

A possible explanation of the gender gap among accounting academics: evidence from the choice of research field

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Abstract

Despite the significant increase in the number of women in accounting research over past decades, the percentage of female full professors in accounting is still low. One of the problems may relate to the research area(s) they choose to specialize in. Is the relatively slow promotion of women due to their decision to concentrate in ‘nonmainstream’ fields of research? In this study, we collect data on 1,042 male and female accounting academics. Using the research interests declared on each academic web page, we find that accounting researchers show no significant gender differences in their choice of research fields. Hence, we conclude that the underpromotion of women cannot be attributed to their choice of ‘nonmainstream’ fields.

Key words: Occupational segregation; Research fields; Gender segregation; Gender gap

JEL classification: M49, I23, J16, M59, J71

doi: 10.1111/acfi.12035

The authors gratefully acknowledge the editor and reviewers of *Accounting and Finance* for their comments and suggestions. We also thank the comments of Amelia Baldwin, Clive Emmanuel and other participants at the 2010 MCA conference (Greenwich, UK) and the 2011 AAA meeting (Denver, US). Susana Gago acknowledges the financial support of the Spanish Ministry of Science and Technology (2007 and 2010) and the Community of Madrid (2006 and 2007) to develop this research. Marta Macías acknowledges the financial support of the Spanish Ministry of Education (2007 and 2010).

Received 17 April 2012; accepted 3 June 2013 by Steven Cahan (Editor in Chief).

1. Introduction

Different theoretical explanations for the underpromotion of women in the labour market have been expounded. Economic theories tend to explain underpromotion in terms of investment in human capital and individual preferences. Other noneconomic theories have identified institutional factors as the main variable driving gender differences in the labour market.

This article aims to analyse the situation in the accounting academic market. The accounting academy remains on a male-dominated area both in its overall composition and with regard to tenured positions (Jordan *et al.*, 2006). Gender segmentation in terms of choice of research areas may help explain the difference in the composition of accounting faculties. Our interest in this segmentation is based on several reasons. First, prior research finds that women face gender-differentiated promotion rates, salaries and hiring rates (Brierley and Gwilliam, 2001). Moreover, there are differences in the relative importance of women and men in different professional areas of accounting (Broadbent and Kirkham, 2008). Men dominate in areas that are perceived as more prestigious such as consultancy and financial services, while women dominate in taxation and audit, which are perceived as lower-status occupations. Second, the existence of segmented labour markets for academic occupations in other scientific fields has also been documented (e.g. Bauder, 2006; Rhoton, 2011). Prior studies argue that women find themselves working in less prestigious academic institutions and that they focus on roles that are not as well rewarded as those occupied by men (Smart, 1991). Women also teach in fields where pay is lower, and a concentration of women in some disciplines may even contribute to further devaluation (Bellas, 1994, 1997). On this point, when analysing the discipline of economics, Dolado *et al.* (2005) note that women are concentrated in ‘nonmainstream’ research areas, creating segmented academic markets. Likewise, Fearfull and Tinker (2007, p. 136) argue that ‘Minorities typically do research that is critical of markets (e.g. accounting history, gender studies, diversity studies, behaviourally-oriented management accounting, critical auditing, social accounting, public interest accounting and international accounting)’ and claim that the trend of only valuing economic-based research in accounting is a way of disguising discrimination.

Thus, an interesting issue arises: ‘Do women and men compete in different research areas?’ As long as research assessments place more value on journals publishing economics-based accounting research, the choice of research area is likely to affect promotion and career development.

The rest of this article is organized as follows. The next section presents the background to the study. This is followed by a description of the design and the methods of the research. The findings are then presented and discussed, and the final section is a conclusion.

2. Background

Theories explaining the existence of occupational segregation by gender can be classified into three broad categories: (i) neoclassical and human capital theories, (ii) institutional and labour market segmentation theories and (iii) noneconomic and gender theories (Anker, 1997; Fetherolf, 2001).

Economic theories assume that workers and employers are rational and seek to maximize their utility and that the labour market functions efficiently. In short, economists explain the segmentation of the labour market in terms of human capital investments. Furthermore, it is assumed that workers freely make choices about their levels of investment in human capital. According to these theories, women invest less in education and acquire less on-the-job experience due to intermittent or truncated labour market participation. Therefore, employers will be less willing to employ women in occupations requiring high levels of education and on-the-job experience. Additionally, women are assumed to be high-cost workers due to their relatively higher levels of absenteeism (Mastekaasa and Olsen, 1998; Kirov, 2012) and turnover (Ragan and Smith, 1981; Krishnan, 2009). Consequently, women will concentrate on those occupations where education and training are not as important and, in consequence, receive lower pay.

Other economic theories stress that the job-related preferences of women and men differ. Women are assumed to prefer jobs with good working conditions, avoiding unpleasant and dangerous occupations, and to have jobs with good fringe benefits (Anker, 1998, p. 19). Thus, lower monetary rewards in ‘women’s’ occupations would be explained by some of the ‘remuneration’ taking a nonfinancial form. Also, women who plan to spend some time away from the labour force are more inclined to choose jobs with low penalties for intermittent employment, in spite of the lower levels of remuneration associated with those jobs (Polachek, 1981, 2004). Again, the basic assumption is that workers will choose from among the different job options according to their own preferences; thus, depending on their utility functions, women will strike a balance between financial and nonfinancial rewards.

