

Lúcio Vinhas de Souza
Oleh Havrylyshyn
Editors

Return to Growth in CIS Countries

Monetary Policy
and Macroeconomic
Framework

 Springer

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and Macroeconomic Framework

With 75 Figures and 65 Tables

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Dedicatory

I would like to dedicate this book to my dear maternal grandmother, *Voinha*, who sadly passed away during the final stages of the production of this book, after many years of a cruel, debilitating disease. We all loved her very much, and she will be terribly missed. I dedicate this book too to my beloved parents, Sônia and Rômulo, who both turned a sprightly 70 years old this year. Also, as always, to M.: we may not deserve the light, but we certainly deserve peace.

Lúcio Vinhas de Souza

I dedicate this to the memory of the two real entrepreneurs in my family, my father Mykhaylo and grandfather Dmytro, who were not able to see the day that independent Ukraine once again allowed the Schumpeterian spirits to thrive.

Oleh Havrylyshyn

Preface and Acknowledgements

While the fall of the Berlin Wall in November 1989 will always be the historical landmark designating the beginning of the transformation from plan to market in the countries of the socialist bloc, in fact all but a few countries in Central Europe began this process two to four years later. For the rest of Central and South-East Europe it was at least 1991 or later, and in the Baltics as well the twelve CIS successor states of the USSR, a real beginning could not even be imagined until 1992 or later when the regime change finally occurred. All of these countries suffered a significant output decline, but recovery came at very different times. There is a common popular perception that the countries which started the transition earlier were the ones that recovered earliest, and the others followed with a lag, according to their start time. *This is not a correct interpretation.* The “Visegrad Four” did indeed see recovery first, within 3-4 years, but the time lag between transition start and recovery was very different elsewhere. In the Baltic countries it was even shorter (2-3 years), in the CIS countries it was much longer (6-10 years). In South East Europe and the successor states of Yugoslavia it varied a great deal from one year to as much as 5-7 years, if one defines recovery properly to mean a sustained growth. Thus, the simple notion that once regime change began there is a “transition recession” of a few years, followed in 3-4 years by a recovery, is not consistent with the facts. Some of these differences are attributable to civil wars and internal conflicts, but the major reason behind the variation is the timing of effective financial stabilization and at least a beginning of meaningful structural reforms. In short, *the policy choices made by country governments are the most important influence on the recovery and sustainability of growth in the post-communist period.*

This book focuses on the link between sustained economic growth and macroeconomic policies in the CIS countries where recovery lagged considerably, and points to two key conclusions. *First*, in most of these countries, regardless of the degree of advancement on structural and institutional reforms, the will to conduct effective, prudent and market-friendly policies has increased markedly, as has the ability to implement them. *Second*, this development has been, as in other transition countries to the west of the CIS, the single most important catalyst for growth recovery. Certainly growth, which is so important in the globalisation, development, and poverty reduction discussions around the world today, has come back, and done so strongly in the CIS countries. While some decline in these rates is already seen in 2005, this is not surprising, as rates between 5-10 % or even more cannot be expected to continue easily. In most countries, the rates remain very respectable, at 4-6 %. Also, it is clear that the conduct of fiscal and monetary policy has not only matured significantly, shows no signs of significant fiscal easing, and certainly no signs of the widespread populist rhetoric heard in the early nineties.

While the link between growth and prudent macro policy is not always easy to demonstrate econometrically, the precedents in transition and developing countries in general are clear about such a connection. Many of the chapters in the book investigate in fine detail the mechanisms and channels of impact connecting

policy measures taken in the monetary area in particular and the resulting impact on markets. They show that instruments available to monetary authorities are effective, sometimes more than has been recognised by analysts and the authorities themselves. In some cases the authors suggest which of the available instruments is more powerful. Also, several authors deal with the related question of how to adequately implement the necessarily set of structural reforms that must follow macro stabilization, and that actually assure that growth is sustainable in the long run. *The broader question being asked in all chapters is the same: how can government policy in CIS countries affect the relevant variables and behavioural framework in an economy, and how can these countries achieve the stability and engage in the micro, structural reforms that is so crucial in promoting sustained growth.*

We wish to acknowledge first of all the contributions of the chapter authors and thank them for their co-operation in the editing process. For technical support in the preparation of the manuscript we thank Justin Barnes. We appreciate the comments and suggestions on the first chapter made by Antonio de Lecea, Paul Gleason, Balasz Horvath, José Leandro, Andreas Papadopoulos, Antonio Parenti and members of the “Russia teams” at the European Commission and the International Monetary Fund, and the teams at the EU Delegations in Kiev, Minsk and Moscow. The views expressed in this volume are those of chapter authors and not of their respective institutions. The summary presentations in Chapter 1 are attributable to the editors, and we take all responsibility for any errors or misconstrual, and note further that these views do not represent the positions of the European Commission or the International Monetary Fund.

