial review

1 Introduction

Public supervision over the public procurement market is defined as a substantive law-based relationship between certain public authorities (bodies) and individual participants of the public procurement market (contracting institutions and contractors). In the supervision, public authorities assess market participants' behaviour in terms of its consistency with appropriate normative patterns. Afterwards, depending

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on the outcome of the assessment, they take actions by applying laws with a view to triggering certain legal consequences affecting the legal condition of the public procurement market participants. In particular, these legal consequences involve awarding certain rights to the above-mentioned market participants or imposing responsibilities related to the public contract award process onto them (Szydło 2014; Horubski 2015; Kiczka 2012; Panasiuk 2013).

2 Need for Public Supervision over the Procurement Market

The need for public supervision of the EU public procurement market defined as a whole as well as individual EU member state public procurement markets arises from some core mechanisms in the operation of the public procurement market. These mechanisms impede achievement of the essential objectives of the legal public procurement regime. Note that the public procurement market exists where the demand and supply relationship between a public buyer and a supplier/vendor of some goods desired by the buyer is governed by laws which form the legal public procurement regime. By definition, the legal public procurement regime is intended to cause evolution of the demand and supply relationship between the public buyer and supplier of some goods. That can lead to generating some specific statuses expected by the public authorities which created the regime. There are several desirable statuses which are, as a matter of fact, the goals of the legal public procurement regime. The first one is the maximum economic efficiency in spending public funds used for procurement of needed goods i.e. achieving the most favourable price to value ratio. The second involves achievement of some, broadly defined macroeconomic objectives e.g. by developing some underdeveloped regions, adaptation and restructuring in the economy, technical and technological development, protection of the national economy against foreign competition; protection of the environmental ecosystem as human habitat. Finally, it involves delivering on the socially accepted humanistic and social values in the individual and collective context such as, at least, supporting the disabled, creating jobs, delivering on the equal rights of men and women in practice (Szydło 2014; Arrowsmith 2011; Sołtysińska 2004; Trepte 2006; Buxton 2000).

Due to some naturally existing operational failures and deficiencies in the public procurement market, the market may not guarantee full delivery of all the above-listed objectives of the public procurement regime (the macroeconomic, ecological, social and effectiveness-related objectives). The above applies both the EU market and markets in member states, with their economic antecedences and undesirable behaviour of its participants as well as a result of inappropriate legislature. Deficiencies of the public procurement market bring the need to establish a public (administrative) supervision over the public procurement market defined as operation of institutionalised public structures. By definition, the supervision is to assess and verify behaviour of public procurement market participants and take respective

preventive and corrective actions, if needed. It may be that only at this point the deficiencies could be eliminated or even reduced to a satisfactory degree.

Deficiencies of economic nature would be the first ones identified among the actual drawbacks and certain undesirable phenomena existing in public procurement market. They give rise to appointment and/or setting up the public supervision over the public procurement market. They result from imperfection in the economic market mechanisms when it comes to delivering the sufficient quantity and adequate quality of goods desired by public buyers. The public procurement market seems to suffer the most from inoperable market structures such as natural monopolies or monopsons, often ineffective in economic terms. Another type of the above-mentioned failures in the operation of the public procurement market which justify the reason for exercising public supervision over the public procurement market are some undesirable behaviours of the market participants. These are corruption and other fraudulent practices, a failure to comply with formal and material rules which creating the legal public procurement regime, monopolistic practices such as bid-rigging and blocking access to the market and non-performance or inappropriate performance of contracts awarded in public procurement proceedings. The third source of public procurement market dysfunctions, representing yet another argument for appointing a public supervision over the public procurement market is inappropriate legal regulation of the public procurement system. It manifests itself both in a suboptimal structuring and presentation of the technical content of each institution of the public procurement law from the point of view of achieving desirable objectives of the public procurement regime as well as in using inappropriate legislative technique, resulting in unclear, ambiguous or even contradictory regulations (Szydło 2014; Yukins 2007).

Public supervision over the public procurement market is, in a way, an instrument, a specific preventive measure capable of efficient and effective elimination of the above-mentioned dysfunctions of the public procurement market. Alternatively, the supervision may, at the very least, reduce the frequency and consequences of their occurrence. Observations of the public procurement market show a correlation between the existence of an institution of a public procurement market which supervises behaviour of participants of the market and, on the other hand, the frequency, scale and extent to which the above-mentioned undesirable dysfunctions occur. Such empirical correlation is already visible on the public procurement markets onto which *de lege lata* legal regulations have been already applicable. They institutionalise supervision over the markets and provide for operation of a specialised public institution that exercises the supervision. The existence of the public procurement market supervision is also justified by the fact that all public procurement contracts which award performance of public tasks/contracts to contractors are contracts where public legal elements show uncontested domination over civil legal elements. The most essential elements of the contracts are the manner of their execution and delivery. They essentially decide about their identity and are governed by the public law which complements the civil law regulations in this context. For this reason, the public supervision over their delivery seems also justified, if not required.

In some cases, public procurement contracts would be referred to as hybrid contracts to emphasise dualism and the complementary nature of their regulation by public law and private law. Therefore, as such factors as the importance of tasks awarded by contract-awarding institutions to contractors in the overall structure of the public tasks of their institutions are considered, it is a fact that the process of delivering such tasks is governed by the public law and that the public interest clearly preponderates at each stage of the process. They involve drawing up, executing and performing contracts awarded in public procurement proceedings. When a contract involves delivery of public tasks, it does not seem reasonable for the state to give up public supervision over the process of entering into and executing public procurement contracts. Even more so, as such supervision will also ensure proper execution and performance of the contracts in a manner which guarantees effective delivery of the public tasks for which they are awarded and entered into.

Here note that *de lege lata* public supervision of the public procurement market has already been introduced in several EU countries. This is also the case in Poland, where the supervision is exercised by The Public Procurement Office (Horubski 2015; Pieróg 2015) or in Germany with its Federal Public Procurement Office (Panasiuk 2013). The Office of Federal Procurement Policy, the American public procurement market supervisory body was set up by the US Congress as early as in 1974, while the USA is traditionally perceived as a country with a very liberal approach to economy. New EU public procurement directives clearly provide for obligatory formation of public institutions (bodies) in EU member states to exercise such public supervision over the domestic public procurement markets (vide: art. 83-86 of the Directive 2014/24/EU of the European Parliament and of the Council of 26 February 2014; art. 99-102 of the Directive 2014/25/EU of the European Parliament and of the Council of 26 February 2014).

However, to be fair, note that the very fact that the public procurement market supervision in some countries has been introduced long ago while other member states are only beginning to set it up implementing new EU directives on public procurement (i.e. by April 2016) does not in the least determine *eo ipso* that a need for such supervision arises. The above requires that the reason for the existence of the supervision is analysed continuously both for the markets which lack the supervision and for the markets which are already supervised. It is necessary in order to assess whether the existence of a public supervision over a public procurement market is still required and needed for objective reasons, offering convincing and reliable data and arguments to decisions makers.

3 Legal Structure of Public Supervision over Public Procurement Market

In the light of the above, public supervision over the public procurement market seems very much needed. However, the legal structure of the supervision remains an open issue. The legal structure of a legal institution, including a substantive law

institution (Szydło 2014), to which supervision over the public procurement market can be classified, is built from such elements of the legal regulation of the institution which decide about its legal identity and justify its separate distinction. It is a manifestation of a functional and objective-oriented interrelation of specific provisions of positive law. Such called-for legal structure of supervision over the public procurement market should contain the following elements: supervisory functions; supervisory activities; legal status of supervisory bodies; verification (also by court) of supervisory activities.

Supervisory functions are the basic directions in which the supervisory bodies operate, aimed at achieving certain objectives and representing a specific generalisation of some specific tasks of supervisory bodies. These specific tasks of supervisory bodies should arise from pre-agreed and, in a more general manner, desirable functions of supervision. The basic functions of the public supervision over the public procurement market include, firstly, the predicative function. It consists in, enhancing predictability of legal rules governing the public procurement market so that individual participants of the market possess higher certainty as to the legal rules which apply on the market and behaviours required by law from the participants. Secondly, the fiduciary function which consists in increasing trust of the public procurement market participants in the market as such and trust in to other participants of the market. Appropriately, big trust in the public procurement market is a necessary condition of a proper operation of a market. Only with sufficient trust in the market, its potential participants will be willing to appear on the market and take up a socially and economically desirable activity on it. Both functions of the supervision: the fiduciary and predicative function are closely related. With enhanced guaranteed legal predictability, market participants are going to demonstrate higher trust in the market. Therefore, delivery of these functions increases predictability and certainty of law governing the public procurement market. It includes actions aimed at increasing mutual trust between participants of the market e.g. between contractors and subcontractors. Thirdly, the public procurement market supervision function should be implementation-oriented and involve measures taken in order to implement and enforce legal rules governing the public procurement market. It ensures legal compliance of behaviour demonstrated by the public procurement market participants. Fourthly, the control function consisting in permitting or of some behaviour of the public procurement market participants related to the process of awarding public contracts on the ex-ante or ex-post approval from the supervisory body or a notification given to the body. It may be that the existence of the public procurement market supervisory bodies is an asset only when these bodies are actually able to deliver their predicative, fiduciary, implementation and control functions.

Specific, more detailed supervisory tasks must respond to general function of the public procurement market supervision. The following core tasks of the public procurement market supervisory bodies should be recognised: monitoring application of public procurement regulations by the contracting institutions; ensuring official interpretation of regulations and rules which apply to the public procurement and supporting case studies/recommended application; monitoring financial fraud

incidents, corruption, conflict of interest and other serious irregularities; detecting such cases and reporting them to competent institutions; notifying competent national/domestic bodies, including control bodies, about specific detected breaches, violations and system issues; application of specific sanctions to public procurement market participants who enter into certain breaches; approving certain actions taken by the public procurement market participants and/or receiving their notifications on these actions; collaboration with peer public procurement market supervision organisation from other countries as well as collaboration with other national and international (EU) institutions whose operations has an impact on the public procurement market; educating, training, conducting research and statistics and reporting related activities and actions initiating new legal solutions.

Of all the supervisory tasks, the priority is given in particular to such supervisory tasks as controlling activities of public procurement market participants. In the light of the above, the target *de lege ferenda* scope is controlling behaviour demonstrated by public procurement market participants in the public procurement process according to the administrative laws. Factors such as, in particular, maturity of each public procurement market, should be taken into consideration. To some extent, such controlling must bother market participants. However, on the other hand, note that such supervision may, at least partially, indemnify market participants and hold them harmless in case they are found non-compliant. In such cases, liability will be transferred onto supervisory bodies. In turn, such transfer may enhance legality of operation of the public procurement market participants, delivering both predicative and fiduciary function of the supervision.

The legal status of the supervisory bodies and their position in the structure of the system is an extremely important element of the public procurement market supervision structure. Here the key issue is to ask about independence of these bodies both from other public entities (in particular, from any political and governmental bodies and agencies) and from market participants. Note that public procurement market supervisory bodies should be independent in terms of their organisation, functions, personnel, finance and reporting. Their role is to support delivery of the core functions of the supervision (Szydło 2014). Independence of the public procurement market supervisory bodies from other public entities in the state seems here even more important than the same independence in case of national regulatory bodies in network sectors (Szydło 2012). It is because these other public entities in the state (including various types of governmental bodies) often act as contracting authorities themselves (i.e. by awarding public contracts) and, therefore, they are (or should be) directly subject to supervision over the public procurement market exercised by competent supervisory bodies. For this reason, independence of supervisory bodies over the public procurement market from other public entities in the state should be protected even to a larger degree than in case of national/domestic regulatory bodies in the network sectors (Bertelli and Whitford 2009).

The last element of the legal structure of the public procurement market supervision is verification of supervisory activities performed by supervisory bodies. Here, the priority is given to verification by court. In this respect, the system and institutional position of the bodies, including bodies of court-like character, who

have the task to verify decisions of supervisory bodies, in the structure is essential. In this case, particular importance should be attached to verification, by institutions of appeal and/or common courts and/or, possibly, administrative courts, of complaints filed by public procurement proceedings participants. These complains connected with the proceedings, where the institutions of appeal are mentioned in the directive 89/665/EEC, whose operation should at all times comply with the constitutional fundamental citizens' rights to court and with the constitutional principles governing a judiciary in a state (Szostak 2010). Bodies competent to examine and issue decisions in litigations between contracting parties and contractors may include, in particular: common courts, some specified specific courts (specialised courts), some specific administrative bodies or other public entities, including bodies of public supervision over the public procurement market, specialist public entities of adjudicative nature enjoying hybrid legal status i.e. whose unambiguous classification to court or administrative bodies may rise some doubts; arbitration courts or other specialist panels whose manner of operation resembles mediation or arbitration (Szydło 2014; Trepte 2006). In Poland, the National Chamber of Appeal may serve as a good example of such hybrid body (Panasiuk 2013).

4 Effectiveness and Constitutional Compliance of Some Elements of Public Procurement Market Supervision

Some of the above-specified elements of the public procurement market supervision should be analysed in terms of their planned and actual effectiveness as well as in terms of their approach to the fundamental legal and constitutional national and EU principles. Effectiveness of supervision is strongly related to the trait of independence of supervisory bodies as it affects the operation of the public procurement market as well as efficiency and correctness of proceeding in line with the public contract award procedure. Equally important is the manner, in which the public procurement market supervision assures compliance of the supervision with the fundamental (EU and national) constitutional principles in terms of organisation of the public bodies and the relationship between the public bodies and individuals. To this extent, the desired scope of responsibilities and tasks of the supervisory bodies and the scope and content of the supervisory activities performed by the same should be considered, including: administrative control functions, administrative supervisory decisions, technical activities, activities of social and organisational nature, evidence-based and investigative activities resembling operations of criminal investigative bodies. All these functions, tasks and responsibilities must be delivered while respecting freedom of economic enterprise (without any inadmissible breach of such freedom) guaranteed by the EU and national legal order to enterprises operating on the market as well as general freedom of behaviour of these entities, including their freedom of contract. Here an important role is played by EU constitutional principles which apply to the relation between the EU and member

states (such as the principle of subsidiarity, the principle of loyal collaboration, the principle of respect for national identities of member states by the EU) and decide on the desirable place of the public procurement market supervision bodies in the structure and on their relations in the trans-border system. In particular, it is important to analyse to what extent the above-mentioned EU constitutional principles justify creation of a pan-EU network of domestic bodies exercising control over the public procurement market. Another question is how far reach the rights of the European Commission and other participants of the network when it comes to interfering with supervisory activities of other participants of the network in the light of the above-listed principles.

Independence of supervisory bodies on the public procurement market also derives from the constitutional principles of division of power and democratic legitimisation of public authorities. One may believe that the independent status of the public procurement market supervisory bodies vis-a-vis other public authorities in the state by no means violates or, at least, does not necessarily need to violate, the constitutional principle of representative democracy and the principle of democratic legitimisation of public authorities (Majone 1997). To achieve it, it is only required to correlate independence of public procurement market supervision with different types of accountability and responsibility of these bodies. These are reflected by: accountability to market participants (manifesting itself also by public consultations, delivering necessary information), substantive legal liability (manifesting itself by close linking of the supervisory activities of these bodies with their statutory tasks), procedural accountability (manifesting itself through application of formalised procedures governing their operation), judicial accountability (manifesting itself by subjecting decisions of these judicial bodies to control), personal accountability (manifesting itself through awarding external institutions competencies to appoint the head of the supervisory body and dismiss it for some pre-defined, important reasons), reporting accountability (manifesting itself in preparation and presentation to competent external institutions of reports on their activity), financial accountability (manifesting itself through revenue and expense reporting by supervisory bodies) and accountability for professional standards of operation (manifesting itself also through verification of the professional conduct by independent experts in the field) (Szydło 2013).

5 Conclusions

In the contemporary economic, social and civilisation conditions, public procurement appears one of the key tools used by the state to satisfy any public and private needs articulated by the society and the public administration acting for the society. Also note very high value of contracts awarded in public procurement. It may reach as much as 700 million euros in the EU, representing nearly 18% of the total GDP in the EU. Considering this fact, public supervision over appropriate spending of such substantial funds and over transparency and legality of the entire process of

preparing, awarding and performing public contracts is a matter of high importance. Properly functioning public procurement market supervision can, to a large extent, curb pathologies existing on the market. Such pathologies may cause damage to enterprises and public institutions. With a public procurement market supervision in place, various entities, and contractors in particular, may approach the market with increased trust. In consequence, transactional costs may be reduced and cost-effectiveness of contractors' operations may be improved. Finally, owing to their bigger trust in the market as well as thanks to reliable operation of independent public procurement market supervision bodies, contractors may be more prone to engage, to a larger extent, in enterprises on the market, offering fuller satisfaction of a range of various social needs. Since, these days, public contracts play a very important economic and social role, the public procurement market supervision may come as an instrument which effectively facilitates and accelerates achievement of these important and desirable non-economic objectives. For this reason, public procurement market supervision seems a necessary element of the legal system governing public procurement, needed as a tool to deliver on its core objectives.

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Activation of Business and Society for Regional Benchmarking



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Abstract Success in the implementation of the objectives of the Europe 2020 strategy requires the involvement of all stakeholders, the authorities, business, science, and society. Regrettably, the level of commitment on the part of business and society—especially in the countries of Central and Eastern Europe—to the implementation of these objectives is at a relatively low level and requires the formulation of proposals for actions aimed at their activation at the stage of formulation of strategic objectives, their implementation and the achievement of the effects of the adopted objectives. The process of the formulation of the Regional Innovation Strategies for Smart Specialization (RIS3) for 2014–2020 has been completed. And, as is apparent from the analysis of RIS3 documents and supporting documents for the Polish regions, the strategies are the result of cooperation among key stakeholders of the regional scene. However, as shown by the indicators, e.g.: the level of participation in public consultations (low frequency), and observations of participation in research and expert groups (high frequency of refusal to participate in research), this cooperation was of a rather passive and incidental nature (especially on the part of business and society). Given that for the next few years the regions will implement, monitor and modify the objectives of RIS3, there is a need to undertake actions in order to activate these social groups and develop mechanisms to support the continuity and regularity of cooperation.

Keywords Regional benchmarking · SPI tools · Regional innovation strategies · Foresight · Evaluation · Innovation audit

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1 Introduction

Since for the next few years, the regions will implement, monitor and modify the objectives of Regional Innovation Strategies for Smart Specialization (RIS3), it is necessary to undertake actions to activate these social groups and develop mechanisms to support the continuity and regularity of cooperation. The instruments used in work on RIS3 are intelligence tools that support the process of creation and implementation of strategic objectives at the regional level referred to as Strategic Policy Intelligence Tools (SPI) (Clar et al. 2008a). SPI tools are a set of methods and techniques as well as concepts used to provide political and economic representatives with a set of objective and comprehensive information in the decision-making process (Scapolo 2005). They are characterized by flexibility, neutrality and a participatory nature. SPI tools include (Clar et al. 2008b): (i) foresight; (ii) technology assessment; (iii) evaluation; (iv) innovation audit and (v) regional benchmarking.

Regional benchmarking is a universal instrument among SPI tools. It allows to achieve a value added which consists of the process of identification, understanding and creative adaptation of information—good practice—encompassing the interior of the region and its surroundings, i.e. the leading regions and/or the competing ones, and the possibility of using this tool to diagnose the level of efficiency of the use of the other SPI tools in relation to other regions. Moreover, the use of regional benchmarking yields effects in the regions less as well as more developed in terms of capital at their disposal.

However, regional benchmarking activities are taken sporadically in the regions of the EU and in other parts of the world (Mutual Learning Platform 2016). The analysis of benchmarking projects shows that the most commonly used type of regional benchmarking is performance benchmarking. These projects are carried out either annually or every 2 years or at longer intervals and are intra-regional, or concern specific regions, their groups, cities or sectors located in these regions. However, in the case of other types of benchmarking projects—e.g.: process or strategic benchmarking—that are based on quantitative and qualitative analyses, these activities are taken on a one-off basis (Hassink 2010).