While providing a general explanation for the systematic differences in human capital accumulation between women and men, their consequent impact on productivity and pay and the types of occupations for which women are qualified, these economic theories are not much helpful at explaining differences within occupations. If the assumptions of economic theories are right, higher human capital investments would be expected to lead to similar productivity and thus to equal pay and promotion prospects between women and men. However, empirical evidence suggesting that other factors may have a significant influence in determining the segmentation of the labour market paints a very different picture (Dickens and Lang, 1988).

Segmentation theory challenges the direct link between productive capacity and pay and argues that labour market segmentation is provoked by

institutional factors, rather than skill differentials (Leontaridi, 1998). Hence, the status of an individual in the labour market depends on labour market structures rather than on human capital. Segmentation theories entail several different approaches, among which three key propositions are outlined (Psacharopoulos, 1978; Ryan, 1981): (i) the labour market is segmented although no standard procedure exists to identifying the demarcation between segments¹ (ii) there are high mobility barriers across segments; and (iii) each segment has its own employment and wage-setting mechanisms. Reich *et al.* (1973) assume a more radical approach insofar as they considered gender segments to be an instrument of capitalist hegemony, helping to legitimise inequalities in authority and control, while simultaneously limiting workers' aspirations for mobility.

Finally, gender theory has made a valuable contribution to explaining occupational segregation by showing how closely the characteristics of 'women's' occupations mirror the common stereotypes of women and their supposed abilities (Anker, 1997). Gender-based occupational segregation is one of the most important factors that contributes to inequality in the labour markets (Blackburn *et al.*, 2009). It concerns the tendency of men and women to find employment in different occupations (horizontal segregation) and the tendency of women and men to find employment in different positions within the same occupation (vertical segregation).

The gender gap is a consequence of both types of segregation, so that even if women enter occupations traditionally dominated by men, they are more likely to be found in lower-status and lower-paid positions (Melkas and Anker, 1997; World Bank, 2012), while men who enter into what are traditionally 'women's' occupations will also suffer a wage penalty (Treiman and Hartman, 1981; Shin, 2007). Bellas (1994) finds support for the view that in academic fields, with a high representation of women, salaries are lower. Furthermore, Pfeffer and Davis-Blake (1987) demonstrate that when the percentage of women in academic disciplines (administrative positions) in universities reached at least 30 per cent (40 per cent), those positions began to be identified as 'women's work' and became devalued.

The literature on gender theory explores this gender inequity in accountancy and auditing at senior levels (Jackson and Hayday, 1997; Whiting and Wright, 2001; Law, 2009).

Factors that may explain gender inequity include the professional organization, sociology (Khalifa, 2004), and the family and individual (Barker and Monks, 1998). For example, women may need to conform to the stereotypical

¹ The problem of truncation bias permeates most empirical studies in segmentation list theory (Cain, 1976). Even in the case of gender studies (e.g. McNabb, 1987) 'determining segments on the bases of the proportion of females employed in the industry, [which] could be interpreted as indirect truncation bias since women to be paid less' (Leontaridi, 1998, p. 86).

masculine model of managerial success to succeed (Dirsmith and Covaleski, 1985), as those in power promote employees similar to themselves (Kanter, 1977). Other studies identify the impact of motherhood on women's careers (Hakim, 2006; Dambrin and Lambert, 2008), highlighting the penalty that women suffer and how specialization and lateral movements help them to overcome those obstacles. However, certain authors (Gallhofer *et al.*, 2011) explain inequality in terms of differences in work–lifestyle choices, rather than in terms of a balance between work and life. This implies consideration of the impact of individual preferences on work and promotion.

The situation of women who research in accounting has received less attention. In this article, we test economic and segmentation theories by analysing the impact of the choice of research areas, so that we can better understand how this decision may influence the under-representation of women in tenured positions. We also control the effect of job experience, as indicated by these theories. Gender differences are documented in other academic disciplines (Rhoton, 2011). In an analysis of women in economics, Dolado *et al.* (2005) find that the choice of research field accounts for a significant part of the differences in salaries and promotion between men and women. Our article extends this stream of research to the accounting discipline.

3. Research design and methodology

We build a database that contains information about permanent faculty staff in America and Europe working in an accounting department or area in 2005. US data are obtained from the personal web pages of 'the Top 100 rankings of research business schools, 2000–2004' (University of Dallas, 2005). In the case of academics in Europe, universities are selected from the Financial Times (2005) ranking. We gather information on self-reported fields of specialization and faculties as well as several personal and departmental characteristics.