*Lúcio Vinhas de Souza, Brussels,
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List of Abbreviations

2SLS	Two Stage Least Squares
3SLS	Three Stage Least Squares
AC	Accession Country
ARCH	Auto Regressive Conditional Heteroskedasticity
AREAR	Annual Report on Exchange Arrangements and Exchange Restrictions
BEEPS	Business Environment and Enterprise Performance Survey
BYR	Belarusian Rubels
CBR	Central Bank of Russia
CD	Certificates of Deposit
CEEB5	Central Eastern European and Baltic countries
CIS	Commonwealth of Independent States
CISL	CIS Low Reformers
CISM	CIS Moderate Reformers
CPI	Consumer Price Index
EBRD	European Bank for Reconstruction and Development
EC	European Commission
ECB	European Central Bank
ECSC	European Coal and Steel Community
EMU	Economic and Monetary Union
ENP	European Neighbourhood Policy
EU	European Union
EUR	Euro
FDI	Foreign Direct Investment
FSU	Former Soviet Union
FTA	Free Trade Agreement
GDF	Global Development Finance
GDP	Gross Domestic Product
GKO	Russian Government Treasuries
GL	Grubel-Lloyd Index
GOB	Government of Belarus
IIT	Intra-Industry Trade
IFI	International Finance Corporation
IFI	International Financial Institution(s)
IMF	International Monetary Fund
LR	Likelihood Ratio
NAC	Non-Accession Country
NATO	North Atlantic Treaty Organization
NBB	National Bank of Belarus
NBU	National Bank of Ukraine
NMS	New Member State
OECD	Organization for Economic Cooperation and Development

PCA	Partnership and Cooperation Agreement
PPI	Producer Prices Index
PPF	Production Possibility Frontier
PPP	Purchasing Power Parity
RCA	Revealed Comparative Advantages
REER	Real Effective Exchange Rate
SAA	Stabilisation and Association Agreements
SE	Small Enterprise
SEE	South Eastern Europe
SES	Single Economic Space
SDR	Special Drawing Rights
SGP	Stability and Growth Pact
SOE	State Owned Enterprise
SPSEE	Stability Pact for South Eastern Europe
TACIS	Technical Assistance to the Commonwealth of Independent States and Mongolia
TOT	Terms of Trade
TPI	Transition Progress Indicator
UCP	Ukrainian Communist Party
UIP	Uncovered Interest Parity
ULC	Unit Labour Costs
UN	United Nations
UNECE	United Nations Economic Commission for Europe
USD	United States of America Dollar
USSR	Union of the Soviet Socialist Republics
VAR	Vector Auto Regression
VAT	Value Added Tax
WB	World Bank
WBI	World Bank Governance Indicator
WDI	World Development Indicators
(S)VECM	(Structural) Vector Error Correction Model
WTO	World Trade Organization

Chapter 1

Introduction: Growth Resumption in the CIS Countries

Lúcio Vinhas de Souza and Oleh Havrylyshyn¹

1. Overview

After a long period of decline, the CIS economies began to show some signs of turn-around after 1995, but this trend was halted by the 1998 financial crisis in Russia. Within two years however, even stronger growth forces took hold, and after 2000 most of these economies experienced a surge of GDP growth, with annual averages of well above 5 percent (Table 1.1) and some individual cases of rates above 10 percent. The factors behind this return to growth and the recent exceptional surge are many, and analysts are still investigating their relative importance. The main explanations are achievement of macroeconomic stability and in particular, inflation control; devaluation after the 1998 crisis; an inevitable bounce-back from the very low levels reached in the mid-nineties; achievement of minimal threshold levels of structural reforms; and, of course, the very high prices of oil and gas in recent years. There are differences of view on the role of each of the above, with the exception of macroeconomic stability: it is virtually universally agreed that the financial stabilization, which began to take hold from the mid-nineties on, was *a sine qua non* in catalyzing the recovery and remains an essential ingredient for sustained growth. The focus of this book concerns the evolution of macro and especially monetary policy management in the CIS, and the later increased concern with structural, micro questions. Geographically, the book looks particularly at the westernmost countries, Russia, Ukraine, and Belarus, though others are also covered. The most relevant message that comes from the country studies in this volume is that policy management, while still evolving, has advanced considerably from the early years of “transition” to a state where authorities are both able and willing to do what is necessary for financial stability, and the emphasis has switched to other policy questions. This chapter draws together the results of the individual analyses and links them to the observed fact of growth resumption.