In the light of restriction of activities in the field of regional benchmarking to performance benchmarking and basing them mainly on quantitative data, Hassink (2010) stresses the need to consider the development of a methodology for a yet undefined kind of regional benchmarking—just-in-time benchmarking. A concept that would be based not only on quantitative indicators but also qualitative ones obtained from key stakeholders of the regional scene and would enable the provision of support for the decision-making process concerning key issues for the development of the region (due to the timeliness of information, which in the context of the global pace of change and uncertainty is of paramount importance).

The first actions in the field of intensification of the use of regional benchmarking have already been taken. On the basis of the cooperation of the expert team representing the Smart Regional Specialization Platform (S3 Platform) and the

Institute for Competitiveness-Orchestra Basque, an interactive tool for the identification of the region/regions—the subject/subjects of benchmarking activities—has been developed (Navarro et al. 2014). In the case of this tool, the choice of the region/regions is based on selecting the subject out of the regions of the same league, i.e. regions with a similar socio-economic structure. It should be noted, however, that a region with a different socio-economic structure can also be a subject of regional benchmarking.

Due to the fact that, in accordance with the methodology of benchmarking, the next phase after identifying the subject of benchmarking is collecting information on the selected subject of benchmarking (quantitative and qualitative data that identify best practice), the next step that should be taken in order to intensify the use of regional benchmarking is specifying what information (quantitative and qualitative) and at what time can be provided by regional stakeholders with respect to the subject of benchmarking. Especially since the primary barrier to regional benchmarking is the availability of data, due to their lack or incompleteness, particularly at the lower levels of the NUTS, i.e. NUTS 2 and 3, as well as a different approach to constructing indicators, e.g.: regional innovation indicators.

2 The Role of Regional Benchmarking Among SPI Tools

In today's world, regions determine competitive advantages of the territory in which they operate and are built on the basis of its capital known as regional capital (Capello et al. 2008, 2009; Capello and Nijkamp 2009). The indigenous potential of the region is not a constant value and due to continuous changes taking place in the environment must be constantly improved. To what extent regional actors invest in improving the quality of the individual components of regional capital—tangible and intangible as well as mixed assets—is reflected in the level of innovativeness of the region.

Thus, the region's innovativeness is the involvement of regional stakeholders and their capabilities in the implementation of innovative projects, infrastructure-related (focused on improving the flow of knowledge and information) personnel-related (focused on improving qualifications and skills relevant to the needs of the labor market), systemic (focused on improving mechanisms supporting commercialization of knowledge), and sectoral (focused on improving technology, products/services, and organizational solutions).

Thus defined level of innovativeness of the region is monitored in the framework of national (Gawlikowska-Hueckel and Umiński 2000; Drozdowski 2007; Kalinowski 2005, 2006, 2007, 2008; Nowicki 2009, 2010) and international rankings (European Commission Enterprise Directorate-General 2002, 2003; Hollanders 2006; European Commission 2008; Hollanders et al. 2009; Annoni and Kozovska 2010) aimed at identifying the strengths and weaknesses of innovative projects implemented by entities located in the region concerned.

The innovative development of the region is a sum of the results of innovative projects implemented by various entities that are part of the regional scene along with the effects of their cooperation which are reflected in the level of creation, absorption and diffusion of knowledge and mutual learning in the region. In view of the fact that the innovative development of the region is based on the innovativeness of regional capital and its individual components, a comprehensive approach which improves its strengths and compensates for weak components of this capital is necessary.

Thus the use of traditional instruments to support the process of regional capital management used within the bureaucratic model and the new public management model (NPM) (Hood 1991; Rhodes 1996; Filek 2007) is inadequate. It is necessary to use instruments aimed at the continuous improvement, applied in the model of public governance, due to the growing pressure of innovativeness, and the instruments should encompass all entities operating in the region (Mehde 2006; Osborne 2006; Filek 2007).

Thus, intelligence tools that support the process of creating and implementing strategic objectives at the regional level known as SPI tools (Scapolo 2005; Clar et al. 2008a; Skonieczny 2011) come to the fore.

The indicated tools are a set of methods and techniques, as well as concepts, relating to the area of strategic management and as such are an instrument used to provide political and economic representatives with a set of objective and comprehensive information in the decision-making process. They are neutral and apply to medium- and long-term decisions. SPI tools can be adapted to the specific socio-economic conditions, contributing to the creation of a coherent regional policy and the development of an appropriate—taking into account the potential in the form of regional capital and the possibility of its expansion—management system for the regional innovative development. And their systematic use by stakeholders of the regional scene can bring lasting effects in the form of increasing efficiency of the functioning of this system.

SPI tools consist of the following instruments:

- foresight (Havas 2003; Kuciński 2005; Mieczkowski et al. 2006; Popper 2008; Rogut and Piasecki 2008, 2011; Rogut 2009; Kleiber 2010);
- technology assessment (Baker 1989; Clar et al. 2008a);
- evaluation (Clar et al. 2008a, b; Rogut et al. 2008; Żuromski 2008; Rogut and Piasecki 2011);
- innovation audit (Yam et al. 2004; Clar et al. 2008b), and
- regional benchmarking.

Regional benchmarking is a universal instrument in the framework of SPI tools. It allows to achieve a value added which consists of the process of identifying, understanding and creative adaptation of information—good practice—in relation to the interior of the region and its surroundings—the leading regions and/or the competing ones—and its applicability in diagnosing the level of efficiency of the use of the remaining SPI tools for other regions.

Moreover, the use of regional benchmarking brings effects in the regions less as well as more developed in terms of capital at their disposal. However, only few regions so far use benchmarking in practice of management of their regional development. Therefore, it is necessary to raise awareness among stakeholders of the regional scene of the possibility of applying this instrument to manage the innovative development of the region.

The concepts of regional innovative development and its management, including the use of intelligence tools to support the process of creating and implementing strategic objectives at the level of the region, are a relative novelty and are just beginning to be implemented in Poland, where for many years decisions were made on central levels.

One of the regions that are characterized by disparities in the development of regional capital and consequently by a lower level of innovativeness is the Lodz Region. This used to be the most powerful industrial center—nowadays in terms of the individual components of regional capital it is in the middle of the classification of the Polish regions (with some exceptions, e.g.: in terms of human resources). In view of the above, it is a good example to show a possible use of benchmarking for the management of its innovative development as well as the improvement of the strengths and the compensation for the weak components of its regional capital.

3 The Possibilities of Using Benchmarking in the Practice of the Polish Regions

Several premises point to an important role played by institutions providing support for business in the framework of the development of the regional innovation system. Despite the fact that SMEs constitute more than 90% of companies operating in the European Union and their revenues amount to more than half of total revenues of companies operating in the territory of the Community, their internal potential is usually not sufficient for the implementation of innovative projects. Therefore, institutions that will provide the required support for SMEs and enable them to undertake innovative projects are necessary. They are often catalysts of internal networks that integrate the regional economy and science, and their active participation in supra-regional networks inspires others to pursue interregional cooperation.

Moreover, the implementation of one of the seven flagship projects identified in the Europe 2020 strategy—an industrial policy for the globalization era, a project for the improvement of the business environment, particularly in relation to SMEs, and for support of the development of a strong and sustainable industrial base, prepared to compete in world markets—imposes on business support institutions the requirement to provide the highest level services for SMEs.

One of the parameters on the basis of which it is possible to assess the efficiency of the functioning of business support infrastructure in the region is the determination of the degree of match between the services provided by the institutions that

make up its composition and the needs of companies. Internal benchmarking is the right tool to carry out such verification.

This type of benchmarking allows to diagnose the differences in the impact of the individual components of regional capital, in this case of the component of mixed assets: business support institutions. Actions in the framework of this type of benchmarking should be initiated by carrying out the internal control of mechanisms related to the functioning of business support institutions in order to identify those that provide services that meet the needs reported by the representatives of the enterprises surveyed (i.e. benchmarks). The next step is to use the opinions of the entrepreneurs on the subject of the services provided and the demand for these services, as well as the results achieved in this area by the business support institutions surveyed—benchmarks—to develop guidelines for other, less efficient entities. In this type of benchmarking, the business support institutions that were rated the highest by the respondents in terms of the services provided and their adaptation to the needs of the surveyed businesses were determined as benchmarks. This tool, by drawing up specific guidelines, should ultimately help to overcome the disparities in the level of development of one of the components of regional capital, i.e. business support institutions. The results of this type of benchmarking are also intended to support the diffusion of knowledge in the region through the inclusion of selected entities of the regional scene, in this case the enterprises and the business support institutions, in the process of implementation of the formulated guidelines.

Benchmarking in the area of assessing the functioning of business support infrastructure was conducted for three categories of services: information, training and advisory-consulting services. The manner of collecting data in the framework of the undertaken benchmarking activities was of a primary nature, implemented directly in the form of two surveys. In the first stage of data collection, the respondents were representatives of companies from the Lodz Region. In terms of the nature of business activity, the enterprises surveyed were mostly multi-business companies (24.36%) and service companies (15.38%). Thus the sample for the analysis did not include companies from the following sectors: precision mechanics/optics, ceramic/glass, machinery and metal.

In terms of actions undertaken by the companies surveyed, most of the respondents stated that they carried out innovative activities (74.36% of the respondents). The remaining companies indicated that they did not conduct innovative activities (8.97% of the respondents), and 16.67% of the respondents did not indicate the nature of activities undertaken. In the second stage of data collection, the respondents were representatives of business support institutions. At the same time, these entities were subjects of benchmarking activities. The database of the institutions forming part of business support infrastructure consisted of 83 entities.

The conducted benchmarking aimed at assessing the functioning of business support infrastructure of the Lodz Region has allowed to carry out the following key tasks in the framework of management of the innovative development of the region for this component of regional capital:

- through learning about the entrepreneurs' opinions on the functioning of business support institutions and the demand for their services, the determination of the framework conditions for the creation of an investment climate which addresses
- the entrepreneurs' expectations;
- through diagnosing the benchmarks (the institutions adapting the services provided to the needs of the entrepreneurs) and formulating guidelines for other, less efficient institutions on the basis of the results achieved and the entrepreneurs' expectations, the elimination of disparities and an increase in the innovative capabilities of this component of regional capital;
- through the confrontation of the opinions on the demand side (the entrepreneurs) and the supply side (the business support institutions), the diffusion of knowledge between the various actors of the regional scene, in this case between the enterprises and the business support institutions;
- through the inclusion of selected entities of the regional scene, in this case the enterprises and the business support institutions, in the process of implementation of the formulated guidelines, the initiation and promotion of cooperation (creating new regional forms of partnership).

The conducted benchmarking in the area of assessing the functioning of business support infrastructure in the Lodz Region pointed to several barriers evident already at the stage of conducting the research:

- the entrepreneurs surveyed demonstrated their great aversion to providing responses, citing a lack of time, a large number of surveys received and no tangible benefits from participation in such activities;
- the business support institutions surveyed also expressed a lack of need to participate in the research, citing the following arguments: (I) a lack of time and tangible—material—benefits from participating in the study, (II) no need for diagnosis of functioning of business support institutions in view of a lack of adaptation of the services provided to the needs of enterprises, (III) a centralized management system that prevents employees from providing information without the prior consent of the Board of Directors, (IV) a non-obligatory nature of the study, (V) and a lack of obligation to cooperate (e.g.: arising from participation in a project);
- at the stage of completing the name, address and telephone database of business support institutions, the information available on websites containing regional and national databases was not complete or was sometimes incorrect; in addition, at the stage of research, it was found that some of the institutions did not have a website or provided private email addresses for contact.

The barriers emerging in the aggregation of basic data make it difficult to carry out internal control of mechanisms of the functioning of business support institutions aimed at identifying those institutions that achieve higher (better) results in comparison with others and the results that address the actual needs of enterprises located in the region. The observed attitude of the entrepreneurs and the business support institutions surveyed, therefore, hinders the implementation of the tasks referred to

in the framework of management of the innovative development of the region. It should be noted, however, that, in the course of additional interviews carried out during meetings with the representatives of business support institutions and the entrepreneurs, the information about the need for a diagnosis of expectations of companies in terms of provided services emerged. At the same time, in the course of those meetings, the entrepreneurs confirmed their willingness to cooperate for the adaptation of business-related services to their specialization. Therefore, it can be presumed that, in the course of subsequent benchmarking activities in this regard, access to the data will be less problematic, which will subsequently help to specify the formulated guidelines, and then to intensify the diffusion of knowledge and to increase cooperation aimed at the implementation of these guidelines by selected entities of the regional scene (in this case the enterprises and the business support institutions).

Benchmarking activities in the area of information services indicated that the entrepreneurs surveyed were primarily interested in the information about the possibilities of recapitalization of their companies. The percentage of the respondents who indicated that they sought information on research programs, both national and international, and innovation was low. The local range of business activity conducted by the companies had an impact on the low percentage of the respondents that made use of information on new markets and the possibilities of expansion. Moreover, in the additional interviews, the entrepreneurs pointed out that innovative business growth depended primarily on the company's capital, which was confirmed by their interest in particular types of information.

The enterprises surveyed were satisfied with the obtained information support, but the said support was provided on a commercial basis, among others, by advisory and consulting companies. Institutions operating mostly on a non-profit basis were rated relatively lower for the information services provided. The companies that had not previously benefited from information support showed their interest in this type of support, but stressed that it was difficult to access the offer of such institutions. In addition, the results achieved in the context of the conducted benchmarking activities indicated that the entrepreneurs found the information by themselves (e.g.: on the Internet or through private contacts), therefore they did not use the services offered.

The companies, therefore, were interested in information services, however, they pointed to the need to provide specialized information that met individual needs and was provided professionally by qualified and knowledgeable personnel.

To sum up, the offer of information services corresponds to the demand reported by the entrepreneurs surveyed. However, the services provided by the institutions were mostly of general nature. There was a lack of narrowly specialized information addressing individual needs. In addition, in the case of certain services, for example, of a financial nature, oversupply could be seen. The entrepreneurs also stressed that the promotion channels used were not appropriate, there were no points of customer service, and in view of lack of databases with information not only national, but above all international, they had difficult access to this kind of information (disinformation prevailing in the market).

Benchmarking activities in the area of training services indicated that the entrepreneurs surveyed were interested mostly in training related to the acquisition of the EU funds, as well as in the area of marketing and language. A small proportion of the respondents sought training in logistics, due to the use of subcontractors in this area, and training related to internationalization of the company's business activity, due to carrying out local activities (without engaging in the work of searching for new markets and the creation of new products).

The companies participating in training were relatively satisfied with the obtained support. However, as in the case of information services, customer satisfaction referred to the training provided on a commercial basis, among others, by advisory and consulting companies. The additionally carried out interviews with the entrepreneurs indicated that training offers were often of a too general nature, there were also situations when a lack of preparation on the part of the trainer concerning obvious issues was noticeable. The respondents who had not used with this kind of services before expressed their interest primarily in training designed individually to meet the needs of their companies.

Thus, the enterprises surveyed were interested in training services. However, they pointed to the need to organize training that met their current business needs and training developed in cooperation with the companies themselves. To sum up, the offer of training services corresponded with the needs reported by the entrepreneurs in the area of training of a financial nature. However, the services provided by institutions were mostly of a general nature, there was also oversupply of training concerning the structural funds and the law. There was a lack of narrowly specialized information that addressed individual needs. The offer of training sessions in the area of management and technology was relatively poorly represented. In addition, commercial, narrowly specialized training services were relatively expensive or offered a small number of places for the participants, which made it impossible to train a sufficient number of employees. There was a lack of training developed in cooperation with the companies and carried out in cooperation with coaches-experts.

Benchmarking activities in the area of advisory and consulting services indicated that the respondents were interested mainly in support when applying for funding, but also in finding new customers. The additionally carried out interviews with the entrepreneurs showed that they were not looking for assistance in identifying new markets, since so far they had taken no steps to expand. They also did not need support when searching for business partners due to the fact that they either saw potential partners as competitors, or they were building networks themselves. However, in the area of implementation of and participation in research projects, the companies surveyed pointed to organizing this type of projects by themselves.

The companies that used various forms of support were relatively satisfied with the quality of the services provided. However, there were some statements that underlined a lack of some forms of advice in the offer of the business support institutions, especially of a technological and market nature. In addition, the companies indicated oversupply of financial services, which did not translate into the quality of support provided. An additional barrier was also a too general nature of the assistance offered which did not take into account the profile of business activity.

The respondents pointed out that the highest standard of services was offered by some universities and R&D units, as well as by advisory and consulting companies.

As in the case of information and training services, the companies surveyed were interested in advisory and consulting services. However, they pointed to the need for specialized support that met individual needs.

To sum up, the business support institutions offered diversified services which to some extent met the needs reported by the entrepreneurs. However, due to a too general nature of the services provided, the support did not fully meet their expectations. There was a lack of narrowly specialized support tailored to individual needs of a given company or sector. As in the case of information and training services, support of a financial nature also dominated in the area of advisory support. Market and technological offers were fewer. In addition, the price of high standard services was relatively high for the entrepreneurs. The entrepreneurs also pointed to inadequate channels of promotion used by the business support institutions to reach out to potential customers with their offer or a complete lack of such channels.

Benchmarking of the other services supporting business activities indicated that, in the framework of activities providing support for internationalization of the companies surveyed, the institutions provided mainly information services. According to the entrepreneurs with whom additional interviews were conducted, the information was available on the Internet. Moreover, the business support institutions were not prepared to offer specialized services in this area, for example, assistance in identifying new markets, finding customers or business partners and establishing branch offices. In terms of support for emerging companies and business spin-offs, the institutions offered mainly assistance in the acquisition of capital and with legal issues. There was no professional advice in the area of marketing, strategy building or management. In addition, the companies surveyed indicated that business incubators run by the institutions offered mostly office space to rent at relatively lower than normal market prices. They did not provide however, professional advice. In addition, the office infrastructure often did not meet current standards.

According to the entrepreneurs surveyed, there was also a lack of properly developed infrastructure to support technology transfer. R&D units, which are potential suppliers of technology, had no departments providing comprehensive support of this process. Usually, the activities undertaken in this area were limited to selling licenses. In addition, some research projects were not subject to commercialization due to their non-market nature. The companies also pointed to the inefficiencies of the activities undertaken to promote the services offered by the institutions in this regard. Meetings organized by academic centers and R&D units were focused on the subject matter in which the entrepreneurs usually had no interest. There was a lack of specialized meetings prepared taking into account the needs reported by the companies. As is apparent from the statements made by the respondents, activities related to the matching of partners as part of the process of transfer of technology also did not meet their expectations. On the other hand, the interviews conducted with the institutions indicated that they were interested in technology transfer support, however, they had no appropriate personnel.

The degree of involvement of business support institutions in the creation of and participation in networks was relatively low. The additional interviews carried out with the representatives of business support institutions showed that, firstly, they recognized the benefits of cooperation within the framework of the network (e.g.: improving the functioning of the organization by seizing the opportunity to participate in international projects, better access to information and the ability to work on perfecting legislative solutions), and, secondly, that they intended to get involved in cooperation networks, as well as in their creation—mainly in the regional dimension, which then could be included in activities conducted on an international scale. In addition, the entrepreneurs themselves stressed the need for participation and greater interest on the part of the institutions in the process of creation of cooperation networks. They believed that there was a lack of actively functioning networks of cooperation at the regional level which could affect the development of the companies, for example, by the possibility of making contacts, undertaking common initiatives, as well as providing a better flow of information.

The plans of business support institutions for the next period included, first and foremost, diversification of services which did not meet the expectations of the entrepreneurs who pointed out that the services provided were relatively diverse, but their nature was too general. Specialization of the support offered, adapted to the expectations of the entrepreneurs, is therefore advisable. Knowledge of the business support institutions concerning the Regional Innovation Strategy for Smart Specialization and the Development Strategy for the Lodz Region was incomplete. In addition, the actions taken by the institutions in the field of these concepts only in part corresponded to the implementation of the programmed objectives. There were no activities aimed at improving the innovative development of the Lodz Region, for example, through providing support in this area for key sectors or companies.