Our final sample is composed of 1,042 accounting staff with PhDs who had previously disclosed their research areas and who provide the date of PhD award and the university that granted their PhD. We obtain data from 882 researchers working at 80 US universities and 160 researchers at 35 European universities (see Appendix I). We replace the job titles used in various European countries with the standard job titles used in American universities.²

We then classify this information by year of completion of the PhD, reflecting the different doctoral cohorts. The number of years since PhD completion for full-time active researchers in 2005 served as a proxy for the investment in job experience, because economic theories view this factor as an important driver of promotion. It is reasonable to measure experience in terms of the time elapsed since researchers had earned their PhD because the use of experience, estimated on the basis of age and length of schooling, was recommended when

² Our European sample includes only eight women.

specific measures of postschool investment were unavailable (Mincer, 1974). A limitation of this measure is that it does not consider possible intermediate periods of flexible/part-time employment or breaks in activity – for example, for maternity or childcare reasons – that are likely to affect women (Cohen and Single, 2001; Oxaca and Regan, 2004). Academics might also have occupied different positions in different universities, such as teaching-only or administrative positions, so ‘years of service’ may not be significant in explaining their career paths towards full professorship (Law, 2009). However, we focus on full-time academics at top research-focused universities because we are interested in how the choice of research area affects the career progression of women. We conduct *t*-tests to determine whether differences in the experience of men and women across cohorts of doctorates are significant.

Our entire sample is composed of academics holding a PhD and working in research-oriented universities. Thus, their investment in education could be assumed to be very similar. However, previous research demonstrates the importance of the prestige of the doctoral institution for the career prospects of academic professionals (Burris, 2004). Scholars applying to top doctoral programmes can be viewed as making a higher investment in their education. The rankings of University of Dallas (2005) and Financial Times (2005) provide a proxy for the quality of their respective doctoral programmes. Hence, we consider whether the university awarding the PhD presented significant differences by gender.

Our next step is to analyse the academic positions held by women and men. To do so, we divided academic positions into four major categories: full professorship, associate professorship, assistant professorship and others (e.g. teaching assistants, research assistants, emeritus professors, etc.). We determined whether there are significant differences in the distribution of men and women across positions.

Choice of a research field may influence publications and therefore promotions. Thus, it may help to explain the under-representation of women in higher academic positions. Accordingly, we turn our attention to the distribution of scholars in the following research fields: (i) financial accounting (*Fin*), (ii) management accounting (*Man*), (iii) auditing (*Aud*), (iv) social accounting (*Soc*), (v) public accounting (*Pub*), (vi) accounting theory (*The*), (vii) corporate governance (*Gov*), (viii) international accounting (*Ina*), (ix) organizational and behavioural accounting (*Oba*), (x) taxation (*Tax*) and (xi) others (*Others*). Most scholars declare more than one research field. The total number of research fields across all academics in our sample is 1,946. We then analysed whether the distribution of men and women in these areas could indicate the existence of a segmented discipline using two procedures. First, we measure whether there is gender segregation by research fields, based on several dimensions. In particular, we examine the ratio of women holding tenured positions and the ratio of women holding full professorships, by research field and by doctorate-year cohorts (i.e. experience).

Second, we calculated two indexes of segregation, using the Duncan and Duncan (1955) dissimilarity index (*DD* dissimilarity index). This measure is defined as follows:

$$DD = (0.5) \sum_i |m_i - f_i| \quad (1)$$

where f_i (m_i) is the proportion of women (men) working in research field i . It assesses the degree to which two groups are unevenly distributed over the set of research areas. This is a symmetrical index; it represents the proportion of women (men) who would have to change their field of research, to be distributed in the same manner as men (women). It measures the distance from an equal distribution of men and women across research fields, under the hypothesis that segregation implies a different distribution of men and women over all areas. If its value equals zero, the distribution of men and women across fields is the same. If the value of the *DD* dissimilarity index is one, it means that women and men research in completely different fields.

We then recalculated the index by cohorts for a better understanding of the evolution of this level of integration. For any cohort, the index is calculated as follows:

$$DD_t = (0.5) \sum_i |m_{it} - f_{it}| \quad (2)$$

where m_{it} (f_{it}) is the proportion of men (women) researching in the field of research i at cohort t .

The change in the *DD* dissimilarity index between two consecutive cohorts reports the evolution in the distribution of women and men across time.³ We can further decompose this index over each cohort into (i) a ‘gender-composition effect’ and (ii) an ‘occupation-mix effect’ or ‘field effect’ (Blau and Hendricks, 1979). The ‘gender-composition’ effect determines the variation in the *DD* dissimilarity index due to changes in the gender composition within a field of research, and therefore, the field size remains constant. The ‘occupation-mix effect’ refers to changes in the *DD* dissimilarity index due to transformations in the research fields of the cohort, holding gender composition within the fields constant.

Note that if F_{it} (M_{it}) is the number of women (men) in field i and in cohort t , and $T_{it} = F_{it} + M_{it}$ is the total in the field i and cohort t , then equation (2) may be rewritten as follows:

³ This difference ranges from -1 to 1 .

$$DD_t = (0.5) \sum_i |(q_{it}T_{it}/\sum_i q_{it}T_{it}) - (p_{it}T_{it}/\sum_i p_{it}T_{it})| \quad (3)$$

where $p_{it} = F_{it}/T_{it}$ is the proportion of women who declare a research interest in field i , and $q_{it} = (1 - p_{it}) = M_{it}/T_{it}$ is the proportion of men in each field. The gender-composition and occupation-mix effects are then defined as follows:

$$\begin{aligned} \text{Gender-composition effect} = & (0.5) \sum_i |(q_{i2}T_{i1}/\sum_i q_{i2}T_{i1}) \\ & - (p_{i2}T_{i1}/\sum_i p_{i2}T_{i1})| - DD_1 \end{aligned} \quad (4)$$

and

$$\begin{aligned} \text{Occupation-mix effect} = & DD_2 - (0.5) \sum_i |(q_{i2}T_{i1}/\sum_i q_{i2}T_{i1}) \\ & - (p_{i2}T_{i1}/\sum_i p_{i2}T_{i1})| \end{aligned} \quad (5)$$

where DD_1 and DD_2 , respectively, denote the dissimilarity index, as defined above in equation (3), in one cohort and then in the following cohort. This is to say that the gender-composition effect explains the change in the DD dissimilarity index due to demographic changes, holding the weight of fields constant, while the occupation-mix effect displays changes in the field mix, holding gender composition within the fields constant.

4. Results

The distribution of men and women, by doctoral cohort, in our sample is summarized in Table 1. The figures show that our sample is dominated by men (75.82 per cent). This domination is far more evident for the academic accountants who gained their doctorates in older cohorts than among the younger accountants. Our findings indicate that the number of women who gained doctorates in older cohorts is smaller. We might conclude that fewer women entered the accounting academic profession in the late 1960s and 1970s, but the only available figures that we have are for men and women who remained in academy in 2005. It may (or may not) be the case that from 1966 to 2005, there was a higher net exit rate among women because, for example, of maternity or childcare.

Most of our sample is composed of recent PhD graduates: the majority of men gained their PhD from 1990 to 2005. From the 1980s onwards, the percentage of women has risen to reach 40 per cent in the youngest cohort.

Table 1
Sample of accounting researchers

Cohort	Faculty	Men	(%)	Women	(%)
–1965	20	20	100.00	0	0.00
1966–1970	39	38	97.44	1	2.56
1971–1975	94	91	96.81	3	3.19
1976–1980	103	95	92.23	8	7.77
1981–1985	126	98	77.78	28	22.22
1986–1990	135	99	73.33	36	26.67
1991–1995	148	103	69.59	45	30.41
1996–2000	207	144	69.57	63	30.43
2001–2005	170	102	60.00	68	40.00
Total	1,042	790	75.82	252	24.18

Based upon our information compiled in 2005, gender composition appears to have undergone a major change since the 1980s. Previous research has indicated that the demographics of the accounting academic profession changed dramatically in that decade (Eaton and Hunt, 2002). In the United States, the number of women and minorities was increasing, while the number of new PhDs entering the job market dropped from an annual figure of around 200 new graduates in the late 1980s to around 100 new graduates in the period between 2000 and 2004 and to as few as 35 in 2005 (Hasselback, 2001). The last cohort of our sample also shows a fall in the number of tenured academic accountants (170) compared with the previous one (207). However, this fall is only for men as the percentage of women continued a rising trend. These figures may be explained by the decrease in the overall number of PhDs (Plumlee *et al.*, 2006) and the increase in the number of women earning accounting PhDs (Baldwin *et al.*, 2008).⁴

These changes have reduced gender differences in the academic profession (Sayre *et al.*, 2000; Baldwin *et al.*, 2008). Jordan *et al.* (2006) find that at doctoral-granting institutions, the percentages of women in 2004 were as follows: full, 11 per cent; associate, 25.9 per cent; and assistant, 36.6 per cent. At non-doctoral-granting programmes, the percentages of women in 2004 were as follows: full, 13.8 per cent; associate, 28.2 per cent; and assistant, 37 per cent.

The composition of our sample by academic positions is shown in Table 2. We find similar figures in our sample (full, 11.3 per cent; associate, 28.4 per cent; and assistant, 36.4 per cent) to those of Jordan *et al.* (2006). As shown in Table 2, it appears that women are under-represented in the assistant, associate and full professorship categories.⁵

⁴ In 2001, women earned more accounting PhDs than men (Baldwin *et al.*, 2008).

⁵ We conduct a *chi-square* test to verify this under-representation in positions. Its results indicate a significant difference between women and men (χ^2 statistic = 75.56, *p*-value < 0.001).

Table 2
Academic position by gender

	Women (%)	Men (%)
Other	50.0	50.0
Assistant	36.4	63.6
Associate	28.4	71.6
Full	11.3	88.7
Total	24.1	75.9

Table 3
Academic positions by level and cohort held by women researchers (as a percentage of all researchers)

Cohort	Full (%)	Associate (%)	Assistant (%)	Women/cohort (%)
1981–1985	20.0	24.1	50.0	22.4
1986–1990	22.1	32.1	27.3	26.7
1991–1995	13.9	36.8	26.1	31.1
1996–2000	14.3	22.1	36.8	30.4
2001–2005	22.2	40.0	40.4	40.8

Each cohort includes four academic ranks – professor, associate, assistant, and other.

Further, Table 2 indicates that the difference between men and women increases at more senior levels. One possible explanation is that the low percentage of women in the older cohorts reduces their representation in these senior positions. For this reason, in Table 3, we analyse the distribution across positions by cohort, starting in 1981 when female academic accountants became more numerous. We might expect that the distribution of women in the three categories would not differ significantly from their percentage in the respective cohorts; that is, if women represent 31.1 per cent of total researchers in the 1991–1995 cohort, women should occupy 31.1 per cent of all full professorships in that cohort. However, it is clearly not the case. Their representation in the categories of associate and assistant professors varies, some cohorts being either over or under the total percentage, but the percentage of women who are full professors is consistently under that of the total sample.