4 Conclusions

To sum up, benchmarking activities carried out in the area of assessing the functioning of business support infrastructure of the Lodz Region have enabled the verification of the opinions of the entrepreneurs from the Lodz Region on the functioning of business support institutions and the demand for business support services provided by these institutions, and the determination of the framework conditions for the creation of an investment climate which addresses their expectations. Moreover, the diagnosis of benchmarks and the formulation of guidelines for other, less efficient institutions on the basis of the results achieved and the expectations of the entrepreneurs in order to undertake activities aimed at the elimination of disparities and an increase in the innovative capabilities of this component of regional capital. And finally, the confrontation of the opinions of the entrepreneurs and the business support institutions surveyed in the Lodz Region and the initiating of cooperation within the framework of additionally organized meetings between the entrepreneurs and the representatives of business support institutions.

The innovative development of the region is based on innovativeness of individual components of regional capital. The application of internal benchmarking in the management of regional innovative development allows therefore to eliminate disparities and increase innovative capabilities of one of the components of regional capital, in this case the business support institutions. It also aims to increase the exchange and adaptation of knowledge between different actors of the regional scene, in this case between the companies and the business support institutions.

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The Development of the Creative Industries Sector of Computer Games in Poland



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Abstract Creative industries in Poland and around the world are among the most promising sectors of the economy that also affect the development of traditional industries. This stems from a high level of innovativeness of companies belonging to the creative industries sector and their high flexibility to adapt to the expectations of their customers. Foreign as well as Polish examples indicate that companies that are part of creative industries can very quickly become global companies, reaffirming that intellect, talent and creativity can be a key factor for the company's success in the global market. The paper aims to (i) present what the creative sector is (ii) show how to develop the sector of computer games in Poland and in the whole world; (iii) present the case study of the company that has achieved spectacular success in the computer games market. The company is CD Projekt, the manufacturer of "The Witcher" which sold 600,000 copies worldwide in the first 3 months after its 2007 début.

Keywords Creative industries · Entrepreneurship · Innovation · Creativity · IT

1 Introduction

In the literature, there are many different definitions of creative industries, diverse due to their scope. One of the definitions is the definition created by a special team called Creative Industries Task Force in the UK in the 1990s. According to this definition, the sector of creative industries comprises activities arising from individual creativity and talent which have the potential of generating wealth and employment through the creation and use of intellectual property rights (DCMS 2009, s. 4). The creative sector, according to this definition, includes such activities as advertising, film and video, architecture, music, art and antiques market, performing arts,

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computer and video games, publishing market, crafts, software, design, radio and television, and fashion design.

Creative industries are becoming a driving force of economic growth. They generate high added value and create a significant number of new jobs. Supporting the development of this sector is regarded as an important way to build the region's competitiveness. Creative companies are characterised by the fact that they generate high quality of products and adapt to individual customer requirements. This sector is an important partner of traditional sectors, supporting them in the development of new products, innovative design, and new forms of marketing, especially promotion and advertising. It combines art, culture, business and technology. It also develops creativity, unique skills and talents of people working in the sector. It creates the intellectual property of high value-added, as well as plays a key role in the spread of knowledge, ideas and innovations useful in the modern economy. The concept of "hidden innovation", introduced by Miles and Green (2008), is associated with creative industries. It refers to the kind of innovation which cannot be measured by conventional indicators. Miles and Green (2008) indicate that the share of hidden innovation in the sector of creative industries, though difficult to measure, must be very high. Similar opinions are presented by Hill (1999), who claims that a very high proportion of micro and small businesses in the sector of creative industries, the strong dynamics of its structure and the importance of intangible goods and services significantly hinder even an approximate assessment of the measure of innovative activities and their direct effects on the industry.

The following three product properties play a special role in the development of innovation in the sector of creative industries: (i) creative products are mostly immaterial and mainly associated with text, sound and image, that is, concerning multimedia content; (ii) the value of these products to users is based on their experience; (iii) aesthetic factors play a key role in the assessment of such products.

Creative industries produce goods that are mainly "experience-related", which means that the level of customer satisfaction is related to subjective factors and hardly measurable. This feature is directly connected with the phenomenon of uncertainty in forecasting the demand for these goods. This uncertainty is all the greater, the more different culturally is the market where companies from the sector of creative industries are trying to sell their goods. The subjective perception of the value of a product can be completely different in two different parts of the country, and even more beyond its borders. Practically, it is not possible to carry out reliable research that enable to predict demand for such products. On the other hand, the flexibility of creative entities allows them to quickly adapt to different tastes of customers in remote regions or countries.

Kimpeler and Georgieff (2009) indicate that although creative industries are an important source of generating innovative ideas and the diffusion of these ideas to other industries, on a global scale, in many cases, these are niche, speciality products and their direct impact on the overall economy is not likely to be very large. It is important, however, that creative industries undergo constant transformation and development, searching for and testing a variety of ideas in the market. This process means that after repeated attempts to create, commercialise and improve these

products, some of the products will permanently find their place in the market. The computer gaming market is a perfect example.

2 The Sector of Computer Games as Part of Creative Industries

In the 1970s, the previously unknown sector of computer games emerged in connection with a new invention—the computer. It was a budding industry primarily aimed at lovers of new technologies. Products did not require high financial outlays, there were no extensive promotion mechanisms, and companies creating games were small, team-based initiatives mainly located throughout the United States. In the beginning, it was not taken seriously by large companies, which focused more on the utilitarian use of computers. However, over 40 years, this market has experienced tremendous growth, becoming a major branch of the entertainment industry. Over time, it has turned out that games are an important engine of economic growth. Firstly, because they have started to enjoy increasing market demand, and secondly, because they have given rise to the development of the computer sector. Increasingly higher users' demands concerning graphics and music require ever more powerful processors. And thus, since the mid-1980s, the gaming sector has found its permanent place in the global business technology.

The US share of the computer games sector in the national GDP was USD 4.9 billion, and the number of employees amounted to over 120,000. In 2012, the value of the global gaming market amounted to USD 66.3 billion (Kozielec 2017). In 2015, it was valued at about USD 90 billion and expected to reach a ceiling of USD 100 billion in 2016 (Polish Radio 2016). In 2016 the United States have the largest share in the value of the video game market (more than USD 20 billion), followed by China (approx. USD 18 billion) and Japan (USD 12.2 billion). Poland is indicated as the 19th market in the world and the second in the region of Central and Eastern Europe (after Russia) (Newzoo Agency 2017).

Creating popular computer games today is subject to a similar process as creating Hollywood film productions. Huge budgets are involved, often reaching a value of USD 100 million. Profits can be just as impressive. Also, it is interesting that the profile of the target client of video games manufacturers has changed, or evolved. Research shows that up to 50% of players are people aged 35 years or more. It can be said that people playing the first generations of games have remained faithful to this form of entertainment, at the same time becoming, along with entering the production age, attractive (as they are better-off than young buyers) clients for game developers. Today's video games are usually targeted to a specific group, taking into account their needs and habits. Interestingly, a large group of consumers are women—Europe's research shows their 45% market share.

A significant amount of game producers come from the USA, although Europe is becoming a stronger competitor of US companies. An interesting example of a European company building its international position is French Ubisoft. Founded in 1986, the company has nowadays become a giant, which in 2004 employed 2350 people. Today, the company has 29 branches in 19 countries around the world. In Montreal alone, it employs almost 2700 people, which makes this particular studio one of the largest in the world. It is responsible for such products popular around the globe as: *Assassin's Creed*, *Far Cry*, *Tom Clancy's Ghost Recon*, *Just Dance*, *Rainbow Six*, *Prince of Persia*, *Rayman*, and *Tom Clancy's Splinter Cell* (Ubisoft 2017).

The assistance offered by governments to domestic producers of computer games is also not without significance in the development of this sector. Since 2004, France has implemented a policy in which developers can apply for tax relief and also benefit from preferential loans. The French government so strongly recognises the potential of this industry that in 2007 the president of the country announced official support for domestic developers, indicating the gaming market as the strongest future medium of the twenty-first century. Also, the UK government has a policy of supporting local producers of electronic games, using a special fund dedicated exclusively to subsidise independent producers in order to develop smaller but creative businesses. In 2015, the British dedicated GBP 4 million to this programme (Radzewicz 2015).

3 The Polish Market of Computer Games in Comparison with the Global Market

In Poland, the value share of the gaming market at the end of 2012 amounted to approx. USD 375 million, which means that domestic manufacturers of video games had a 0.56% share of the global gaming market. Already in 2015, according to GFK research, only in the period from January to September that year, the value of the Polish market of console and PC games reached PLN 650 million, an increase of 8.5% compared to the previous corresponding period. This analysis includes games and game consoles, but takes into account only boxed PC games, excluding the steadily increasing revenue from digital distribution. It also shows a 17% increase in revenues from games alone, which is the largest growth in terms of value. The most popular in the period analysed were games of action and adventure (35%), sports games (18%), and role playing games (9%) (GFK Information Platform 2015). Studies conducted indicate quite accurately the value of video game market in Poland in 2015 at USD 407 million. The number of players is estimated at about 13.4 million people (the world's 2.2 billion), of which just over half buy games legally (Newzoo Agency 2017). It is a ratio similar to that of the world's ratio. Retail distribution (games are purchased in shops in a boxed edition) still prevails in the home video gaming market, but—as all over the world—the role of digital

distribution is growing (the ability to buy products directly over the Internet from the manufacturer or distributor without the retailer in the form of downloads of game installers). In Poland, the most popular game platform is the computer. 60% of computer users buy games in shops and retail chains and 40% via the Internet. 43% of Polish players play console games.

In addition to games on personal computers, the use of online games involving other players—the so-called MMO (massively multiplayer online)—is also popular in Poland. Almost 5.5 million people, or over 47% of active players in total, use this type of games. Profits from these games amount to about 18%, which is a slightly lower result compared to profits from MMO in the US or the EU. It is interesting that in the domestic market, and specifically in Warsaw, there is the highest percentage of players gathered around the world's most popular game—"World of Tanks".

A vibrant sector of companies involved in the production and customisation for our video game market is developing in Poland. There are approx. 160 companies, employing about 6000 people, operating within it. The history of the development of Polish game producers often begins with the distribution and Polonisation of foreign titles. That was the case with today's most recognisable brands such CD Projekt and Techland. The experience gained in the course of cooperation with foreign producers certainly helped them to take decisions leading to their own production, allowing more comprehensive understanding of distribution and promotion—so important for every product—characterised by their own specificity in the video games market. There are more major companies in the market releasing their own independent productions. One can mention such brands as: CI Games which is known for the game of "Sniper: Ghost Warrior", Gamedesire (earlier Ganymede) producing mainly for mobile platforms, 11 bit studios with the series of "Anomaly". However, as shown in the "Situation of the Polish video game industry" report, the vast majority—70%—of Polish manufacturers of computer games are young, small teams of fewer than 30 people, operating in a very dynamic market of mobile games. This is a very interesting market where even small teams of several people can achieve global success—e.g., Digital Melody from Grodzisk Mazowiecki, whose "Timberman" game was at the top of the AppStore list in countries around the world (including the USA), gaining more than 20 million players. Poland's largest studios producing games belong to CD Projekt Red, CI Games, Techland, and Ganymede companies, and employ several hundred workers. The three main Polish regions with the greatest potential of games producers are: Mazowieckie, Małopolskie and Śląskie Voivodeships (Malik et al. 2015).

High stability of businesses from this sector compared to businesses from other sectors of the economy also indicates a good condition of companies in this segment. Consequently, up to 80% of the companies have existed for more than 3 years and more than three-quarters of the companies finance their products from their own funds. 49% of the companies in the industry are currently working on 1–2 new titles, 37% on 3–5, and 7% on more than 10 projects simultaneously. Several companies are already listed on the stock exchange, two of which (CD Projekt Red and CI Games) on the main Stock Exchange in Warsaw. At the same time, approx. 80% of

the companies are now looking for employees and employment is still growing. Programmers are especially needed, and there is a market fear of rapid depletion of competent human resources. Today, there are attempts being made to recruit programmers from abroad, approximately 75% of the companies are organising workshops and lectures aimed at acquiring and preparing future programmers for work in the industry. At the same time, these companies are also quite critical in assessing the level of education of Polish universities in the fields related to this sector. This is another proof of perspective thinking and development ambitions of the Polish video games sector. It should also be noted that almost the entire segment associated with the production of games belongs to Poles and most of the domestic manufacturers operate according to the self-publishing model, which gives greater independence from distribution companies and increases project profitability. In Poland, we have a unique situation on the world-scale also because only 27% of the local companies use the assistance of major foreign publishers (Borowski et al. 2015).

High responsiveness of Polish game producers to the market is also reflected undoubtedly in their strong position in the gaming sector for mobile devices. Incredible popularity of smartphones and tablets, as well as the explosion in demand for entertainment tailored to the specific features of these devices, is the discovery of the recent few years. Statistics show that a large portion of digital products aimed at mobile markets in Germany, France and the UK are produced in Poland.

The Polish video game industry is growing thanks to its continued success in the global market. In the first half of 2015, two games (“The Witcher 3” and “Dying Light”) that were among the ten best-selling games in the world came from Poland. Generally, the gaming market is highly international and the country of origin of a game has little direct impact on its success. Often, the final consumers are not even aware from which country the game they play comes from. The awareness of the brand of the game itself is of much greater importance than its manufacturer—especially when it comes to mobile games. Therefore, our domestic manufacturers need to create games targeted primarily at a global audience. And they do it effectively—for example, the share of sales of “The Witcher 3: Wild Hunt”, an undoubted commercial success, on the Polish market is only 5% of the total volume sold. This shows clearly that without the promotion and interest in foreign markets, it would be difficult to achieve financial success of increasingly more expensive and sophisticated Polish products. The following Polish companies can boast undisputed success in the global market: Techland with such games as “Dying Light”, which sold over 7.5 million copies, and the “Dead Island” series, which also sold approx. 7.5 million copies, or the “Call of Juarez” series bought by more than 3 million people, CD Projekt Red with its three-part series of “The Witcher”, which sold a total of approx. 18 million copies, and CI Games, whose international success was brought by the “Sniper: Ghost Warrior” series, which sold over 5 million copies.

Production of games is a very innovative process which requires creative flexibility and very often also research and development activities. Manufacturers develop their own game engines, employ artists, writers, stuntmen and specialists

from various, often not that obvious, fields. All this to create a unique product that will surprise and attract consumers for a long time with its sophistication and intriguing history. This innovativeness is mostly related to large and expensive productions of the AAA category of games. However, smaller productions can rise above mediocrity based on an innovative idea, for example, “The Vanishing of Ethan Carter” game by Astronauts studio, which was awarded the prestigious most innovative game of the year award by the British Academy of Film and Television Arts.

No wonder that Polish authorities see more clearly the potential of domestic companies producing video games. At a time when innovative sectors are the hope of economies of many more developed countries, measures are undertaken in Poland to support this sector. Thus, in 2016, the sectoral GameINN programme, designed to “support companies in the sector (acting alone or in consortia) in the development and implementation of innovative products and technologies with high commercial potential” was launched with a budget of nearly PLN 500 million, co-financed by the EU (Polish Radio 2016).

4 Case Study: CD Projekt

The leading Polish company that produces games is the already mentioned, listed on the stock exchange, CD Projekt company. Its key product, “The Witcher” video game, which has three parts and sold a total of approx. 18 million copies to date, has become a worldwide best-seller.

The origins of CD Projekt date back to 1994 and the company’s history begins quite typically for the Polish market of game developers—from the distribution of software imported from the USA. Less than 2 years after its establishment, the company was the first in Poland to not only distribute foreign games but also sell them in Polish-language boxes with Polish-language instructions. In 1999, CDP created its first full localisation of the “Baldur’s Gate” best-selling game by “BioWare”. The project was realised with the unprecedented momentum, dubbed by popular actors, including Piotr Fronczewski and Wiktor Zborowski. The game sold on our market at the record for 1999 number of 100,000 copies. CDP has been successful in the distribution of products by such giants of the gaming market as: Acclaim, Blizzard, Blue Byte, Interplay, Psygnosis, Atari, Cryo, Konami, Microsoft, Sega or Ubisoft. Games sold in Poland by CDP are generally characterised by high quality of localisation and good promotion, which has resulted in entrusting the company with the distribution of such hits as “Diablo II” and “Baldur’s Gate II”. Today, the whole Capital Group CD PROJECT comprises several companies, but its biggest success was born with the establishment of CD Projekt Red Studio in 2002—the company which focused on creating games. In 2003, it began to work on its first own production. The idea was very bold and proved to be brilliant—to transfer the colourful universe created by Andrzej Sapkowski in a multi-volume

series of adventures of witcher Geralt to the game world. This choice, along with the highly successful implementation, seems to be crucial for the success of this product. Sapkowski's books belong to the popular genre of fantasy, combining a unique sense of humour with the ability to draw readers' attention to universal problems of today's society such as tolerance, courage of one's convictions, freedom or the ability to co-exist despite differences. On the basis of the novel about the witcher, Polish film productions with well-known actors in the cast were made—the films (both the TV serial and the cinema version) though failed to meet the expectations of numerous fans of Sapkowski's prose.

Therefore, "The Witcher" game had to live up to the high expectations placed on it, fortunately the producers of the game seem to have known it. Its preparation took 5 years and PLN 20 million, a record sum of money at the time in the domestic gaming market. 100 people were employed working on "The Witcher"—including the most creative figures of the world of art and IT such as Tomasz Bagiński (nominated for an Oscar for "The Cathedral" film) or Przemysław Truściński (a well-known comic book author). The production has proven successful in transferring the climate of Sapkowski's works into the world of the game and it can be said that it has created a new quality of RPGs, which has contributed to its great worldwide success. Since the release of "The Witcher" in 2007, CD Projekt has become a recognisable brand around the world and has gained a huge number of satisfied customers. The game has also gained industry recognition as evidenced by the number of international awards (over 100), including the prestigious awards from GameSpot, GameSpy and IGN for the best role-playing game. It was also a turning point for the company, which in the following year began to diversify its revenues by establishing the English-speaking service GOG.com which sells computer games—especially the so-called classics. At the same time, work began on the sequel to "The Witcher", which was the most anticipated game of 2011. The release of "The Witcher 2: Assassins of Kings", as predicted by the market, proved to be a success and the game was also released for Xbox 360 consoles and Apple computers. In 2012, CDP began work on the game titled "Cyberpunk 2077", which was planned as a way to diversify the production of the video game manufacturer unambiguously associated with the series of "The Witcher", but the title is still at the development stage. On May 19, 2015, the third game of the witcher universe under the title "The Witcher 3: Wild Hunt" was launched onto the world market. In the first 6 weeks of sales, it gained 6 million customers and was released immediately in 15 languages, in versions for PCs, as well as Xbox One and PlayStation 4 game consoles. After this huge success, the company using the creative potential of its team, is expanding its offer creating extensive add-ons to the last part of "The Witcher", and is certainly preparing a new attractive product for players all over the world (CD Projekt 2017).

To sum up, it can be said that the company's success is due to firstly the fact that it has managed to create a great title and offer a product which is an attractive proposition for players. Secondly, it has hired professionals from creative industries (e.g., computer scientists, programmers, sculptors, painters, musicians) and

combined their capabilities. Thirdly, it continually communicates directly with fans and meets their expectations.

5 Conclusion

The sector of creative industries is one of the most promising areas of the world economy. It covers many industries which are characterised by a high potential of creative work and innovation. The participants of the sector are usually small businesses, and even individual artists, who through collaboration generate products and services that are most highly customised. The creative sector combines art, culture and business. Not only does it generate innovative products, but it is a provider of ideas for traditional businesses. The computer games industry is a good example. Thanks to the creators, innovators and enthusiasts, over the years it has become the driving force of the economy. As shown by the example of CD Projekt company, by utilising the potential of “The Witcher”, it has become the leader of the Polish gaming market and an important player in the global market.