Economic theories highlight investments in human capital as a factor that explains gender differences in the labour market. However, investment in education is not a plausible driving factor if we consider a highly homogeneous population such as academics in research universities. However, investment in on-the-job experience may help to explain the underpromotion of women. Thus, we perform a *t*-test to verify whether the job experience, measured by years of service, of women and men differs. Its results indicate a significant difference between women and men (*t*-statistic = 11.41, *p*-value <0.001).

Of course, it is not surprising that the job experience of men and women differs significantly, as Table 1 shows that women have fewer service years. When the seniority of men and women was compared in the same cohort of accounting academics (Table 3), we expect that differences in academic positions between men and women would be less evident from 1981 onwards as in each cohort, the investment in education and job experience is roughly the same. However, this is not what we find.

One factor not considered in the previous tables is the ranking of the doctoral-granting institution. Previous research finds a link between a doctoral institution's prestige and the career prospects of academic professionals (Burris, 2004; Bedeian *et al.*, 2010). This relation was first introduced by Merton (1942, 1973) and is often labelled the Matthew effect (Merton, 1968, 1973), in reference to the cumulative advantage offered by prestigious departments, as doctoral training in a prestigious department can lead to a position in other highly reputed departments (Creamer and McGuire, 1998), better access to resources and higher recognition (Crane, 1970). The intuition behind this approach is that the institution granting the doctoral degree reduces the uncertainty of judging the actual quality of job applicants, especially at the initial stages of the career, but also in all their working life (Bedeian *et al.*, 2010). Therefore, a possible factor driving differential promotion rates could be the reputation of the university granting the doctoral degree. We check for this possibility, and our results show that in our sample, this is not the case. We look at the quality of the universities in which academics gained their PhD in Table 4. This table uses the University of Dallas (2005) and Financial Times (2005) rankings to classify PhD-granting institutions into quartiles. Interestingly, a greater percentage of women received their PhD from an institution ranked in the top half, that is, 76.68 per cent for women and 71.32 per cent for men. These differences between women and men are significant, as indicated by a *t*-test (*t*-statistic = -2.49 , *p*-value <0.050). Thus, the prestige of the doctoral-granting institutions does not explain the underpromotion of women.

A further factor affecting promotion rates among women is the choice of research area. The basic argument here is that women are limiting their own professional achievements by concentrating in 'nonmainstream' research areas. Hence, we now examine the research areas declared by the men and women in

Table 4
Quality of the university granting PhD by gender

Quartile	Women (%)	Men (%)
First quartile	47.83	48.10
Second quartile	28.85	23.22
Third quartile	11.07	7.74
Fourth quartile	12.25	20.94

our sample. Table 5 offers a general picture of the number of areas in which men and women research. It appears that many researchers work in more than one single field of research, thereby increasing the number of observations with respect to the previous data. However, the number of research fields declared by women and men does not differ significantly based on a Mann–Whitney *U*-test (Z -statistic = -1.924 , p -value > 0.050).

If we examine the areas of research, we can approximate the relative popularity of different research fields, as shown in Table 6. Most accountants (730) declared that financial accounting is their main research field, followed by management accounting (274) and auditing (249). These three research fields are also the most likely to be published in the top-ranked accounting journals (Bonner *et al.*, 2006).

Table 5
Number of research areas by gender of researcher

	5	(%)	4	(%)	3	(%)	2	(%)	1	(%)	0	(%)	Total
Women	1	0.40	3	1.19	41	16.27	105	41.67	100	39.68	2	0.79	252
Men	2	0.25	22	2.78	136	17.22	362	45.82	266	33.67	2	0.25	790
Total	3	0.48	25	2.40	177	16.991	467	44.82	366	35.12	4	0.38	1,042

Table 6
Position by research area

	Full	(%)	Associate	(%)	Assistant	(%)	Other	(%)	Total
Financial accounting	282	38.63	199	27.26	242	33.15	7	0.96	730
Management accounting	142	51.82	62	22.63	68	24.82	2	0.73	274
Auditing	109	43.78	74	29.72	64	25.70	2	0.80	249
Social accounting	30	51.72	12	20.69	15	25.86	1	1.72	58
Public accounting	39	54.93	18	25.35	13	18.31	1	1.41	71
Accounting theory	43	58.11	17	22.97	14	18.92	0	0.00	74
Corporate governance	41	36.28	31	27.43	39	34.51	2	1.77	113
International accounting	46	46.46	26	26.26	27	27.27	0	0.00	99
Behavioural accounting	69	49.64	34	24.46	34	24.46	2	1.44	139
Taxation	58	46.77	40	32.26	26	20.9)	0	0.00	124
Others	7	46.67	6	40.00	2	13.33	0	0.00	15
Total of research areas	866	44.50	519	26.67	544	27.95	17	0.87	1,946

Based on 1,946 research fields declared by 1,042 researchers. Percentages are computed by row.