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Prioritizing Youth in the National Policy Agendas: The Role of the Youth Guarantee in Three European Countries



Sofia Boutsiouki

Abstract In recent years the European Union (EU), recognizing the importance of young people for economic development and social cohesion, has placed pro-youth policies in its top-priority agenda. The Youth Guarantee constitutes one of the emblematic European initiatives. The paper focuses on the national Youth Guarantee plans of three European countries, Greece, Ireland and Spain. First, it makes a short reference to the institutional framework, which is being created by the EU as a means of establishing better prospects for young people, and describes the socioeconomic environment of the three countries. Then, the paper makes a comparative analysis of their Youth Guarantee plans in order to designate their particular characteristics. Also, it examines the funding options for the projects in each country and attempts to evaluate their potential. In addition, the paper comments on the role of stakeholders in the initiative's implementation in an effort to underline their importance and to highlight the differences and the limitations regarding their contribution. Finally, the paper attempts an evaluation of the Youth Guarantee schemes of the three countries, in an effort either to indicate deficiencies or to emphasize good practices, which in the long-term would serve as useful experiences for other member states.

Keywords Youth Guarantee · Youth policies · Employment · Education · Training · Labor market

1 Introduction

In recent years the European Union (EU), recognizing the importance of young people for its economic development and social cohesion, has placed pro-youth policies in its top-priority agenda. The particular European policies focus on

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guidelines and initiatives for closer cooperation and better coordination of national policies regarding youth. The Youth Guarantee distinguishes for setting specific objectives and promoting broader synergies at national and European level. Its introduction in April 2013 manifested the member states' decision to become involved in actions that support the development of young individuals. The particular EU initiative aims at mobilizing more human and financial resources in order to achieve the social integration and the smoother labor market transition of young people. Furthermore, it aspires to raise awareness with regard to future youth prospects and, thus, to enhance stronger and long-term commitments to the issue.

The paper focuses on the national Youth Guarantee plans of three European countries, Greece, Ireland and Spain. First, the paper makes a short reference to the institutional framework which is being developed by the EU as a means of establishing better social and professional prospects for young people. It proceeds by describing the socioeconomic environment of the three countries. The recent economic crisis has posed significant challenges that further highlight the similarities and the dissimilarities in their socioeconomic performance. Therefore, the exploration of their initiatives in favor of young individuals reveals interesting dimensions. Then, the paper makes a comparative analysis of their Youth Guarantee plans in order to designate their particular characteristics. Special emphasis is placed on policy interventions concerning employment and education issues, which are considered to exercise a strong influence on youth prospects. Also, the paper examines the funding options for the projects in each country and attempts to evaluate their potential. In addition, the paper comments on the role of stakeholders in the initiative's implementation in an effort to underline their importance. State authorities, public and private employment services, entrepreneurs, employers' associations and trade unions, and the broader civil society are encouraged to participate in the schemes in order to maximize their outcomes. However, the form of their contribution and the limits within which their participation is exercised differ among the countries. Finally, the paper attempts an evaluation of the Youth Guarantee schemes of the three countries, in an effort either to indicate deficiencies or to emphasize good practices, which in the long-term would serve as useful experiences for other member states.

2 The Youth Guarantee as a European Concept

The significant role of young people for modern societies has been repeatedly highlighted especially during recent years. They are considered as a driving force that promotes the countries' interests and carries a new vision for their future social and economic development. However, young people appear to be extremely vulnerable, when broader changes take place. They are usually at greater risk than the rest of the population of experiencing strong challenges during periods of deep economic reforms and societal transformations. Not only do they confront great difficulty in their transition to the labor market, but also they continue to be challenged even when they have already succeeded in entering employment. They

are often recruited under temporary (short-term) contracts, usually accept less favorable working conditions and are in a continuous danger of losing their jobs, because of their limited professional experience and of their skills often being questioned by employers (O'Higgins 2010; Bussi and Geyer 2013). Moreover, when individuals experience unemployment, they often lose their self-confidence and sense of control. This may result in a decrease in their cognitive abilities in general and may diminish their motivation to undertake initiatives in order to exit unemployment (Sen 1997). Also, other 'costs' may have to be taken into consideration, which not only reduce human capital, but also impair one's ability to augment it: the dramatic effects on health, personal and family life, and social behavior; de-socialization and loss of networks; decrease in opportunities, in self-esteem and personal fulfillment (Wisman 2010).

The deterioration of the socioeconomic conditions for young individuals has incited a broader debate that exceeds national borders and engages the global community. The demand for innovative interventions targeting the arising challenges has intensified and the EU policy context was obliged to introduce particular provisions (Boutsiouki 2016). In addition, the European countries want to avoid the danger of young people becoming discouraged by the deficiencies in the socioeconomic environment and by the lack of corrective interventions, which may result in feelings of resignation and complete detachment from their societies. Under such circumstances, the danger of a 'violent reallocation'¹ of the existing human capital becomes more imminent than ever and increases the negative implications for both the countries and the individuals themselves. For this reason, the efforts of international organizations and countries to introduce the appropriate policy measures that improve youth prospects intensified. International Labour Organization/ILO (2012a, b) promotes a multi-level approach for the improvement of the labor market environment. This approach is considered easily adaptable to the particular conditions of each country and is organized in five policy areas:

1. Introduction of policies that aim at increasing aggregate demand and at improving access to finance.
2. Provisions for education/training in order to support the school-to-work transition.
3. Introduction of labor market policies especially for young people from disadvantaged groups.
4. Enhancement of youth entrepreneurship in order to support job creation for both entrepreneurs and employees.
5. Introduction of the necessary legislation in order to secure young individuals' equal treatment and working rights in their jobs.

¹With the term "violent reallocation" the author symbolically describes the results of the multifaceted challenges which individuals have to manage in the modern labor market: valuable human resources are either being forced to migrate for professional purposes or are simply neglected and marginalized in labor markets that are segmented or exclusive and, therefore, rather unfavorable for young individuals especially.

The EU has undertaken a more proactive role by introducing interventions that aim at mobilizing member states to support the economic and the social integration of young people through coordinated actions (Boutsiouki 2016). The introduction of the Youth Employment Package by the European Commission in December 2012 signified the beginning of a series of interventions that were expected to facilitate youth transition to the labor market (Commission Communication COM/2012/0727/final/EC; Commission Proposal COM/2012/0729/final/EC). The particular initiative was also welcomed by the European Parliament, which has repeatedly expressed its support to actions towards such aims (European Parliament Resolution 2011/C 351E/05/EC; European Parliament Resolution 2013/C 264E/11/EC; European Parliament Resolution 2015/C 440/09/EC). The achievement of a broader consensus allowed the European authorities to establish the Youth Employment Initiative/YEI in March 2013 (Commission Communication COM/2013/144/final/EC). The YEI targets regions where youth unemployment rates were higher than 25% in 2012, as well as NEETs 15–24 years old. The YEI is implemented through particular policy measures by each member state. The latter are also encouraged to make reforms in the fields of education and employment in order to improve the efficiency of their services and to enhance the education-labor market interaction. A very important aspect of the YEI is that it included specific funding provisions for a budget of €6.4 billion for the period 2014–2020, which are to be drawn from two different sources; €3.2 billion will be drawn from a specific EU budget line dedicated to youth employment, which will act as an informal youth unemployment fund and will exploit any margins that will be left available below the Multiannual Financial Framework ceilings for the years 2014–2017; another €3.2 billion will be drawn from the European Social Fund national allocations on condition that they are used in projects combating youth unemployment. However, the size of the initiative's target groups is disproportionate to the limited amount of money that is due to be allocated to their needs. Therefore, concerns regarding the financial sustainability of the initiative and the probability of success of its outcomes appear to be completely justified (Boutsiouki 2017). For this reason, in September 2016 the European Commission proposed an increase in the YEI overall budget by €2 billion raising it to €8.4 billion (Commission Communication COM/2016/603/final/EC).

Gradually the concept of the Youth Guarantee emerged in the European political debate. Youth guarantee schemes had been successfully implemented in many European countries before the introduction of the European Youth Guarantee. The Nordic countries were the first to introduce such schemes and a few years later others followed, such as Germany, Austria and Belgium (Hummelhuhr 1997; Besamusca et al. 2013; Lecerf 2014). Youth guarantee schemes organize different interventions that help young people to develop their competences further and, thus, to improve their employability. In addition, young individuals receive support in order to enhance their self-esteem and their willingness to undertake their own initiatives. The measures may be implemented either independently from each other or in coordination with others under the supervision of national or regional services. In general, three types of measures have been designated (Hummelhuhr 1997; Kraatz et al. 2011; International Labour Organization/ILO 2013):

1. Education/training measures, which include interventions in general education, in vocational education and training (VET) and in labor market training.
2. Measures for the improvement of employment services and programs, which target the improvement of employment planning, job-search assistance and subsidies.
3. Other active labor market policies (ALMPs), which refer to various forms of support through public works, community services and business start-up programs.

A variation in the eligibility criteria among different countries must also be noted. National authorities usually introduce particular criteria that are related to age (up to 24 or to 29 years of age), to the educational level (up to tertiary education or other), to the duration of interventions and the period of time between one's graduation and the beginning of the program (International Labour Organization/ILO 2013). Such a variation is related to each country's actual needs as regards young people, as well as to its model of production.

Overall, the valuable experience gained from previous youth guarantee initiatives that had been successfully implemented in various national socioeconomic environments designated them as an important instrument for coordinated pro-youth policy interventions in the EU, when other piecemeal measures did not prove successful. However, there is considerable evidence that, over the years, youth guarantee projects proved to be rather successful in improving youth transition to the labor market, but they seem to lose part of their dynamics during an economic crisis (International Labour Organization/ILO 2013).

The introduction of the YEI was soon followed by the establishment of the European Youth Guarantee in April 2013 (Council Recommendation 2013/C 120/01/EC). The Youth Guarantee had the opportunity to exploit the existing experience from previous interventions, as well as to be supported by YEI and ESF funds. By introducing the new initiative the EU and the member states pledged "to ensure that all young people under the age of 25 years receive a good quality offer of employment, continued education, an apprenticeship or a traineeship within a period of 4 months of becoming unemployed or leaving formal education" (Council Recommendation 2013/C 120/01/EC, p. 3). Each country was encouraged to develop a national plan with a twofold focus. The projects should include provisions aiming either to increase youth professional opportunities or to help them to develop their competences and qualifications further in order to match the labor market demands and, thus, to make their transition to employment easier.

After the introduction of the Youth Guarantee, the European Commission undertook a more proactive role by suggesting the establishment of an organized implementation model, which included the engagement of broader groups of stakeholders. If it proved successful and received adequate financial resources, such a model would enhance young people's opportunities for work, education or training and mobility, and would probably address skill mismatches. It also designated the European Structural Funds as funding sources supplementary to national resources (Commission Communication COM/2013/447/final/EC). The process of

introducing the Youth Guarantee received additional endorsement from the European Council that characterized the phenomenon of high youth unemployment as ‘unacceptable’ and placed it first in its agenda. Moreover, the EU member states were encouraged to draft their national plans until the beginning of 2014 and to implement the Youth Guarantee principles according to their needs (European Council Conclusions, EUCO 104/2/13 REV 2). Greatest priority was given to countries where youth unemployment rates were higher than 25%. After their approval by the European Commission, the plans were to be implemented for 2 years. Then, they should be revised in order to take advantage of the experience acquired and of the good practices already tested by other member states.²

The planning and the implementation process of the national projects have to take into account three fundamental principles (Council Recommendation 2013/C 120/01/EC):

1. The establishment of a partnership approach between all stakeholders is necessary. The group of stakeholders includes the state authorities, the public and the private employment services, various education providers, the social partners, youth organizations and the young beneficiaries.
2. The projects have to provide for early intervention and activation.
3. The projects must be based on policies and services leading to youth integration in the labor market.

These facts clearly show the awareness of the need for the engagement of broader groups of actors, which is being developed in the European environment. However, they also imply the complexity of the matter and the difficulty in finding the appropriate solutions for a multifaceted situation that significantly differs among countries. Moreover, the implementation of the initiative poses significant challenges to the institutionalization of the interventions, the consistency of the stakeholders’ participation, the inclusiveness and the funding prospects of its projects (Boutsiouki 2017). Therefore, the Youth Guarantee schemes are able to achieve successful outcomes at both operational and symbolic level, provided that they are objectively prioritized, carefully implemented and closely monitored.

²The first phase of the implementation of the national Youth Guarantee plans came to its conclusion in the end of 2015. The plans are currently being revised under the close supervision of the European authorities and according to their recommendations. The monitoring of the Youth Guarantee interventions through the European Semester process constitutes an indication of the initiative’s importance. At the same time it is a mechanism through which additional pressure is exercised on countries in order that they ensure responsible public administration.

3 The Socioeconomic Context of Greece, Ireland and Spain

The paper places at the epicenter of attention three European countries, Greece, Ireland and Spain, which have been severely affected by the 2008 financial crisis. The exploration of specific similarities and dissimilarities in their economic development would contribute to the better understanding of the prevailing circumstances in their socioeconomic environment and of the particular priorities that are depicted in their Youth Guarantee plans.

Greece has been experiencing a continuously deteriorating economic performance since the beginning of the 2008 crisis. The dramatic decrease in the national GDP, the GDP growth and the GDP per capita clearly shows that the country has been affected the worst by the crisis. The augmentation of the gross public debt and the World Economic Forum's forecasts for an increasing trend in it in 2016 and 2017 are associated with the broader turbulence caused by the global financial crisis, as well as with the country's failure to timely address its structural deficiencies. Consequently, the market dynamics has been reduced, while unemployment has reached unprecedented heights and remains the highest in the EU.³ Employment data reveal an increased difficulty of young people in entering the labor market. Also, although the country managed to improve its competitiveness ranking by several positions, it still lags very much behind from other European countries (Table 1). The country was obliged to enter three economic adjustment programs, which have secured conditional funding to the Greek economy from the EU and the International Monetary Fund/IMF (European Commission, Directorate-General for Economic and Financial Affairs 2010, 2012; European Commission, Hellenic Republic and the Bank of Greece 2015). Nevertheless, the country continues to confront serious difficulties that may deteriorate its situation further. The country's deficiencies have been repeatedly highlighted by the European authorities during the European Semester process (European Commission 2015a, 2016a) as well as in the content and the discussions regarding the implementation of the three economic adjustment programs (also known as Memoranda of Understanding).

Ireland was also obliged to enter an economic adjustment program with the European authorities and the IMF in 2010 (European Commission, Directorate-General for Economic and Financial Affairs 2011). Similarly to Greece, the terms of the economic adjustment program secured financial and technical assistance that would help the country to confront the challenges, to avoid insolvency and to restore its developmental dynamics, thus stabilizing its economic and social environment. The country exited the program in December 2013 and is currently subject to a post-program surveillance. By then, it had already become evident that the national economy had achieved positive results (Table 2). The national GDP and the GDP

³The desire to escape unemployment forced many high-skilled Greeks to migrate to other countries, a fact that caused a significant decrease in the population. The Bank of Greece included an analysis of the "brain drain" phenomenon and of its consequences for the Greek economy in its annual report in February 2016 (Governor of the Bank of Greece 2016, pp. 74–77).

Table 1 Basic economic characteristics of Greece

Greece	2007	2012	2013	2014	2015	2016 (forecast)	2017 (forecast)
Population	11.2 m	11.3 m	11.1 m	10.9 m	10.8 m		
GDP (US\$ bn) ^a	318.5	245.6	239.5	235.6	195.2		
GDP growth (% <i>, yoy</i>) ^{a,b}	-3.3	-7.3	-3.198	0.654	-0.232	-0.3	2.7
GDP per capita (US\$) ^a	28,827.33	22,242.68	21,773.27	21,627.35	18,035.56		
GDP (PPP) as share (%) of world total ^c	0.58	0.33		0.26	0.25		
Gross public debt (% of GDP) ^b	131.5	159.6	177.7	180.1	176.9	182.8	178.8
Competitiveness ranking ^c	67	91	91	81	81		

Source: Data from the following sources (elaborated by the author)

^aWorld Bank

^bEuropean Commission, Directorate-General for Economic and Financial Affairs (2016)

^cWorld Economic Forum

Table 2 Basic economic characteristics of Ireland

Ireland	2007	2012	2013	2014	2015	2016 (forecast)	2017 (forecast)
Population	4.3 m	4.6 m	4.8 m	4.6 m	4.6 m		
GDP (US\$ bn) ^a	269.7	224.7	238.3	250.8	238.0	–	–
GDP growth (% <i>, yoy</i>) ^{a,b}	0.1	0.2	1.4	5.2	7.8	4.9	3.7
GDP per capita (US\$) ^a	61,313.58	48,976.93	51,814.85	54,321.29	51,289.97		
GDP (PPP) as share (%) of world total ^c	0.29	0.23		0.22	0.23		
Gross public debt (% of GDP) ^b	64.8	120.1	120.0	107.5	93.8	89.1	86.6
Competitiveness ranking ^c	22	28	28	25	24		

Source: Data from the following sources (elaborated by the author)

^aWorld Bank

^bEuropean Commission, Directorate-General for Economic and Financial Affairs (2016)

^cWorld Economic Forum

per capita started to rise, while in the following years the GDP growth had a significant increase, thus indicating the gradual improvement of the Irish economy. Also, Ireland managed to partly restore by five positions its competitiveness ranking, which had deteriorated since the beginning of the crisis. Therefore, it can be projected as an attractive investment destination, if it manages to develop the necessary workforce properly.

In spite of the augmentation of its financial difficulties and the need for immediate interventions, Spain followed a different path of action than the other two countries. The country decided to implement the necessary reforms by itself, instead of entering the proposed economic adjustment program that would be financed and supervised by the EU and the IMF. As regards the challenges confronted by the banking sector, although the country was forced to enter a Memorandum of Understanding with the EU (20.07.2012), eventually it decided to collect only 1/3 of the external financial aid and to exit the program earlier (31.12.2013). Since the beginning of the crisis the country's population has been experiencing extreme financial and economic conditions. There has been an unprecedented increase in youth unemployment, which is the 2nd highest in the EU, and it seems very difficult to confront it. During the same period of time, as the crisis reached its peak, Spain experienced a significant decrease in its GDP and GDP per capita, as well as a disturbing increase in its gross public debt. However, the GDP growth gradually turned from negative to positive numbers and its competitiveness ranking improved by two positions indicating a slow recovery of the country's economy (Table 3).

Unemployment constitutes a parameter that is indicative of the broader economic conditions in the three countries and plays an important role in the design of their national Youth Guarantee plans. The unemployment rates with regard both to the total population and to persons less than 25 years old present significant differences among the three countries.

On one hand, in Ireland the unemployment rates of both groups remain at lower levels than in the other two countries ([total] 2008: 6.4% vs. 2015: 9.4%; [less than 25 years] 2008: 13.3% vs. 2015: 20.9%) and close to the EU average ([total] 2008: 7% vs. 2015: 9.4%; [less than 25 years] 2008: 15.9% vs. 2015: 20.3%). These rates appear to have increased during the particular period of time and this has to be connected with the effects of the crisis on the national economy and, thus, on the labor market. However, the country's unemployment levels started to decrease in 2012, earlier than in the other two countries, indicating a faster improvement of its financial and economic outlook (Figs. 1 and 2).