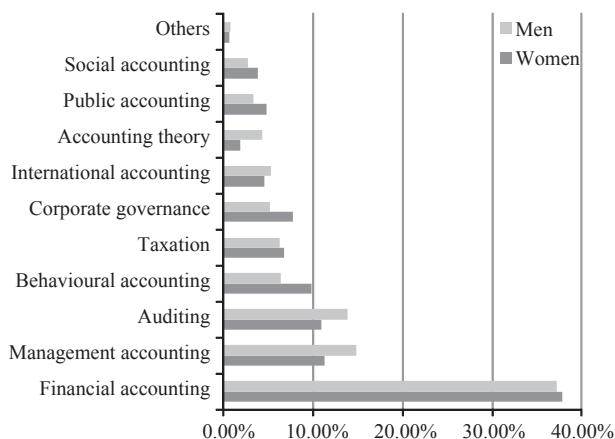


Figure 1 Distribution of women and men across fields (per cent).

The participation of women in each area (as shown in Figure 1) offers the same overall picture as for men: financial accounting accommodates the largest percentage of women, followed by management accounting and auditing. We perform a *t*-test to confirm whether there are significant differences in the distribution of men and women across each research field. Its results indicate a significant difference only in the areas of social accounting (t -test = -2.71 ; p -value < 0.05) and accounting theory (t -test = -2.06 ; p -value < 0.05).

We analyse gender segregation by fields, to check whether the previous results are consistent with the fact that our sample includes fewer women than men in the older cohort, using the *DD* dissimilarity index. Overall, *DD* index is 9.67 per cent, which means that <10 per cent of researchers in accounting would have to change research areas, to claim that no occupational segregation exists. This is in line with the findings of Dolado *et al.* (2005) for economics. (The overall *DD* dissimilarity index for economists was in the range 10–13 per cent.)

We also analysed the relative importance of research areas by cohort, before examining the evolution of the dissimilarity index over the different cohorts (Table 7).

In a similar way to the previous findings, financial accounting represents the main research area in all the cohorts of our sample (Table 7). It is, more importantly, the only area that has shown a steady increase in the number of researchers competing in it, such that it represents more than 40 per cent of total references in younger cohorts. In addition to the influence of American economic-based financial researchers, other factors such as the availability of supervisors and the relative speed of conducting quantitative research with available databases, as opposed to, for example, management accounting fieldwork, may be important for a deeper understanding of these findings. Management accounting shows the reverse trend, losing significant weight in

Table 7
Percentage of academics in each research field by cohort

Cohort	Soc (%)	Aud (%)	Man (%)	Pub (%)	The (%)	Gov (%)	Fin (%)	Ina (%)	Oba (%)	Tax (%)	Other (%)
Before 1965	0.0	7.3	22.0	7.3	9.8	4.9	34.1	4.9	4.9	4.9	0.0
1966–1970	5.2	15.6	19.5	3.9	5.2	5.2	26.0	2.6	6.5	7.8	2.6
1971–1975	3.4	17.3	21.2	3.4	7.3	2.8	27.9	4.5	6.1	5.6	0.6
1976–1980	2.5	14.2	15.2	6.6	3.6	3.0	32.5	5.6	6.1	9.1	1.5
1981–1985	2.6	12.8	12.8	4.3	3.8	5.1	37.9	6.4	7.2	7.2	0.0
1986–1990	3.5	15.4	10.2	4.3	2.4	5.1	36.6	4.7	6.3	10.2	1.2
1991–1995	2.0	16.6	15.8	2.4	2.0	3.6	36.8	3.2	12.3	5.5	0.0
1996–2000	2.0	12.1	11.3	1.4	2.5	6.5	43.4	7.0	7.0	5.1	1.7
2001–2005	4.4	6.9	13.1	2.9	2.6	10.9	44.5	5.1	6.2	3.3	0.0

Research areas are as follows: (a) financial accounting (*Fin*), (b) management accounting (*Man*), (c) auditing (*Aud*), (d) social accounting (*Soc*), (e) public accounting (*Pub*), (f) accounting theory (*The*), (g) corporate governance (*Gov*), (h) international accounting (*Ina*), (i) organizational and behavioural accounting (*Oba*), (j) taxation (*Tax*) and (k) others (*Others*).

younger cohorts: 22.0 per cent of the references for the pre-1965 cohort pertain to management accounting, while this figure is 13.1 per cent in the most recent cohort (2001–2005). The research area with the lowest number of researchers across cohorts is social accounting (zero in the oldest cohort and 4.4 per cent in the most recent). Overall, accounting researchers – including men and women – appear to be narrowing their interests and concentrating on financial accounting research.

We also examined the evolution of the segregation index throughout the different cohorts (Figure 2). It is clear from the graph that segregation is greater in the older cohorts of our sample. The decline in segregation with regard to the previous cohort is especially sharp in the 1981–1985 cohort. From there on, the index has experienced only small variations. This result suggests that the percentage of men who should change their research areas, to achieve a proportional distribution, decreased in younger cohorts, but it still does not show whether this decrease is due to a demographic change (an increase in the number of women entering the academic profession) or a change in the general preferences of researchers.

We further decomposed the *DD* dissimilarity index into a gender-composition effect and an occupation-mix effect, to disentangle the possible reasons for the earlier variations. Our results are shown in Table 8. The evolution of the *DD* dissimilarity index, mentioned before, shows a significant decrease in the 1981–1985 cohort – a change caused by the entry of women to this occupation; thus, the gender-composition effect accounted for most of the decline (–0.355 of the total change of –0.368).