On the other hand, Greece and Spain had been experiencing increased levels of unemployment in both the total population and the people less than 25 years old before the beginning of the crisis, but unemployment was higher in Spain than in Greece (2008: for Greece [total] 7.8%; [less than 25 years] 21.9% and for Spain [total] 11.3%; [less than 25 years] 24.5%). These rates reached their peak in 2013, when Greece surpassed Spain (for Greece [total] 27.5%; [less than 25 years] 58.3%) and for Spain [total] 26.1%; [less than 25 years] 55.5%), and still remain the 1st and 2nd highest in the EU respectively (2015: for Greece [total] 24.9%; [less than 25 years] 49.8% and for Spain [total] 22.1%; [less than 25 years] 48.3%). In general,

Table 3 Basic economic characteristics of Spain

Spain	2007	2012	2013	2014	2015	2016 (forecast)	2017 (forecast)
Population	43.6 m	46.2 m	46.6 m	46.5 m	46.4 m		
GDP (US\$ bn) ^a	1479	1340	1369	1381	1199		
GDP growth (% <i>, yoy</i>) ^{a,b}	0.0	-2.6	-1.7	1.4	3.2	2.6	2.5
GDP per capita (US\$) ^a	28,482.61	28,647.84	29,370.66	29,718.5	25,831.58		
GDP (PPP) as share (%) of world total ^c	2.09	1.70		1.42	1.42		
Gross public debt (% of GDP) ^b	51.4	85.4	93.7	99.3	99.2	100.3	99.6
Competitiveness ranking ^c	29	35	35	35	33		

Source: Data from the following sources (elaborated by the author)

^aWorld Bank

^bEuropean Commission, Directorate-General for Economic and Financial Affairs (2016)

^cWorld Economic Forum

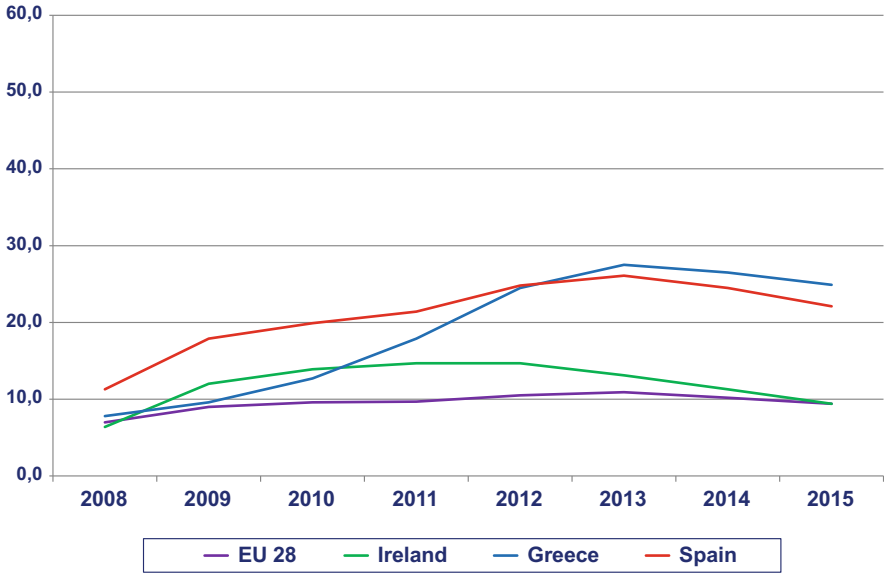


Fig. 1 Unemployment rates (%)—total (2008–2015). Source: Data from Eurostat (elaborated by the author)

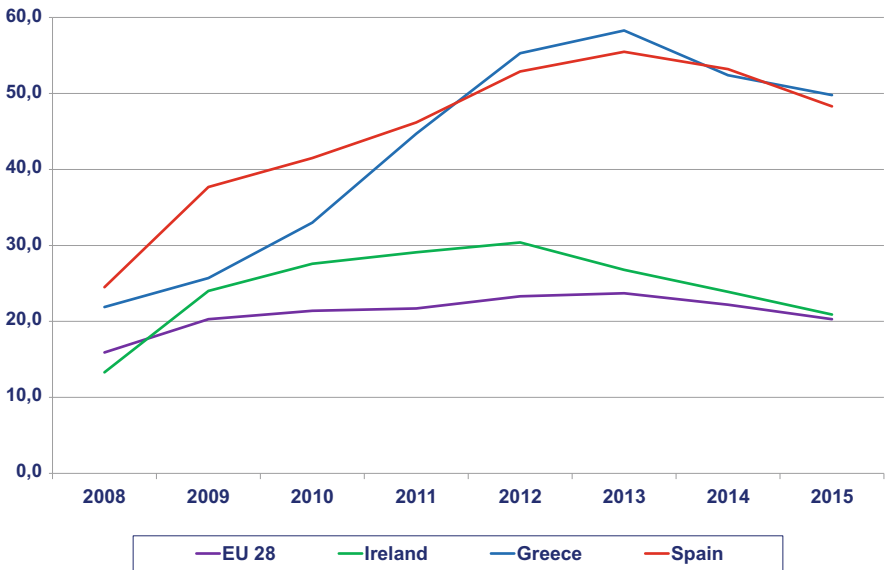


Fig. 2 Unemployment rates (%)—people <25 years (2008–2015). Source: Data from Eurostat (elaborated by the author)

in 2014 and 2015 youth unemployment started to decrease at a faster rate than the overall unemployment, but the share of young people affected by unemployment still remains very high compared to other cohorts (Figs. 1 and 2).

The levels of NEETs (young people Not in Employment, Education or Training) in the European countries are an additional parameter that has to be taken into consideration in the overall Youth Guarantee planning and implementation. The challenges faced by NEETs have been placed at the epicenter of attention of the European youth policies, as their effects on the prospects for professional and social inclusion seem to be more dramatic and complex for them than for other groups of the population. The prevailing unfavorable conditions deprive youth from opportunities to enter employment or to participate in education and training activities in order to improve their competences and enhance their employability. Furthermore, the fact that the European economic environment has been unable to successfully deploy the potential of more than 14 m NEETs 15–29 years old causes considerable economic costs. In 2011 these costs were estimated to mount to €153 billion and to be equivalent to 1.2% of EU GDP (Eurofound 2012). European countries are aware of the social and the economic consequences of the continuous increase in NEETs' numbers. For this reason they have engaged in the establishment of a coordinated youth strategy that targets the primary causes of the particular phenomenon.

The numbers of NEETs in the three countries have been much higher than the EU average for many years. The crisis seems to have intensified the pressures on the particular group further. The difficulty of NEETs in entering the labor market increases the danger of them becoming economically excluded and socially marginalized. In addition, if the countries are not able to deploy youth potential, they cannot avoid the significant costs that result from the social benefits and other programming interventions targeting young unemployed, as well as from the fact that young individuals cannot contribute to the countries' economic activities with their human capital.

The aforementioned fiscal and economic adversities of the three countries resulted in the dramatic increase in the rates of NEETs, which reached their peak in 2013 (Fig. 3). Besides the societal costs, in 2011 the total cost of NEETs 15–29 years of age aggravated the countries' finances, thus hindering the national efforts for recovery; for Greece the additional costs were estimated to be €7.1 billion (3.28% of GDP, almost triple the EU average), for Ireland €4.3 billion (2.77% of GDP) and for Spain €15.7 billion (1.47% of GDP) (Eurofound 2012). Although the rates show a decreasing trend in all three countries, they still remain above the EU average. Moreover, there are different NEETs rates for different sub-groups in the three countries. The rates of NEETs 15–24 years old are lower than those of NEETs 25–29 years old (Figs. 4 and 5 respectively). This is probably due to the fact that most young people at the age of 15–24 years are still involved in education and training activities, whereas the majority of individuals at the age of 25–29 years are expected to have already finished their studies and to be actively looking for work. However, most of them seem to be unsuccessful towards such an end, since the labor market offers very few professional opportunities.

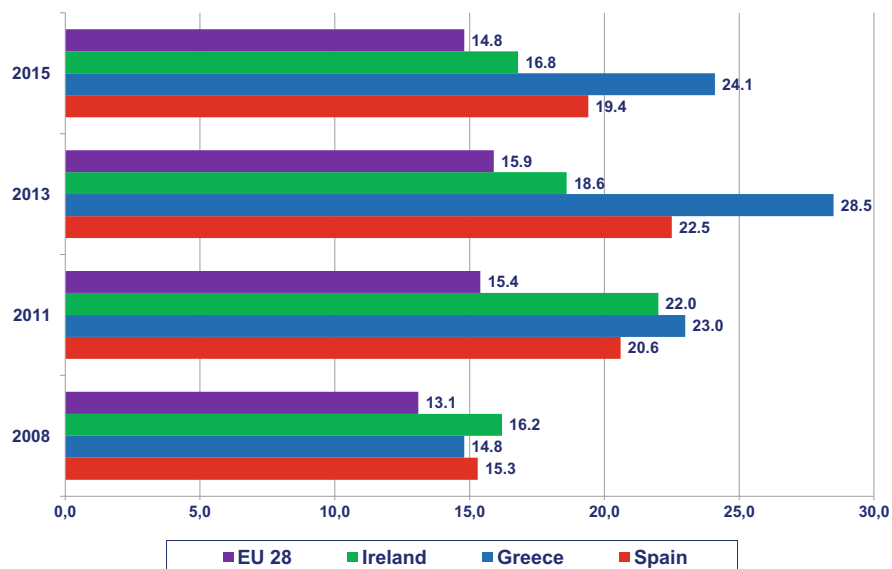


Fig. 3 NEETs (not in Employment, Education or Training)—(%) (2008–2015). Source: Data from Eurostat (elaborated by the author)

Greece faces worse problems with NEETs compared (mostly) to Ireland and (less) to Spain. Also, unlike Ireland, where the gap between the two age groups of NEETs is narrow, the gap is much bigger in the cases of Greece and Spain. The rates of the year 2015 can serve as an indicative example, although the gap was wider in previous years: Greece [15–24 years] 17.2%—[25–29 years] 36.2%; Ireland [15–24 years] 14.3%—[25–29 years] 21.4%; Spain [15–24 years] 15.6%—[25–29 years] 26.0% (Figs. 4 and 5). Evidently, the three countries cannot ignore the relatively large number of NEETs that will probably increase. Therefore, specific actions have to be undertaken in order to offer young individuals the support that matches their needs. These actions should target either NEETs' transition to the labor market or their participation in education and training.

The comparison of the performance of the three countries towards the Europe 2020 national targets is also very interesting, because it designates details that may define the policy interventions that each country has to provide for. Ireland appears more successful in the field of employment. Ireland moved quite close to its national target in 2015 (2015 indicator: 68.7% vs. national target: 69%) compared to Spain and Greece. The two countries lag behind by 12% and 15.1% respectively (Spain, 2015 indicator: 62% vs. national target: 74%; Greece, 2015 indicator: 54.9% vs. national target: 70%) (Fig. 6).

In the field of early school leavers, all three countries have positive results. Ireland (2015 indicator: 6.9% vs. national target: 8%) and Greece (2015 indicator: 7.9% vs. national target: 10%) have already managed to decrease their rates below their national target. Spain (2015 indicator: 20% vs. national target: 15%) has moved

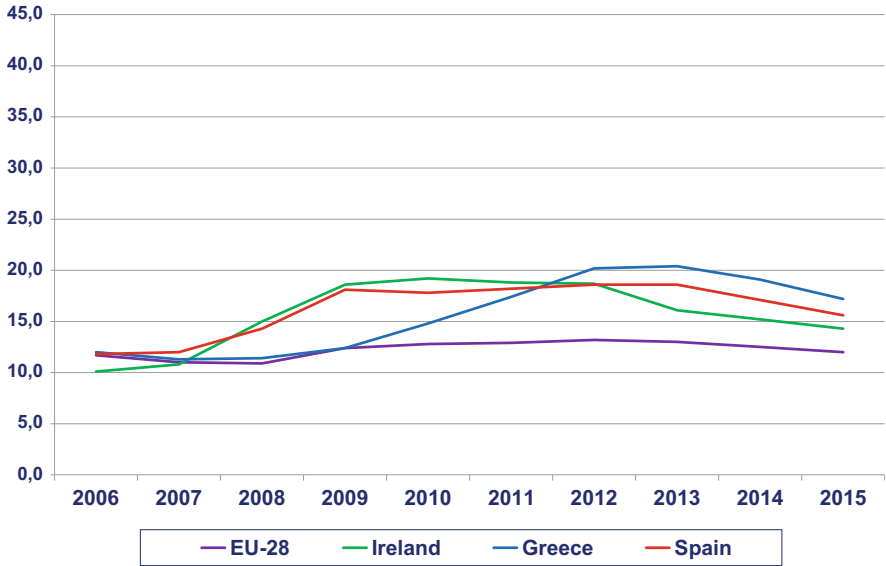


Fig. 4 NEETs (not in Employment, Education or Training) by age [15–24 years]—(2006–2015) (%). Source: Data from Eurostat (elaborated by the author)

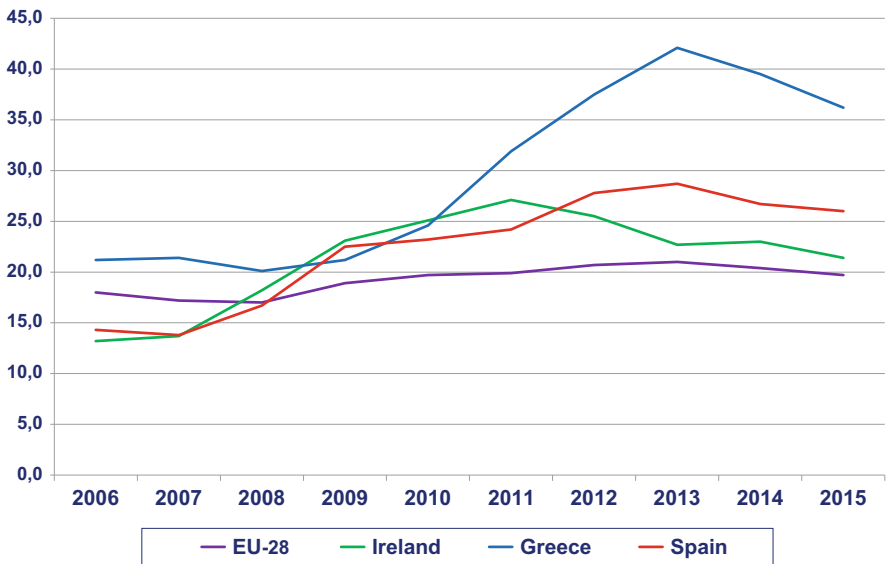


Fig. 5 NEETs (not in Employment, Education or Training) by age [25–29 years]—(2006–2015) (%). Source: Data from Eurostat (elaborated by the author)

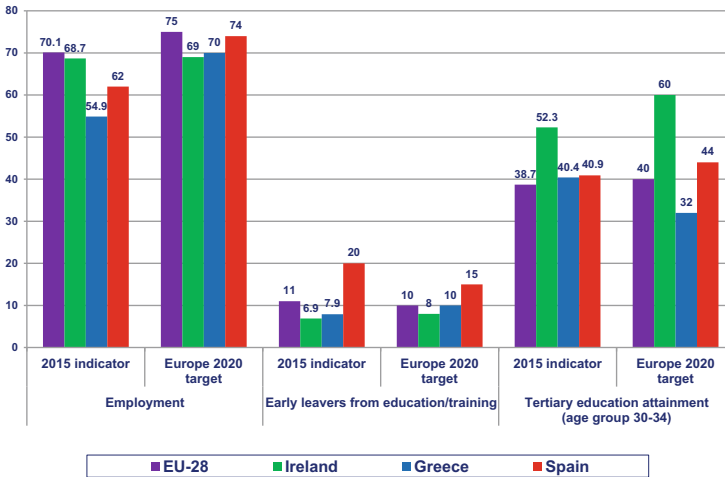


Fig. 6 Europe 2020 strategy—2015 indicators and national targets (%). Source: Data from Eurostat (elaborated by the author)

closer to its national target (Fig. 6). These findings are very important, because they allow for an optimistic approach regarding the investment in qualifications and lifelong learning.

The performance of Greece regarding tertiary education attainment for the age group 30–34 years already exceeds its national target (2015 indicator: 40.4% vs. national target: 32%). The other two countries, Spain and Ireland, are close to their national targets with the former achieving a participation rate of 40.9% (national target: 44%) and the latter a rate of 52.3% (national target: 60%) (Fig. 6). The further increase in the numbers of people with tertiary education qualifications would ensure more competent human resources for the national economies and would support their efforts to overcome the obstacles that put their socioeconomic performance to the test during current turbulent times.

Finally, the participation of individuals in adult lifelong learning depicts the actual ability of a country to develop the professional skills and competences of its people and, thus, to establish a long-term planning for development. The three countries differ very much in such participation. Spain (9.9%) is very close to the EU average in adult lifelong learning, which is regarded as an attractive learning stream. On the contrary, in Ireland (6.5%) and Greece (3.3%) the participation is much lower (Fig. 7). The low participation rates of the two countries can be related to factors with negative influence on the broader attitude of individuals regarding learning activities, such as the phenomena of skill mismatches or overeducation. Negative attitudes may discourage individuals from updating their skills and developing new competences, from acquiring the necessary qualifications and enhancing their positive perceptions of lifelong learning. Evidently, they might be at risk of being unable to confront unfavorable conditions in the future concerning either their professional or their social inclusion.

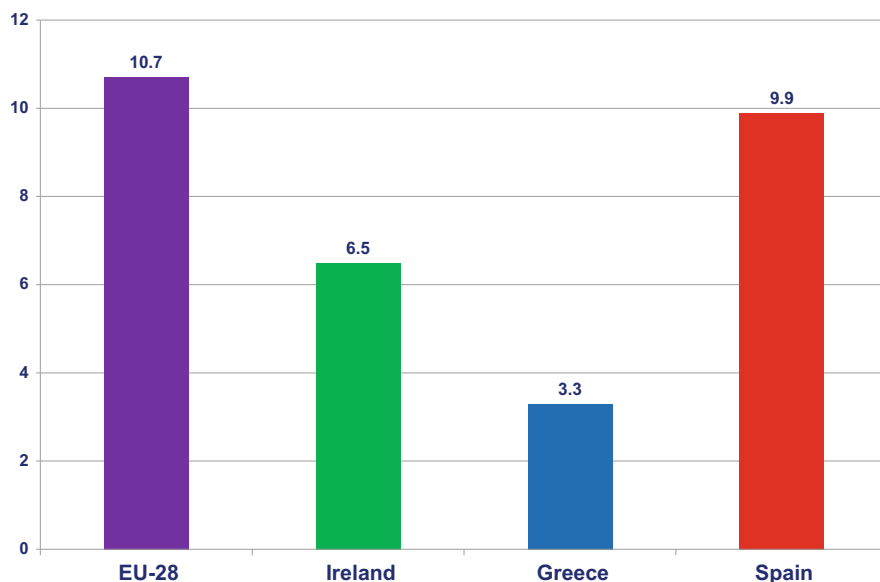


Fig. 7 Adult lifelong learning participation 2015 (%). Source: Data from Eurostat (elaborated by the author)

4 A Comparative Approach of the National Youth Guarantee Plans

According to the European authorities' guidelines all member states should submit their Youth Guarantee plans by January 2014 in order to implement them without delay. The first phase of their implementation was set to last for two years and is expected to be followed by a second one after the conclusion of the first plans' evaluation (European Commission 2016a, b, c). All three countries endorsed the Youth Guarantee model through a series of actions, which aspire to invest in youth potential and socioeconomic inclusion.

Spain was among the first countries to submit their national plans (19 December 2013) (Spain. Ministry of Employment and Social Security 2013). Its plan was in line with the national "Entrepreneurship and Youth Employment Strategy", which had already been adopted, and includes actions that take into consideration issues related to gender, to the diversity of young people covered by the Guarantee provisions and to national, regional and local conditions. On 20 December 2013 Ireland submitted its national plan (although it was published a few months later) that was associated with the country's 'Pathways to Work' strategy, which had already been put into effect since 2011 (Ireland. Department of Social Protection 2014). Greece submitted its national plan on 31 December 2013 (Greece. Ministry of Labor, Social Security and Welfare, Directorate of Employment 2014) and associated it with the

national Operational Programme for the development of the labor force (Greece. Ministry of Labor, Social Security and Welfare and Ministry of Education and Religious Affairs 2014) and, at a later time, with the national Reform Programme (Greece. Ministry of Finance 2015).

4.1 Eligible Groups and Selection Criteria

The needs of young cohorts differ very much among countries, because of the divergence of their socioeconomic conditions. For this reason the groups of young people who are eligible for participation in Youth Guarantee schemes and the selection criteria applied are determined differently by each one of the three countries. They also implement different selection processes.

Although the performance of Greece in youth participation in education is more than adequate, young people confront great difficulty in entering the labor market. The deterioration of the country's economic outlook has decreased the business activity and, thus, the demand for labor. These adverse circumstances led to youth unemployment rates that are the highest in the EU, involve broader groups of young individuals and require special multilevel corrective interventions. The national Youth Guarantee plan refers to different target groups than those mentioned in the plans of the other two countries. Although the Youth Guarantee makes special reference to measures offering support to young people less than 25 years old, the Greek plan extends its provisions to people less than 30 years old. It recognizes the need for greater attention to NEETs, who are considered the top priority target group, but at the same time it underlines the difficulty in locating them. Other priority groups include long-term unemployed young persons aged 15–24 years (in some cases less than 30 years), young persons living in the regions with high unemployment rates, and young persons living in households with particularly low income, provided that they submit an application for participation in the schemes. Potential beneficiaries have to be registered with the public employment services and to provide the necessary information, which allows the national authorities to conclude their profiling. The profile helps the public employment services to recognize the level of prioritization for each applicant and to decide one's ability to participate in the schemes by receiving a quality offer. Every time a new scheme is announced, young people have to submit a new application in order to express their interest in being considered for participation (Greece. Ministry of Labor, Social Security and Welfare, Directorate of Employment 2014).

In Ireland the Youth Guarantee is organized with a twofold focus. On one hand, it targets young people less than 18 years old who left the education system before completing secondary education and were not successful in finding a job. The particular group of people is supported in order to re-enter the school system or to attend alternative non-formal education/training options. On the other hand, the plan targets young individuals 18–24 years old who are unemployed for more than 4 months and are registered with the benefits/employment services. They are offered job search assistance or alternative opportunities for education or work experience.

As regards the definition of the priority criteria, Ireland determines them according to age. More specifically, there is no particular selection for those less than 18 years old, who are targeted by the national plan; they can participate at every stage of the entire 2-year period of implementation. On the contrary, a prioritization can be identified for individuals between 18 and 25 years of age. In their case the priority depends on the unemployment status and the probability of them becoming employed soon. All unemployed young people who are registered with the public employment services have to be assessed. Young people who are assessed as having low probability to become employed without receiving external support from the public employment services, should receive a Youth Guarantee offer within 4 months on condition that the programs for them would be completed by the end of 2014. Unemployed young people with medium-to-high probability of securing a job position on their own should receive an offer within 9 months and the programs for them were to be completed by the end of 2015. Long-term unemployed were able to be included in the schemes during the entire implementation period of 2014–2015. The Irish Youth Guarantee plan does not specifically describe the selection process that is followed in each case. Nevertheless, it makes specific reference to the role of the public employment services and to the need for someone to be registered with them in order to be considered for assessment and support (Ireland. Department of Social Protection 2014).

In Spain the Youth Guarantee national plan also targets two distinct groups of young people, who are part of the country's unemployed youth. On one hand, it targets people who are less than 25 years old and are not in employment or training, on condition that they apply for participation in the initiative's projects. The particular group is offered employment, education or work experience opportunities. On the other hand, the initiative targets young people less than 25 years of age who are also out of employment or education and at the same time are disconnected from the labor market. In their case the interventions aim at their re-activation. The selection criteria for eligible participants are more rigorous for applicants in Spain than for those who apply in the other two countries, because the numbers of young people who confront educational or professional exclusion are very big and the problem for the country extremely serious. The criteria according to which the applicants are assessed and prioritized include age, prior work experience, duration of unemployment, skills level, time of application and the existence of prior support. The national Youth Guarantee plan determines a two-stage process, which attempts to select the persons in greater need by evaluating an online application and the profile of the applicants. In the first stage—that lasts 30 days (max.)—the application is submitted to an online system that has been specifically developed for the process. The system designates the eligible individuals, completes their profiling and, thus, is able to define the priority and the appropriate type of intervention for each applicant. In the second stage—that lasts 4 months (max.)—the individuals are selected according to particular criteria, which give greater priority to young people with no skills or work experience, and to the long-term unemployed (Spain. Ministry of Employment and Social Security 2013).

4.2 *Synergies Among Stakeholders*

The establishment of dynamic public-public and public-private synergies is one of the main Youth Guarantee principles. Therefore, the implementation authorities included such partnerships in their national plans (Spain. Ministry of Employment and Social Security 2013; Greece. Ministry of Labor, Social Security and Welfare, Directorate of Employment 2014; Ireland. Department of Social Protection 2014; European Commission 2015d).

4.2.1 **Public Sector Cooperation**

In all three countries the public sector plays the primary role in the initiative's strategic and operational aspects. However, although the large number of actors involved broadens the approach to the matter, in some cases it may lead to greater difficulty in actually achieving the desired coordination.

In Greece the public sector exercises its leading role mainly through the Ministry of Labor, Social Security and Welfare, which has been appointed as the national Youth Guarantee authority. It has a proactive involvement in the schemes' design and implementation, disseminates information and coordinates partnerships with other public bodies, in order to achieve projects with greater effectiveness. It pursues its aims for quality and inclusive interventions through the coordination of a number of different committees, which form a network and serve different roles; a coordination committee and a working group promote the YEI implementation, while a consultative working group—within the framework of the national public employment services—supports the apprenticeship action plans. In addition, for the first time the gravity of the issue incited the formation of the Government Employment Council, which aspires to engage the Prime Minister and several Ministers in the promotion of policies and actions concerning the improvement of the country's performance in employment (Greece. Ministry of Labor, Social Security and Welfare, Directorate of Employment 2014).

Similarly, in Ireland the public sector participates only with the general state authorities. The Department of Social Protection has been appointed as the leading national authority of the initiative. It exercises an advisory role, has a proactive involvement in its implementation, supervises the public employment services and develops partnerships with other public bodies. The Department of Education and Skills, the Department of Jobs, Enterprise and Innovation, the Department of Children and Youth Affairs, the Department of Public Expenditure and Reform and SOLAS (the new Further Education and Training Authority) offer their expertise to the formulation of the national strategy and share the responsibility of securing targeted educational programs, work positions and financial resources (Ireland. Department of Social Protection 2014).

On the contrary, in Spain there are two different dimensions as regards the public authorities. Although not a federation, the country is a highly decentralized state,

which is divided into seventeen Autonomous Communities and two autonomous cities. On one hand, the general state authorities through the Ministry of Employment and Social Security have undertaken large part of the procedures establishing the country's Youth Guarantee. They also coordinate the administrative and the operational actions of other public bodies that may become involved at national level. The General Directorate for Self-Employed Workers, Social Economy and Corporate Social Responsibility, the Public Employment Services, the Ministry of Education, Culture and Sport and the Ministry of Finance and Public Administration assume responsibilities within their domain. On the other hand, large part of the implementation of the Youth Guarantee projects is undertaken by the Autonomous Communities, where the specialized councils have better knowledge of the local needs and, therefore, greater ability to manage the schemes targeting youth with success (Spain. Ministry of Employment and Social Security 2013).

4.2.2 Public-Private Sector Partnerships

Besides the cooperative activities that are developed by the various public authorities and agencies, the Youth Guarantee plans of the three countries make every effort to involve stakeholders from the private sector, who are called on to undertake large part of the projects' implementation. The list of private sector actors, who are invited to participate in the process, is quite long. The trade unions on the part of employees, as well as the employers' associations hold a key position in the operational part of the Youth Guarantee plans. Individual employers, the national youth council, national and local development networks and associations, and various social actors are also encouraged through specific incentives to participate in the design and the implementation of the projects by developing strong and coordinated partnerships at national and local level.

In Greece the call for cooperation was not addressed only to social partners with a visible connection with the policy agenda on youth education and employment. It also attempted to develop synergies with the broader civil society by including in the discussions actors such as the Hellenic National Youth Council.

In the case of Ireland the leading authority took particular initiatives in order to facilitate coordination and synergies. It set up an interdepartmental youth guarantee group for the assignments that concerned the public sector involvement, while it held an open consultation with the private sector stakeholders and retained OECD to offer its know-how.

Spain attempted to involve agents from the private sector, who had already been engaged in the Operational Programme for Youth Employment for the period 2014–2020. Thus, the use of their knowledge and the coordination of their actions would become attainable.

4.3 Funding of the Youth Guarantee Plans

The implementation of the Youth Guarantee projects is expected to draw funds from two different sources, the EU and the national budgets.

The EU financial resources for the support of Youth Guarantee schemes come from two lines; the European Social Fund/ESF and the Youth Employment Initiative/YEI. The financial resources from the ESF can be used provided that they meet the eligibility criteria. The compulsory minimum allocation from the ESF resources may be used in order to fund either direct actions in favor of youth or structural actions that concern people who are eligible under the initiative. An additional amount will be charged to the ESF, in order to finance provisions that cannot be funded by the YEI.

The funds that have been allocated to the YEI can be used for the support of the Youth Guarantee only by countries with youth unemployment rates above 25% in 2012. The three countries qualify for YEI funding because of their extremely high youth unemployment rates in the year of reference (Greece: 55.3%; Ireland: 30.4%; Spain: 52.9%). In Greece and Ireland the state authorities manage the financial resources from the YEI and the ESF. The Spanish plan allocates 50% of the YEI resources to the Autonomous Communities according to the weight of NEETs less than 25 years old and the local councils undertake their distribution to the relevant projects, which are developed under their guidance and supervision. The remaining 50% is distributed to areas according to their population of young unemployed less than 25 years old (Spain. Ministry of Employment and Social Security 2013; Greece. Ministry of Labor, Social Security and Welfare, Directorate of Employment 2014; Ireland. Department of Social Protection 2014).

Table 4 presents the EU funding for Greece, Ireland and Spain (European Commission, 2015a, b, c), which is to be drawn from the YEI and the ESF and to be allocated to actions of the national Youth Guarantee plans.

Each country's national budget is the second funding source for the Youth Guarantee plans and their projects. However, the fact that the national budgets of the three countries have been experiencing strong pressures for years, as the

Table 4 EU funding for Youth Guarantee

Conditionality	Greece	Ireland	Spain
Youth Employment Initiative (YEI) during years 2014–2015 only for countries with youth unemployment >25%	€171,517,029	€68,145,419	€943,496,315
YEI pre-financing in 2015 (after increase)	€51,455,109	€20,443,626	€283,048,895
European Social Fund (ESF): <i>Compulsory:</i> funding of direct pro-youth actions <i>Additional:</i> 2014–2015 → structural actions 2016–2020 → both direct and structural actions	€171,517,029	€68,145,419	€943,496,315

Source: Data from European Commission (2015a, b, c) (elaborated by the author)

conditions in the European environment remain unstable, makes the concerns regarding their ability to financially support the Youth Guarantee schemes completely justified. The European Semester process closely monitors and assesses the countries' situation through the mechanisms of the Macroeconomic Imbalance Procedure and the Stability and Growth Pact, and recommends the necessary interventions. The assessment of Ireland recognized the country's improved performance (Council Recommendation 2016/C 299/16/EC). On the contrary, Spain failed to manage its macroeconomic imbalances that called for immediate policy action and special monitoring; so, it underwent the Excessive Imbalance Procedure and made a narrow escape from being obligated to pay financial penalties (Commission Recommendation COM/2016/329/final/EC; Council Recommendation 2016/C 299/02/EC). As regards Greece, it is not included in such an assessment because of its recurrent evaluations through the mechanism of its economic adjustment program.

4.4 Lines of Action

The primary aim of Youth Guarantee interventions is to establish projects that enhance the learning and the professional opportunities of young individuals, in order to improve their skills and competences and to proactively facilitate their transition to the labor market. Four distinct lines of action can be identified in the objectives of the national plans of Greece, Ireland and Spain (Spain. Ministry of Employment and Social Security 2013; Greece. Ministry of Labor, Social Security and Welfare, Directorate of Employment 2014; Ireland. Department of Social Protection 2014; European Commission 2015d).

4.4.1 Improvement of Mediation

The European Youth Guarantee underlines the importance of reforms in the public employment services (PES), which are called on to undertake large part of the responsibility for the design and the implementation of the schemes. The PES are responsible for the selection of the beneficiaries and the definition of their particular needs, in order to organize the appropriate interventions and to support them. Furthermore, they have to offer information, guidance and mentoring and to help to the establishment of cooperation among stakeholders in order to increase the capacity of the projects. Ultimately, they are called on to bridge the gap between young individuals and the labor market, as well as to consistently support and monitor the entire process.

The national Youth Guarantee plans of Greece, Ireland and Spain include specific provisions for the modernization of the public employment services and the training

of their personnel.⁴ In addition, they officially recognize a supplementary role for private employment agents, who are considered more competent in defining the actual needs at local and regional level. This combination of actions realizes the initiative's pledge for deployment of public and private resources and expertise. Also, it can contribute to the establishment of proactive and really operational synergies and, thus, succeed in achieving greater effectiveness.

4.4.2 Improvement of Employability

The second line of action targets youth employability. The improvement of youth skills and competences and the increase in their opportunities constitute the basic dimensions of intervention. Opportunities for re-entering education/training programs and accessing the required vocational qualifications for labor market integration are addressed to unskilled young individuals, who have not concluded their formal education studies. In addition, there are provisions for the establishment of apprenticeship or traineeship schemes in various fields, which may enable young people to acquire professional experience and to enhance their personal portfolio in the recruitment processes. It is worth mentioning schemes implemented in Spain that combine the educational character with work in projects with social interest, such as projects about culture, history or the environment; they appear to be more attractive for participants than other interventions, because they include a socially meaningful dimension.

4.4.3 Promotion of Hiring

The third line of action aims at removing the existing obstacles that aggravate the situation for young cohorts and to establish conditions that will provide for increased recruitment by businesses. Enterprises are encouraged to hire new personnel of young age, to convert temporary contracts to open-ended ones especially for young people or to offer more work placements to those individuals who are at greater risk of economic marginalization and social exclusion.

Such a motivation is founded on special incentives that can be used either separately or in combination. The reduction of social security contributions or the introduction of benefits and credit facilities for companies for a period of time may contribute to more job offers for young individuals. National authorities seem to prefer to capitalize the unemployment benefits through subsidies for enterprises by encouraging the recruitment of young unemployed instead. In this way the

⁴For example, the Greek public employment services (Manpower Employment Organization/OAED) implement a program for the redefinition of their operational model, which includes many of the operations that are highlighted in the Youth Guarantee concept (Greece. Manpower Employment Organization/OAED 2016).

companies can take advantage of youth potential and creativity, while young individuals are supported to become (or to remain) professionally active.

4.4.4 Promotion of Entrepreneurship

The fourth action line focuses on the promotion of entrepreneurship among young people. All three countries regard it as an important professional option with many benefits. By creating their own corporate venture young individuals are able to become professionally active, to express their creativity and fulfill their vision. Moreover, they are able to create work positions for their peers and to build proactive youth professional networks with a dynamic contribution to the broader economic growth and social prosperity.

Incentives for new entrepreneurs include reduced social contributions or financial support in order to cope with their venture's challenges. Also, new entrepreneurs are offered advice and guidance by the public employment services, so that they manage the organizational and the operational demands of their business efficiently. Furthermore, individuals who experienced an entrepreneurial failure in the past may be offered an opportunity for a new attempt. Additional provisions refer to interventions that contribute to the development of entrepreneurial culture at all levels of education. The introduction of courses about entrepreneurship in the curricula and student involvement in activities that familiarize them with the business world are considered useful tools for the development of a favorable attitude towards such an involvement from an early age.

The national Youth Guarantee plans combine their provisions with the countries' strategic approach regarding entrepreneurship. Young unemployed are supported to recognize existing entrepreneurial opportunities and are encouraged to develop their own businesses. Various projects are being promoted for this purpose; the creation of business incubators, the enhancement of self-employment and of collective ventures that belong to the social economy, the establishment of advisory services for such activities and the use of new funding tools are the most emblematic ones.

5 Conclusions

Youth Guarantee constitutes a dimension of the European youth policies that aspires to support the social integration and the smoother labor market transition of young individuals. It was designed with a twofold aim. On one hand, it promotes interventions that attempt to involve more stakeholders and to leverage more resources towards this end. On the other hand, it aims at raising awareness of the unprecedented challenges confronted by young people and of the need for more education/training or employment opportunities for them. The success of the interventions may motivate the broader community to undertake sustainable commitments to such goals. Besides the analysis of the European institutional framework that is associated

with the Youth Guarantee concept, the paper attempted a comparative approach of the national Youth Guarantee plans of three European countries, Greece, Ireland and Spain. It highlighted the organizational details and the multiple factors involved in the plans' different aspects and described the challenges concerning their implementation.

During the first two years of the implementation of Youth Guarantee schemes the three countries appear to have fully 'nationalized' the initiative. Their plans followed its principles, adjusted the interventions to the countries' particular needs and defined the target groups and the eligibility criteria accordingly. The activities are organized with a focus on four distinct areas of interest: mediation; increase in employability; promotion of hiring; and enhancement of entrepreneurship for broader groups of young individuals.

The leading role for the planning and the implementation is attributed to state authorities, although the regional dimension has been taken into account. Spain in particular is definitely more focused on decentralizing large part of the projects to its autonomous communities. However, it is very important to highlight the establishment of broader public-private partnerships. The plans include provisions for cooperation and for the introduction of the necessary institutional framework, which allow various economic and social agents to offer their expertise in the design and the implementation of the projects along with public authorities.

Overall, although the countries engaged immediately in the implementation of their national plans with significant dynamism, the first phase of the process reveals that they continue to confront big challenges. The implementation of interventions is slow and there are delays in the final outcomes. In spite of the impressive improvement in the countries' performance in the reduction of early school leaving, youth unemployment remains at very high levels, causes skill deficiencies and mismatches and seriously undermines the potential of young people and of the countries. Also, the countries face some difficulty in attracting more NEETs to register and to participate in the schemes. Finally, the achievement of greater organizational efficiency of the public employment services and the establishment of closer and long-term monitoring processes appear quite necessary.

However, the paper aspires to indicate the symbolic power of the European Youth Guarantee to act as a strong motivating factor. Such a dimension goes beyond the administrative aspects of the initiative and prepares the field for broader and multi-level involvement. The evaluation of all national Youth Guarantee plans is provided for by the European recommendations. The outcomes of the assessment can serve as foundations of a reformed model of action, which will be expected to deploy the previous experiences of the three countries, as well as the good practices of other member states.

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Total Factor Productivity in Turkey: A Comparative Analysis



Murat Şeker

Abstract Total factor productivity (TFP) is the most commonly used measure of firm performance and a valuable tool for policy making. Although cross-country TFP analyses have been performed by many researchers, lack of homogeneous data sources obstructed conducting conclusive analyses with micro-level datasets. This study compares average TFP performances of Turkish firms and aggregate TFP in Turkey with firms in a group of selected countries using data collected by the World Bank. Data was collected through firm-level surveys that follow a standard methodology. Cross-country comparison of TFP performances shows that there are significant differences between average and aggregate TFP across countries. While aggregate TFP in Turkey ranks high among the peers, the rank of Turkey's average TFP is lower. Also, relative to the peer group, productivity distribution is more dispersed in Turkey and large firms are more productive than small firms. This finding is consistent across various methodologies implemented to measure TFP. Despite low average productivity in Turkey, there are some industries such as Textile, Chemicals, Basic Metals and Machinery where Turkish firms rank among the top.

Keywords Total factor productivity · Turkey · Developing countries · Firm-level analysis · Cross-country comparison

1 Introduction

Total factor productivity (TFP) which is defined as the efficiency with which firms produce output, has been considered as the most explanatory factor in generating growth. When Solow (1957) introduced the macro level growth models, TFP was described as the residual term in production function that explains the long-term

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growth prospects of economies. A large literature has emerged since then about explaining the underlying factors that drive TFP at macro-level. As firm-level datasets got available, research focus on TFP changed into explaining the productivity dynamics of firms and large variation observed within countries, even within sectors in countries. Some early work with firm-level data that present the stylized facts on TFP are Baily et al. (1992), Bartelsman and Dhrymes (1998) and Roberts and Tybout (1996).

Enterprise Surveys Database compiled by the World Bank offers an opportunity to shed further light on cross-country comparisons of TFP in developing countries. TFP is the most important factor determining the long-term growth performance of the countries, yet it is rather difficult to find homogeneously constructed datasets following a standard methodology. Fulfilling this gap and understanding how TFP varies across countries based on micro-level evidence is crucial to develop policies to increase TFP. This study analyzes productivity levels of Turkish firms and compares average and aggregate TFP in Turkey with a group of selected countries.

The paper is organized as follows: Sect. 2 describes the dataset followed by the methodology applied in the analysis which presents various TFP estimation methods. Section 4 presents cross-country comparison of productivity performances as well as estimation results with alternative specifications. Finally, Sect. 5 presents the concluding remarks.