The decrease is still apparent in the following cohort, but it can also be seen that there are cohorts in which the participation of women decreased (i.e. 1991–1995 and 2000–2005). Moreover, the occupation-mix effect, except for the

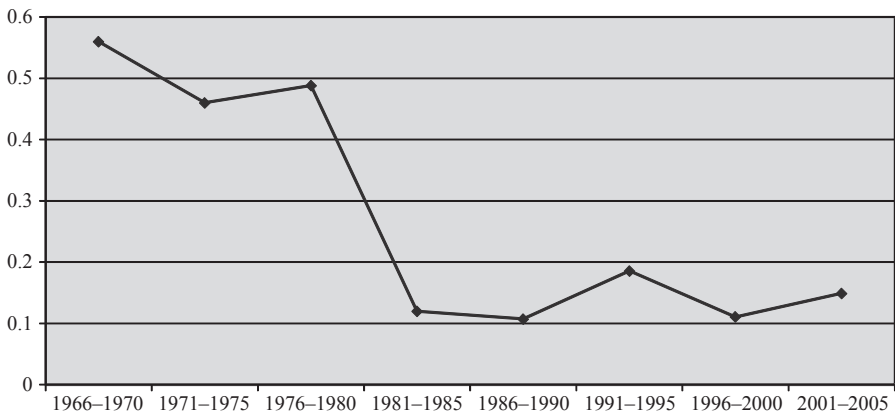


Figure 2 *DD* dissimilarity index, 1996–2005.

Table 8
Decomposition of the *DD* dissimilarity index

Cohort	DD dissimilarity index	Change (with regard to previous cohort)	Gender-composition effect	Occupation-mix effect
1966–1970	0.560	0.060	−0.047	0.107
1971–1975	0.460	−0.100	−0.084	−0.016
1976–1980	0.488	0.028	−0.004	0.032
1981–1985	0.120	−0.368	−0.355	−0.014
1986–1990	0.107	−0.013	−0.011	−0.001
1991–1995	0.186	0.079	0.102	−0.023
1996–2000	0.110	−0.076	−0.081	0.006
2001–2005	0.149	0.039	0.049	−0.011

1966–1970 and 1976–1980 cohorts, is not enough to explain these changes in the composition of the accounting academy as the occupation-mix effect is generally much smaller than the gender-composition effect. Our results are different than those of Dolado *et al.* (2005). In economics, both the gender effect and the field effect explain the changes in the *DD* dissimilarity index. Moreover, both effects are cumulative as they are always negative. There are ‘female’ and ‘male’ areas of research in economics. Hale and Regev (2011) suggest that academic disciplines with very few women attract fewer women.

Our findings indicate a sharp contrast to the situation in economics (Hale and Regev, 2011; Dolado *et al.*, 2005). Women compete in the same research areas in accounting. Therefore, the under-representation at the top levels of the profession cannot be attributed to the existence of a segregated market, where men compete in the ‘mainstream’ areas, while women compete in ‘nonmainstream’ areas. It seems that the accounting academy forms a collective and an undifferentiated profession, which is particularly consistent with the findings of Inglis *et al.* (2011).

5. Conclusions

Over past decades, accounting research has experienced major changes in two different areas. First, researchers have concentrated their efforts in fewer areas. Although financial accounting was the most popular area in the older cohorts, the dispersion across different research areas was higher. In contrast, more than 40 per cent of men and women researchers focus on financial accounting in younger cohorts. Second, our results show a dramatic change in the evolution of the accounting academy. The incorporation of women into the academic profession only became significant percentage in the 1980s. Thus, in the 1980s, the segregation index declined sharply. However, in sharp contrast with other academic disciplines, female and male accounting academics show no significant differences in their choice of research fields. We argue that this situation

arises from the fact that the incorporation of women into accounting academy and the increasing importance of economics-based financial accounting research coincided in time, thus providing strong incentives for young researchers (whether men or women) to concentrate in the few research areas with higher opportunities for publication and promotion.

Considering that we are addressing a highly homogeneous labour market (accounting scholars in research-oriented universities), differences in investment in human capital cannot plausibly explain for the differences found in the professional status of women and men. Also, the prestige of doctoral-granting institution cannot explain the underpromotion of women. We find significant differences in the job experience of women and men. Men invest more heavily in experience as compared to women. However, these differences in job experience cannot explain the underpromotion of women as within cohorts, this underpromotion is still evident.

This research leaves many questions open. It may be that underpromotion in elite research institutions can be attributed to lower productivity of women or to institutional factors that still discriminate against the access of women to higher organizational positions. In particular, this study has not analysed differences in productivity. Further research is needed to address the relationship between productivity, position and salary to arrive to a more complete understanding of the situation of women researchers in accounting. Previous research points out limited differences in research quality between men and women. Authors such as Dwyer (1994) find that women in their early careers had significantly fewer postdoctoral publications, both in total and in academic journals, than men, although women had as many citations as men. Also, Streuly and Maranto (1994) report that the majority of women achieved the same level of quality, quantity and impact as their male counterparts using a matched-pair sample controlling for PhD year, doctoral-granting institution and type of initial appointment. However, it is unclear whether female and male accounting academics exhibit similar quality in terms of research.