2 Scope of Data

The data set used in the analysis is obtained from the surveys conducted by the World Bank.¹ The data covers 80 countries, five regions and 21,412 firms. All surveys were conducted between 2006 and 2009.² In each survey, a random sample of manufacturing firms is selected. The sample is stratified by size, geographic region, and sector.

¹These surveys are conducted under the name of “Enterprise Surveys”. Detailed information about the data collected by the surveys and the methodology followed for collection of the data are available at <http://www.entreprisesurveys.org>

²Countries included in the analysis, by region are: *Eastern Europe and Central Asia*: Armenia, Azerbaijan, Belarus, Bosnia-Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Macedonia, Georgia, Hungary, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Poland, Romania, Russia, Serbia, Slovakia, Tajikistan, Turkey, Ukraine, Uzbekistan; *Middle East and North Africa*: Algeria, Egypt, Jordan, Morocco, Syria, Yemen; *Latin America*: Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay; *South and East Asia–Pacific*: India, Indonesia, Malaysia, Mongolia, Nepal, Pakistan, Philippines, Thailand, Vietnam; *Sub-Saharan Africa*: Angola, Botswana, Burundi, Cameroon, Ivory Coast, Congo, Ethiopia, Ghana, Guinea, Guinea-Bissau, Kenya, Madagascar, Mali, Mauritania, Mauritius, Mozambique, Namibia, Nigeria, Rwanda, Senegal, South Africa, Swaziland, Tanzania, Uganda, Zambia.

Table 1 Industries covered in the dataset

ISIC code	2 digit sectors	%
15	Food products and beverage	20.9
17	Textile products	8.8
18	Apparel manufacturing, garments	15.2
24	Manufacture of chemical substances	8.4
26–27	Non-metallic and basic metals	7.2
28–29	Fabricated metal and machinery	12.3
–	Other manufacturing industry	27.2

Source: World Bank (2011)

Data used in the analysis include the key manufacturing industries according to ISIC Rev.3.1. (see Table 1). These industries are determined based on the 4-digit sector code of the main products that the surveyed companies specified. Some of the industries were grouped based on the similarities in the type of activity and factor intensity. The largest share in the data set belongs to the Food Products and Beverages Industry. It is followed by Textile Products Industry. Other Manufacturing industry includes classifications that do not fall into the six main manufacturing industry categories.

This paper focuses on productivity performance of Turkish firms and compares them with firms in peer countries. Eleven countries are selected from the dataset as the peer group. The selected countries are: Argentina, Brazil, Chile, Colombia, Croatia, Egypt, Indonesia, Mexico, Philippines, Poland, Russia and Turkey. These countries were chosen as comparators due to their similarities with Turkey either on geographic location, size, income level, population, trade orientation, or type of economic activity. The comparison could easily be expanded to include a larger set of peers. Using the same data source but a larger set of almost 70 developing countries, Şeker and Saliola (2018) provide a detailed cross-country analysis of TFP.

3 Total Factor Productivity Estimation

The methodology used in estimating TFP follows from Şeker and Saliola (2018). They provide a thorough discussion of various specifications to estimate TFP. Here, only brief descriptions of different methods used in the estimation are provided. Six different methods are used in estimation. In five of these, TFP is estimated separately for each country using various specifications of Cobb-Douglas production function. The sixth one is a non-parametric estimation method obtained from the computation of Solow residual. In the estimations, it is assumed that the production technologies used by different companies in the same country are identical. In the estimations, two-digit industry fixed effects are controlled for in order to capture any possible effect they might have on TFP levels.

A Cobb-Douglas production function with three input factors: capital (K), labor (L), and intermediate goods (M) is used to estimate TFP. This production function

which is named as YAKLM specification is presented in Eq. (1) below. In the equation, Y refers to output measured as annual real sales and A represents TFP. The parameters α , β , and ϕ are the output elasticities of capital, labor and intermediate goods respectively. In estimating the production function, the log of output is regressed on the log of input factors. Hence the coefficients of the regression equation represent the elasticity of output with respect to each input factor. The log of TFP is the residual term from estimating the log transformation of this production function which is also presented in Eq. (1). A higher estimated TFP value is associated with higher productivity.

$$Y_{it} = A_{it}K_{it}^{\alpha}L_{it}^{\beta}M_{it}^{\phi} \tag{1}$$

$$\log\widehat{A}_{it} = \log Y_{it} - \widehat{\alpha}\log K_{it} - \widehat{\beta}\log L_{it} - \widehat{\phi}\log M_{it}$$

The second production function is obtained by adding energy as an additional factor to the production technology. This production function is represented as YAKLEM.³ While the addition of the energy as a factor enables the identification of a more realistic production process, it reduces the number of observation used in estimation. The third production function, YAKL, is the Cobb-Douglas production function where only capital and labor are used as input factors. In the fourth specification, VAKL, also only capital and labor are used as input factors. But here, output is measured as value added which is defined as output—cost of intermediate goods—cost of energy.⁴ The fifth specification is the transcendental logarithmic production function with three inputs factors: capital, labor, and intermediate goods. The estimation equation is presented in Eq. (2).

$$\begin{aligned} \log A_{it} = & \log Y_{it} - \widehat{\alpha}_K \log K_{it} - \widehat{\alpha}_L \log L_{it} - \widehat{\alpha}_M \log M_{it} \\ & - \frac{1}{2} \widehat{\alpha}_{KK} (\log K_{it})^2 - \frac{1}{2} \widehat{\alpha}_{LL} (\log L_{it})^2 - \frac{1}{2} \widehat{\alpha}_{MM} (\log M_{it})^2 \\ & - \widehat{\alpha}_{KL} (K_{it} * L_{it}) - \widehat{\alpha}_{KM} (K_{it} * M_{it}) - \widehat{\alpha}_{LM} \log (L_{it} * M_{it}) \end{aligned} \tag{2}$$

Finally, the sixth estimation is determined by the non-parametric, cost-based Solow residual method. In this method, the output elasticity of each input factor is calculated as the share of that input’s cost relative to the total cost. The cost of capital (rK), labor cost (wL), and cost of intermediate materials (pM) are used to find the cost shares for each input as presented in Eq. (3). Once the shares are calculated, TFP is estimated as the residual similar to Eq. (3).

$$\widehat{\alpha} = \frac{rK}{rK + wL + pM}, \widehat{\beta} = \frac{wL}{rK + wL + pM}, \widehat{\phi} = \frac{pM}{rK + wL + pM} \tag{3}$$

All monetary values in the surveys are denominated in nominal local currencies. To compute TFP, they are converted into US Dollars and deflated by US Dollar-

³Estimation equation: $\log A_{it} = \log Y_{it} - \widehat{\alpha}\log K_{it} - \widehat{\beta}\log L_{it} - \widehat{\lambda}\log E_{it} - \widehat{\phi}\log M_{it}$

⁴Estimation equation: $\log A_{it} = \log VA_{it} - \widehat{\alpha}\log K_{it} - \widehat{\beta}\log L_{it}$ where $VA_{it} = Y_{it} - M_{it} - E_{it}$

denominated GDP deflator. 2000 is set as the base year. Exchange rates and GDP deflators are obtained from the World Bank's "World Development Indicators" database.⁵

In the estimation of TFP there were outlier observations. These outliers were determined and eliminated from the data following two methods: (1) The logarithm values of all data used in the TFP calculation that are three standard deviations above or below the mean in each country/manufacturing sector were removed from the dataset. (2) Firms that have three standard deviations above or below the mean of cost of material to sales ratios and cost of labor to sales ratios were also removed from dataset.

4 Estimation Results

Most of the samples used in TFP estimation represent more than 50% of the surveyed sample in each country (see Table 2). In Turkey, 860 firms were surveyed and 469 firms were included in the TFP analysis, corresponding to about 55% of the sample.

When a survey is being conducted in a country, a sampling weight is assigned to each firm in order to derive results that are representative for the country. However, the variables needed to measure TFP were not available for all firms included in the surveys. Thus the probability weights are not used in the analysis. Despite of this

Table 2 Percentage of representations used in TFP calculations

Country/Survey year	Number of firms in TFP sample	Total number of firms	% used in estimation
Argentina (2010)	471	791	60
Brazil (2009)	1037	1339	77
Chile (2010)	589	775	76
Colombia (2010)	583	757	77
Croatia (2007)	189	345	55
Egypt (2008)	998	1147	87
Indonesia (2009)	591	1176	50
Mexico (2010)	998	1152	87
Philippines (2009)	347	958	36
Poland (2009)	65	152	43
Russia (2009)	271	603	45
Turkey (2008)	469	860	55

Source: World Bank (2011)

⁵Alternative to GDP deflator, Producer Price Index (PPI) obtained from IMF is also used to deflate the nominal variables. The estimation results obtained with PPI are very similar to those obtained with GDP deflator.

Table 3 Size distribution of firms

	Population averages			Sample averages		
	Small	Medium	Large	Small	Medium	Large
Argentina	40.9	44.3	14.8	27.8	40.6	31.6
Brazil	28.5	47.9	23.6	34.3	46	19.7
Chile	28.8	50.7	20.5	31.1	41.1	27.8
Colombia	46.7	31.5	21.8	37.9	35.9	26.2
Croatia	53.8	34.9	11.3	40.2	30.7	29.1
Egypt	31.2	32.3	36.5	31.7	33.2	35.2
Indonesia	87.5	9.9	2.6	50.1	28.6	21.3
Mexico	59.5	27.7	12.8	34.7	33.2	32.2
Philippines	34.9	46.6	18.5	26.5	47.8	25.7
Poland	51.4	25.9	22.7	52.3	21.5	26.2
Russia	20.4	35.3	44.4	18.8	41.3	39.9
Turkey	46.9	38.3	14.8	26	40.9	33.1
Total	42.9	35.9	21.2	33.8	37.4	28.8

Source: World Bank (2011)

potential discrepancy, the sample's power for representing the population is good for most of the countries. I describe the statistics that are obtained without using the probability weights as *sample averages* and the statistics obtained using the weights as *population averages*. Then I provide several comparisons to check whether the un-weighted statistics over or under-represent the population. First, I compare the employment levels in Table 3. Firms with less than 20 employees are grouped as *small*, firms that employ between 20 and 100 workers are grouped as *medium* and firms with 100 and more workers are grouped as *large*. In general, the distribution of the un-weighted sample mirrors relatively well the distribution of the population. For example in Brazil, medium-size firms make the largest portion with 48% in the firm population followed by small (28.5%) and large (23.6%) firms. In the un-weighted sample presented on the right hand side of the table, also medium-size firms form the largest group with 46% followed by small and large firms with 34.3% and 19.7% in respective order. The results are similar for the other countries with the biggest difference in both samples being in Indonesia.

Similar comparison is performed using the distribution of firm sales. In Fig. 1, sales distribution using survey weights (population averages) is compared with the un-weighted sales distribution of the survey sample for Turkey, Indonesia, Brazil and Mexico. In Turkey, Indonesia and Mexico, the density of large firms is slightly higher in the *survey sample* than the *population*. In Brazil, sales distributions of both samples are similar to each other.

Output factor elasticities show how responsive sales are to changes in input factors used in production. According to the estimation results of the YAKLM specification, intermediate goods have the highest elasticity in all countries (see Fig. 2). Saliola and Şeker (2011) find similar results in 52 of the 80 countries they analyze. They also find that in 51 countries, labor has the second highest level of

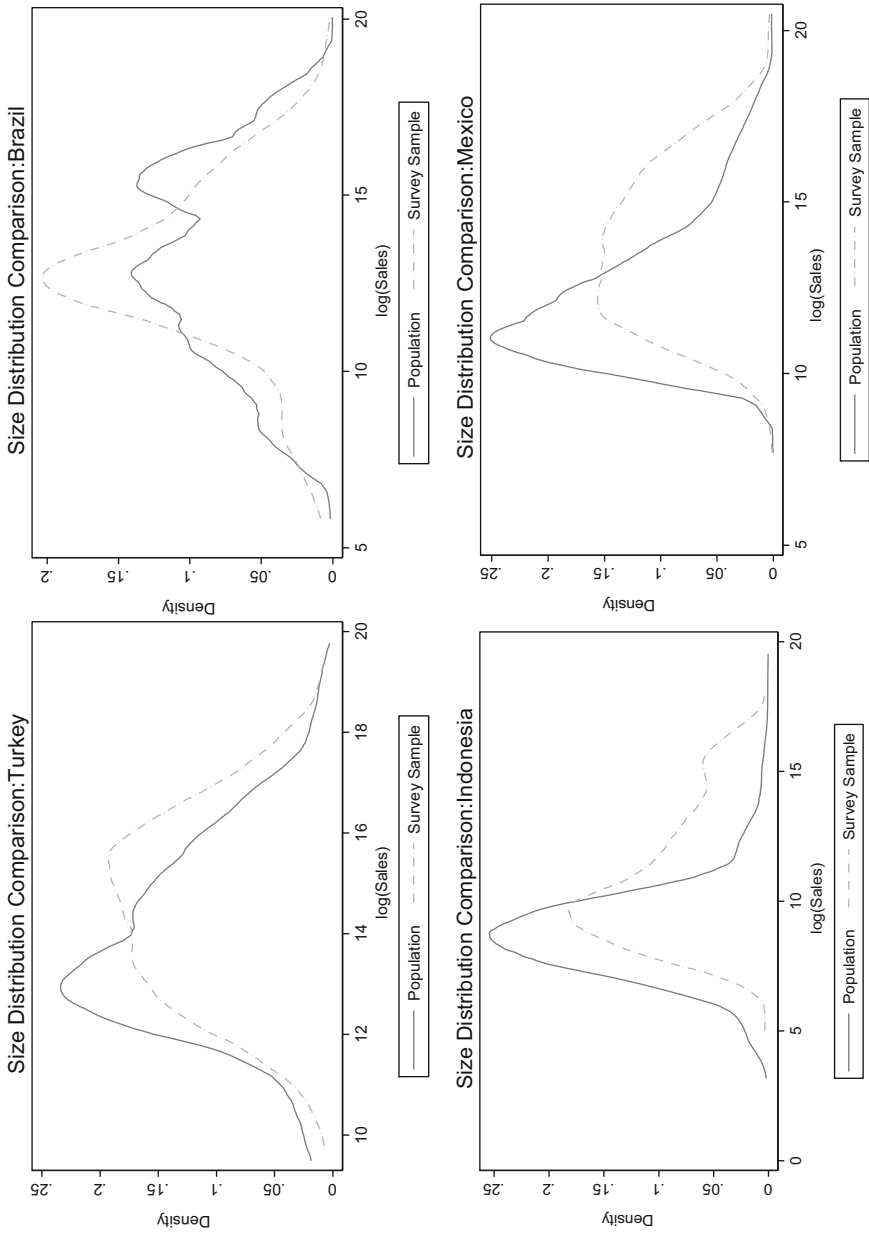


Fig. 1 Comparison of firm size distributions. Source: World Bank (2011)

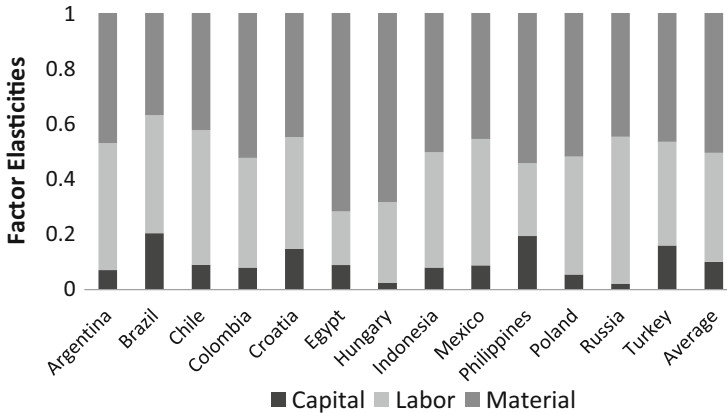


Fig. 2 Output factor elasticities (YAKLM specification). Source: World Bank (2011)

elasticity after intermediate goods, which is also the case in the countries presented in Fig. 2. The average elasticities across countries in the graph are 0.10 for capital, 0.40 for labor, and 0.60 for materials. This ranking is consistent with the ranking in firm-level TFP calculation studies in the literature.⁶ Sum of the factor elasticities is around 1.09. This value is consistent with the assumptions of Cobb-Douglas production function which requires sum of factor elasticities to add up to one.

4.1 Cross-Country Productivity Analysis

As a first step of productivity comparison, labor productivity measured as total sales per worker is presented. Labor productivity provides a more primitive but also a simpler measure of firm performance as it incorporates a single factor of production. Figure 3 shows that among the comparator countries, Turkey has the second highest labor productivity after Argentina. Russia has the lowest productivity level.

Two measures of TFP are computed for each country. First, simple average productivities are computed in order to see how an average firm performs. Second, each firm's productivity is weighted by its output share in order to compute aggregate productivity. Output shares are calculated as the ratio of each firm's sales to aggregate sales in the country. This measure shows how productive the economy is as a whole whereas average productivity shows how an average firm in the economy performs. Using both productivity measures together enables us to see whether larger firms have relatively higher contribution to aggregate TFP.

In Sect. 3, six different specifications were introduced to estimate TFP. The correlation matrix for aggregate TFP measured in all these specifications for the

⁶For the related references see Şeker and Saliola (2018).

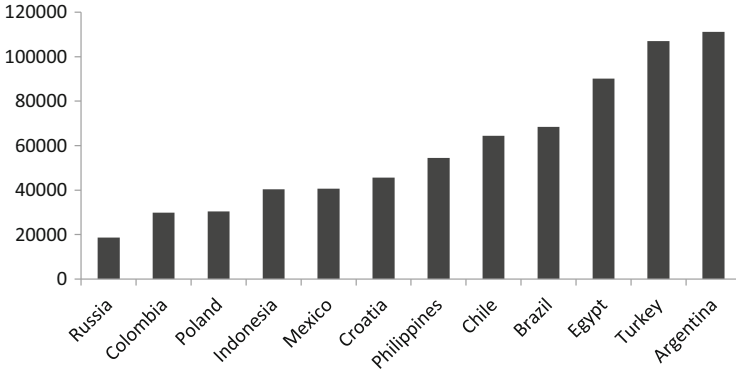


Fig. 3 Average labor productivity (in USD). Source: World Bank (2011)

Table 4 Correlation coefficients between all specifications

	YAKLM	YAKLEM	YAKL	VAKL	Trans-log
YAKLEM	0.96				
YAKL	0.83	0.79			
VAKL	0.87	0.89	0.86		
Trans-log	0.73	0.75	0.51	0.73	
Solow	0.64	0.62	0.44	0.63	0.80

Source: World Bank (2011)

All coefficients are significant at 1%

80 countries used by Saliola and Şeker (2011) are presented in Table 4.⁷ The table shows that TFP levels calculated with different production functions are highly correlated with each other. The highest correlation is among productivity estimates obtained from YAKLM and YAKLEM specifications. The lowest correlation is observed with Solow Residual method and the Cobb-Douglas specifications as this non-parametric method is the most diverse method used in comparison with the parametric estimation methods.

Aggregate and average TFP in Turkey is compared to the peer countries in Fig. 4.⁸ All productivity levels are presented in logarithmic scale. An average firm in Brazil has a productivity level that is more than three times the productivity of an average firm in Turkey. Similarly, an average firm in Indonesia is almost twice and average firm in Mexico about 50% more productive than an average firm in Turkey. Russian firms are the closest to Turkish firms in average productivity. Turkey ranks

⁷Presenting the correlation matrix for only 12 countries would yield insignificant correlation coefficients for some of the specifications as the data points are too low. When we look at the correlation coefficients that were estimated for the 12 selected countries; those that were significant, were also large and positive.

⁸Comparison of average TFP measured with and without probability weights, which are available upon request, give very similar TFP estimates.