In addition, we have not focused on other factors that might have exerted influence such as institutional structural barriers (Dambrin and Lambert, 2008) and researchers' preferences in making work–lifestyle choices (Gallhofer *et al.*, 2011), which clearly have the potential to contribute to gender inequity in senior positions in the workplace. Neither have we considered the effect of flexible working arrangements available in universities, such as career break schemes, working from home, crèches or mentoring (Barker and Monks, 1998). We should not forget that the previous literature has addressed such obstacles to women's promotion, which include those at a professional level (hours of work, professionalization, remuneration, progression, etc.), an organizational level (organizational knowledge, flexible work arrangements, etc.) and individual obstacles (domestic responsibilities, childcare, etc.) (Barker and Monks, 1998). The underpromotion of women to tenured positions also may involve wide-ranging demographic changes such as high rates of separation and

divorce, far higher rates of partnering among men than women and the impact of the needs of older children (Probert, 2005).

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Appendix

Details of the sample of universities and the number of accounting researchers by department, 2005

Dallas*	University	Size [†]	Dallas	University	Size	Dallas	University	Size	Dallas	University	Size
1	<i>Data from United States</i> University of Pennsylvania	17	22	Carnegie Mellon University	7	45	Texas A&M University at College Station	17	71	University of California - Davis	5
2	Harvard University	15	23	Washington University - St. Louis	10	46	University of Pittsburgh - Pittsburgh	7	73	University of Oregon	9
3	New York University	20	25	Indiana University at Bloomington	18	47	University of Colorado at Boulder	11	74	Virginia Polytechnic Institute of Technology and State University	4
4	MIT	5	26	Purdue University	8	49	Southern Methodist University	10	76	University of Kentucky	8
5	Columbia University	16	27	University of Minnesota - Twin Cities	8	50	Georgetown University	8	78	University of Kansas	6
6	University of California - LA	9	28	University of California - Berkeley	7	51	University of Connecticut	8	79	University of Oklahoma	11
7	Stanford University	14	29	University of Wisconsin - Madison	16	52	University of Arizona	8	80	State University of New York at Buffalo	4
8	University of Chicago	23	30	Cornell University	12	55	Rice University	9	81	Florida State University	11
9	Northwestern University	14	31	University of Florida	9	56	Boston College	8	82	Georgia Institute of Technology	3

Appendix (continued)

Dallas*	University	Size [†]	Dallas	University	Size	Dallas	University	Size	Dallas	University	Size
10	University Michigan Ann Arbor	15	32	University of California at Irvine	2	57	Rutgers State University - New Brunswick	20	83	University of Virginia, McIntire	9
11	University of Texas at Austin	27	33	Michigan State University	21	58	Boston University	6	84	University of Virginia, Darden	5
12	University of Maryland College Park	8	35	Arizona State University	17	59	University of Miami	7	86	Louisiana State University at Baton Rouge	10
13	Duke University	14	36	University of Rochester	7	61	University of South Carolina at Columbia	9	87	Northeastern University	9
14	University of Southern California	23	37	Dartmouth College	5	64	Brigham Young University	21	90	University of Delaware	10
16	University of North Carolina Chapel	10	38	Yale University	5	65	University of Georgia	8	91	Washington State University	10
17	Emory University	13	39	University of Notre Dame	11	66	University of Iowa	12	92	George Washington University	8
18	Pennsylvania State University - University Park	13	40	University of Texas at Dallas	17	67	University of Cincinnati	9	96	Santa Clara University	6
18	University of Washington - Seattle	11	41	Case Western Reserve University	9	67	City University of New York	23	97	Syracuse University	6
20	University Illinois - Urbana Champaign	32	41	Georgia State University	11	69	University of Houston	12	98	University of California at Riverside	3
21	Ohio State University	18	44	University of Utah	5	70	Vanderbilt University	4	99	University of Colorado at Denver	6

Appendix (continued)

Financial Times (FT) [†]	University	Size	FT	University	Size	FT	University	Size	FT	University	Size
<i>Data from Europe</i>											
1	INSEAD	6	11	Leeds University	3	23	BI Norwegian School of Management	3	34	Nyenrode Business Universiteit	1
3	London Business School	6	12	University of Bath	1	24	IE	3	35	NHH	6
3	Oxford	5	13	University of Warwick	11	25	EM Lyon	1	36	Ghent University and Katholieke Universiteit Leuven	4
4	University of Cambridge	3	15	Nottingham University	2	27	Universität St.Gallen	2	37	Aston University	6
5	Universidade de Navarra	8	16	University of Birmingham	1	28	Lancaster University	5	39	University of Strathclyde	1
6	Erasmus University	9	17	HEC	9	29	Stockholm	8	40	EDHEC	5
8	Imperial College London	1	19	Copenhagen Business School	9	30	Manchester	9	41	University of Bradford/Nimbas	3
9	Bocconi University	1	21	WHU	1	31	Henley Management College	2	44	ESCP-EAP	6
10	Edinburgh university	1	22	University College Dublin	9	32	Essec	9			

*Position based on the University of Dallas (2005) ranking. † Permanent faculty staff working in an accounting department or area in 2005.

‡ Position based on the Financial Times (2005) ranking.