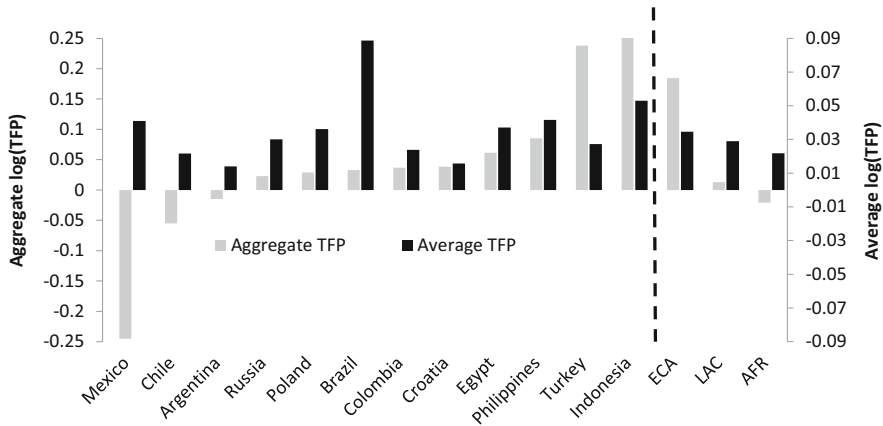


Fig. 4 Aggregate and average TFP comparison (YAKLM specification). Source: World Bank (2011)

about eight position among the peers in this measure. The graph also includes productivity levels obtained from averaging the productivity levels of all surveyed firms in East Europe and Central Asia region (ECA), Latin America and Caribbean region (LAC), and Africa region (AFR) which are obtained from Saliola and Şeker (2011).⁹ An average Turkish firm performs slightly below ECA and LAC average. On the other hand, average productivity in Russia and Poland are above ECA average and average productivity in Brazil and Mexico are above LAC average.

The ranking of the countries differ significantly for aggregate productivity. As opposed to average productivity, Turkey ranks second highest, slightly below Indonesia in aggregate productivity. Turkey has seven times higher aggregate productivity than Brazil, ten times higher than Russia, and four times above Egypt. The graph also shows Turkey's outperformance with respect to regional averages of ECA, LAC, and AFR where aggregate productivity in Turkey is about 30% above ECA average, almost 17 times LAC average.

The large discrepancy between average and aggregate TFP in Turkey is led by the large firms having relatively higher contribution to aggregate TFP in Turkey than in Brazil, Russia, Argentine, Poland or Mexico. In other words; while small firms in these peer countries are relatively more productive than small firms in Turkey; large firms in Turkey are relatively more productive than their correspondent group in these countries.

⁹These averages are calculated from the 80 countries analyzed in Saliola and Şeker (2011). Average for ECA region includes only countries from the region that are surveyed in 2007–2008 period; similarly average for LAC covers 2005–2006 period; average for AFR covers 2005–2006 period. Countries in South Asia-Pacific were surveyed between 2006–2009 and in Middle East were surveyed between 2006–2009. Their averages were not included due to widespread year coverage which made it difficult to summarize as regional average.

Olley and Pakes (1996) decompose aggregate productivity into two parts: a simple average term which is presented as average productivity in Fig. 4 and a cross-term measuring the covariance between firms' shares in the total output and their TFP values.¹⁰ This covariance term shows the extent to which firms with higher than average productivities have higher than average market shares. The covariance term is positive only when output is reallocated from less productive firms toward more productive ones. Aggregate TFP for Turkey was estimated as 0.24 and average productivity was estimated as 0.03 (see Fig. 4). According to Olley and Pakes (1996) productivity decomposition of aggregate TFP, the cross-term for Turkey is 0.21. This term being positive and higher than the average productivity level supports the earlier finding on large firms being more productive than small ones and contributing more significantly to the aggregate TFP. Just like Turkey, in Indonesia the cross-term is 0.21 which is also significantly above the average productivity level of 0.05. In some of the other economies in the peer group like Mexico, Russia, Brazil, Poland the cross-term is negative (-0.29 , -0.01 , -0.06 , and -0.01 in respective order) implying that contribution of large firms to aggregate TFP is lower than the small firms.

Elaborating on the differences between aggregate and average productivity, Table 5 shows a comparison of average productivity levels across size groups where size is measured as total sales. Firms are divided into three groups: average sales below 25th percentile of the sales distribution (≤ 25 perc); sales between 25th and 75th percentile (>25 & ≤ 75); and sales above 75th percentile (>75 perc). The table provides similar results as before about productivity performances of large firms in Turkey. Large firms in Turkey have by far the highest productivity level among the peer group even higher than the large firms in Indonesia who as a country

Table 5 Average productivity across size groups (YAKLM specification)

Country	≤ 25 perc	>25 & ≤ 75	>75 perc
Mexico	0.20	0.04	-0.11
Colombia	0.09	0.04	-0.08
Russia	0.05	0.05	-0.06
Argentina	0.02	0.04	-0.05
Brazil	0.39	0.01	-0.04
Philippines	0.03	0.07	-0.02
Chile	0.05	0.03	-0.02
Indonesia	0.15	0.05	0.00
Egypt	0.04	0.04	0.01
Croatia	-0.07	0.03	0.06
Poland	0.04	0.02	0.06
Turkey	-0.19	0.07	0.21

Source: World Bank (2011)

¹⁰Details of productivity decomposition presented by Olley and Pakes (1996) are provided at Şeker and Saliola (2018).

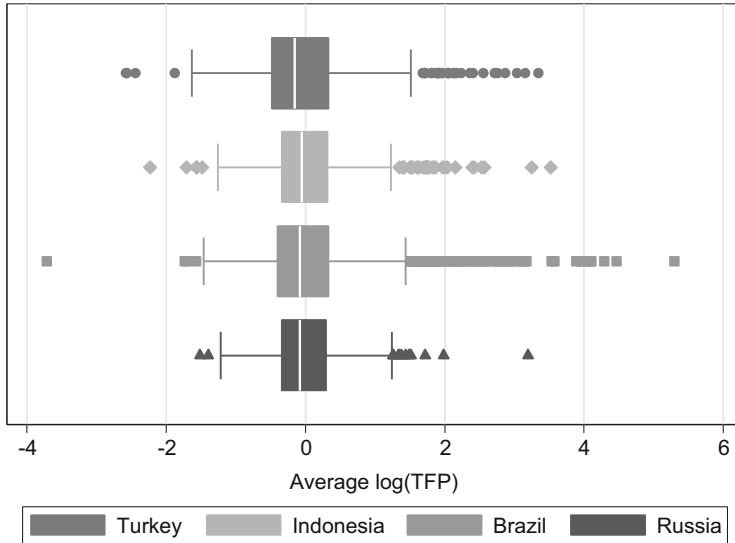


Fig. 5 Box plot of average TFP distribution (YAKLM specification). Source: World Bank (2011)

had the highest aggregate productivity level. In contrast, the small firms in Turkey had the lowest productivity level. Also, the productivity gap between large and small firms in Turkey is one of the highest among the peers. In most of the countries, productivity is decreasing as size increases like in Mexico, Brazil, Indonesia, Egypt and Russia. However, in Turkey as well as in Poland and Croatia it is increasing in size.

Taking a closer look at the productivity distributions of the three countries in the sample, average productivity distributions are presented in Fig. 5. Box plot in the graph displays the spread of productivities where the three vertical lines on the box correspond to 25th, 50th, and 75th percentiles. The two vertical lines outside the box (whiskers) show the lowest and greatest sample values excluding outliers and the dots show the outlier observations. According to the graph, median productivity is lowest in Turkey and the spread between 25th and 75th percentiles is highest as well as the spread between the whiskers. This shows that there are more firms in Turkey that have very low productivity levels as well as firms with relatively high productivity levels than the comparator countries.

Large firms' being more productive in Turkey than their correspondents in the peer countries could be driven by several factors. Large firms in Turkey could be more export oriented or sample could be biased so that large firms in Turkey are over-represented in an industry which happens to be more productive by nature than other industries. In fact, data shows that large firms in Turkey are not concentrated in any particular industry. None of the industries which were described in Table 1 have more than 30% of the large firms in Turkey. Also in other countries there is no

particular industry that has more than 25–30% of all large firms with an exception of Russia in which 40% of large firms are in food industry.

Regarding to export orientation of large firms, about 60% of the large firms are exporters in Turkey. This ratio is high among the peers. Like Turkey, in Argentina, Croatia, Poland, and Egypt the share of exporters among large firms is around 60%. Among the other large economies like Brazil and Russia it is around 25% and in Indonesia around 45%. Thus export orientation of Turkish large firms could be correlated with their high productivity performances. In fact Turkish large, exporting firms are the most productive group in the sample whereas small and medium size exporting firms in Turkey rank slightly above average among the peers. In addition to export orientation of firms, there could also be factors related to investment climate such as not being constrained by regulations, infrastructure problems, red-tape, having easier access to finance, or employing high skilled workers that would enable Turkish large firms to be more productive.

In contrast to large firms, small firms have the lowest productivity in Turkey. Analyzing the growth performance of small and medium size enterprises (SMEs) in Turkey, Şeker and Correa (2017) find that SMEs in Turkey grow at a slower rate than large firms. Furthermore, they compare Turkish firms' growth performances with firms in peer developing countries in Eastern Europe and Central Asia region. They conclude that SMEs in Turkey grow at a slower rate than the same size firms in comparator countries. Şeker and Correa (2017) argue that a possible explanation for this finding is the certain aspects of investment climate being unfavorable for SMEs. Investment Climate Assessment Report of Turkey prepared by the World Bank (2010) also argue that investment climate factors related to the regulatory environment, the system of incentives to develop new products or experiment new production processes, the ease of access to external finance play critical role on firm performance. In particular, using firm level data, World Bank (2010) report finds that investment climate factors have negative effects on productivity performances of SMEs in Turkey.¹¹

As productivity is known to be the main determinant of growth, the inferences reached by Şeker and Correa (2017) and World Bank (2010) could be extended to this study as a plausible explanation to why small firms in Turkey are less productive than their correspondents in comparator countries. In fact, this finding is not peculiar to Turkey. There are various studies like Dollar et al. (2005) who look at the relationship between TFP and investment climate in four South Asian countries: Bangladesh, China, India, and Pakistan. They also find that there is strong negative correlation between TFP and investment climate in these countries.

Difference on average productivity level in Turkey with the peers could be driven by the structural differences across industries in each country and the concentration of firms within industries. The sample covers the major manufacturing industries as described in Table 1. I compare how Turkish firms' productivities differ across these

¹¹See Chap. 2 of World Bank (2010) for further discussion of these results.

Table 6 Productivity across major industries

	Food	Textile	Garments	Chemicals	Metals	Machinery
Argentina	1.12	1.19	1.16	1.07	1.38	1.08
Brazil	1.83	1.59	3.27	3.51	1.15	1.58
Egypt	1.25	1.31	1.24	1.38	1.29	1.27
Indonesia	1.22	1.25	1.31	1.27	1.25	1.16
Mexico	1.18	1.17	1.29	1.16	1.21	1.24
Russia	1.50	1.00	1.28	1.13	1.01	1.22
Turkey	1.41	1.56	1.54	1.31	1.79	1.53

Source: World Bank (2011)

industries and how average productivity in each industry in Turkey differs with the peers in Table 6.¹² In metals industry, Turkey has the most productive firms. In food, textile, garments, and machinery Turkey has the second most productive firms following very closely the leading country in each industry. Only in chemicals industry Turkey ranks at third position. In contrast with the earlier analysis from Fig. 4, Turkish firms do not underperform on average productivity across these six major industry groups. Furthermore, in none of the countries presented in Table 6 there is any concentration of firms in any particular industry which could have biased the results. However, there is a large group of omitted “Other Industries” which we are not able to compare as the industries included in this group vary significantly across countries. Some of these remaining industry groups could be driving average productivity in Turkey below peers.

4.2 TFP Measurement with Alternative Specifications

So far, all the analyses were performed using YAKLM specification for estimating TFP. This section presents the results with all the five remaining specifications and compares them with the base specification (YAKLM). By the method implemented, Solow residual was the most diverse method used to estimate TFP as compared to the various other forms of parametric estimations. Cross-country comparison of productivities with the Solow-residual method is presented in Fig. 6. Similar to the base results, Turkey has the second highest aggregate productivity among peers. Aggregate productivity in Turkey is 14% above Russia, 5% above Indonesia, 16% above Mexico and 10% below Brazil. Average productivity ranks sixth in the group which is in line with the base results. In Turkey, average firm has roughly the same

¹²In this table average productivity levels are presented in real TFP levels rather than $\log(\text{TFP})$. The number of observations and averages get too small when we break down the data at industry level. Thus, taking the logarithms create superfluous dispersion in TFP levels.

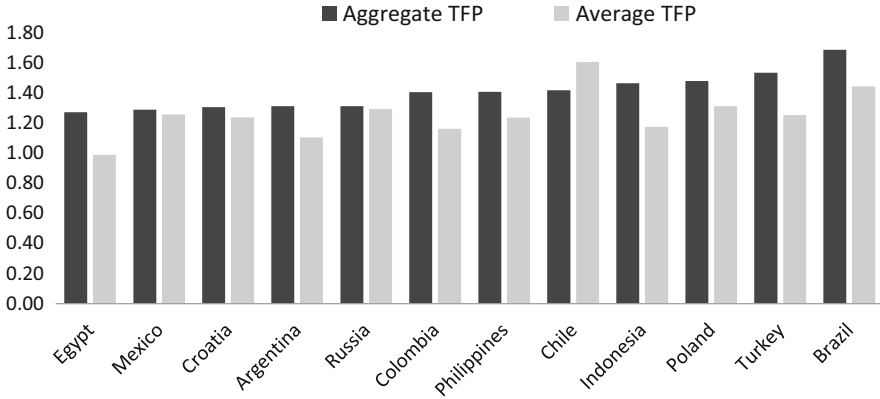


Fig. 6 Aggregate and average TFP comparison (Solow residual). Source: World Bank (2011)

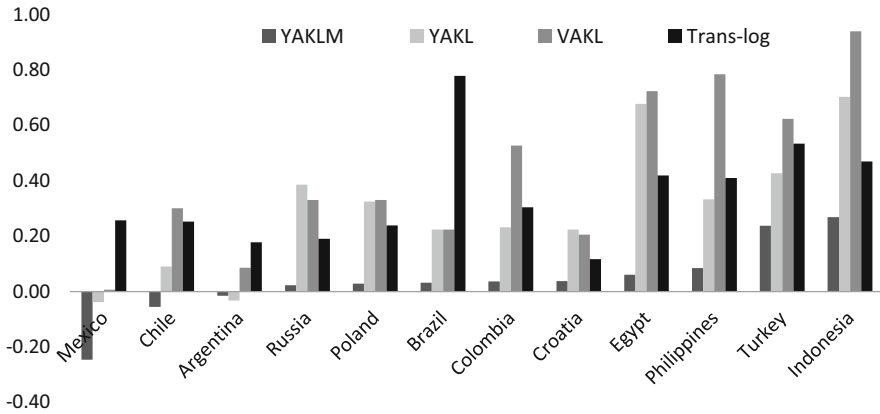


Fig. 7 Aggregate TFP (All specifications). Source: World Bank (2011)

productivity level as a firm in Russia or Mexico and 6% higher productivity than the average firm in Indonesia.

In Figs. 7 and 8, aggregate and average productivities calculated by using all four parametric estimation methods are compared. Although productivity levels differ among the specifications, position of Turkey stays roughly the same. Table 7 presents Turkey’s ranking in aggregate and average productivity among the peers using all specifications. In aggregate productivity, Turkey is almost always among the top two countries, especially using the most diverse measures of TFP, namely YAKLM, trans-log and Solow residual methods. When we look at average productivity, we see the mediocre standing that varies between eighth or ninth position in all specifications.

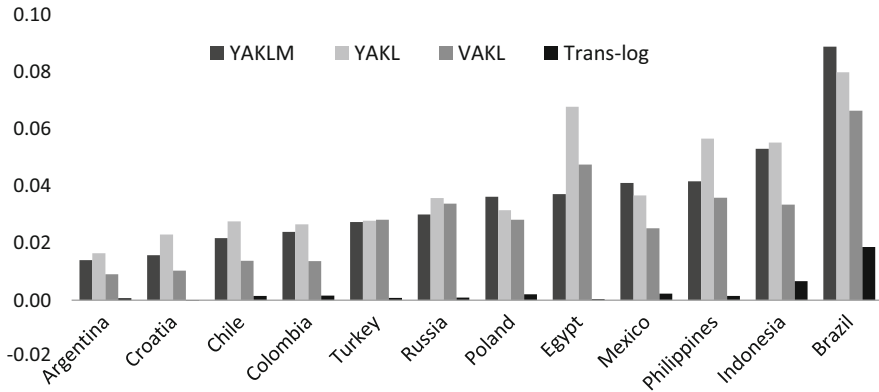


Fig. 8 Average TFP (All specifications). Source: World Bank (2011)

Table 7 Ranking for aggregate and average productivity

YAKLM	YAKLEM	YAKL	VAKL	Trans-log	Solow
<i>Aggregate productivity rankings</i>					
Mexico	Mexico	Mexico	Mexico	Croatia	Egypt
Chile	Brazil	Argentina	Argentina	Argentina	Mexico
Argentina	Chile	Chile	Croatia	Russia	Croatia
Russia	Argentina	Brazil	Brazil	Poland	Argentina
Poland	Croatia	Croatia	Chile	Chile	Russia
Brazil	Russia	Colombia	Russia	Mexico	Colombia
Colombia	Poland	Poland	Poland	Colombia	Philippines
Croatia	Colombia	Philippines	Colombia	Philippines	Chile
Egypt	Egypt	Russia	Turkey	Egypt	Indonesia
Philippines	Philippines	Turkey	Egypt	Indonesia	Poland
Turkey	Indonesia	Egypt	Philippines	Turkey	Turkey
Indonesia	Turkey	Indonesia	Indonesia	Brazil	Brazil
<i>Average productivity rankings</i>					
Argentina	Argentina	Argentina	Argentina	Croatia	Egypt
Croatia	Croatia	Croatia	Croatia	Egypt	Argentina
Chile	Chile	Colombia	Colombia	Argentina	Colombia
Colombia	Turkey	Chile	Chile	Turkey	Indonesia
Turkey	Colombia	Turkey	Mexico	Russia	Philippines
Russia	Russia	Poland	Poland	Chile	Croatia
Poland	Egypt	Russia	Turkey	Philippines	Turkey
Egypt	Poland	Mexico	Indonesia	Colombia	Mexico
Mexico	Mexico	Indonesia	Russia	Poland	Russia
Philippines	Philippines	Philippines	Philippines	Mexico	Poland
Indonesia	Indonesia	Egypt	Egypt	Indonesia	Brazil
Brazil	Brazil	Brazil	Brazil	Brazil	Chile

Source: World Bank (2011)

5 Conclusion

This study compares productivity levels of Turkish manufacturing firms with firms from 11 developing countries. The novelty of the study is not generated by the methodologies implemented to measure productivity but rather by the uniqueness and richness of the data used for the analysis. Large and diverse set of questions asked in the surveys following a standard methodology allow to analyze various factors that could be associated with productivity performance of firms such as: export orientation, import intensity, capital or labor intensity, foreign ownership, state ownership, age, innovation capacity as well as investment climate factors.

Although no causal inferences could be reached and the results presented were mostly descriptive, several important conclusions were drawn that motivate further research. The most important finding of this study is the difference in average and aggregate productivity within and between countries. Turkey had an average position on average productivity comparison among peers but ranked second highest position on aggregate productivity. This result showed that productivity distribution among firms could vary significantly across countries and firms that are in either lower or upper tail of the productivity distribution need to be approached with very different policy recommendations. As it is important to have a high mean value for the productivity distribution, it also important not to have a highly dispersed distribution.

In comparison to the peers like Brazil, the gap in average TFP levels of large and small firms is higher in Turkey. Section 4 provides some discussion on why such a result emerges in Turkey and how Turkey differentiates with the comparator countries. But the paper does not empirically prove these claims. Yet, the cited studies about Turkey provide valuable insight. The next steps for this study should be first to compile the dataset with the remaining data from the surveys on investment climate factors. Then an empirical framework should be introduced to analyze why productivity distribution in Turkey is more spread than the peers, why the productivity gap between large and small firms in Turkey is too high, and how large firms in Turkey achieve to be more productive compared to their peers.

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