¹ The views expressed in this chapter are those of the authors alone and do not necessarily represent those of the European Commission or the International Monetary Fund. All usual disclaimers apply.

First, however, Section 2 reviews the available literature on the determinants of growth in all transition countries, which had by the late nineties already come to the consensus view that macro stability was a necessary, but not a sufficient condition for recovery and sustained growth. Then we consider in Section 3 the most recent period since 2000 and the growth surge in the CIS countries, asking not only what explains it but also how sustainable such high rates may be. Section 4, in turn, focuses on the link between macro policies and growth, drawing together the findings of all the studies in this volume. Finally, Section 5 draws the key conclusions on this link.

Table 1.1 Growth of GDP since 1998

	1999	2000	2001	2002	2003	2004	2005
Central Europe	2.4	3.7	3.5	3.3	3.2	5	4
Baltics	0.1	6	7	6.3	5.7	7.6	8.8
CISM*	4.2	8.8	6.4	5.5	6.7	8.1	6.3
CISL*	4.8	9.4	8.2	5.4	5.3	9.5	9.3

Source: EBRD Transition Report (2003), Table A 3.1. For 2002 the average excludes Kyrgyz where a gold mine incident caused growth to fall from about 5-6 percent trend to -0.5 percent. 2004-2005 values from UNECE.

*CISM refers to the CIS countries which undertook at least some moderate reforms, that is all but three lagging reformers, Belarus, Uzbekistan, Turkmenistan, where the progress on market reforms is very limited; these are labelled CISL.

2. Main Determinants of Growth in Transition

By the late nineties, less than a full decade after the process began, there were already over a dozen econometric cross-country studies of growth and recovery in the transition, surveyed by Havrylyshyn and van Rooden (2001), Campos and Coricelli (2002), and Bakanova et al. (2004). They showed a surprising degree of consensus: the standard factor input variables are not important; prior financial stabilization is virtually a *sine qua non*; liberalization and structural reforms are key explanatory variables; unfavourable initial conditions negatively affect growth prospects but this effect declines with time; and good institutions are important but complement, rather than substitute for, liberalizing policies. Let's consider these conclusions separately.

In the nineties, there has been a renewed interest by economists in explaining growth by going beyond the *role of factor inputs* — land, natural resources, labour, and physical and human capital — which were central to earlier Solow-type models. Factor inputs continue to play a large role, though other explanatory variables have been added (see Barro and Sala-i-Martin, 1995). But transition economies' growth is not analogous to the long-term equilibrium growth path that

is usually modeled in growth studies. As Havrylyshyn et al. (1999) noted, the dynamics in this period were not a matter of moving the economy to a higher production-possibility-frontier (PPF) through expansion of factor inputs or technological change. Rather, they were a matter of correcting the large inefficiencies of the communist period, including moving from inside the PPF to the PPF, and shifting resource allocation along the PPF to an international comparative advantage position. Therefore it is not surprising that all efforts to include capital, usually proxied by the investment to GDP ratio, show insignificant, and often negative, results.

This does not imply that no investment is needed in the process of reallocating resources. To the contrary, at the enterprise level, a lot of new (but often small) investment is taking place. But in the aggregate, the amount of new investment in early phases of the transition may not — and need not — exceed replacement levels for the pre-existing capital stock. Indeed, Campos and Coricelli (2002) list as one of seven stylized facts of growth in the transition that, in the aggregate, “capital shrank.” If old industries are inefficient, a shift to more efficient ones, or—as was also often the case—a shift within firms to more profitable product lines can take place in an environment of negative or aggregate net investment, as long as gross new investment is going into more efficient production.

The primacy of *financial stabilization* as a prerequisite for growth recovery is not a surprising result, nor indeed was it controversial, as even the critics of the “Washington Consensus” agreed on the need for stabilization. Some observers argued for the use of exchange rate anchors as the centrepiece of any stabilization strategy. The econometric evidence does not give a clear-cut answer on their effectiveness, because, in fact, several categories of cases emerged historically. Some did indeed achieve successful stabilization while using an anchor (currency board countries like Estonia, Lithuania, and effectively also Latvia and then later Bulgaria), but a large number of Central European and later most CIS and SEE countries achieved stabilization without this anchor, though some of these used approximations in the form of crawling/adjustable pegs (Poland) and others maintained a *de facto* proximity to a peg (Croatia). Russia arguably had a peg of sorts until 1998 (see Owen and Robinson, 2003, and Esanov, Merkl, and Vinhas de Souza, 2005), with demonstrably limited success in stabilization.

Another unresolved detail in the econometric literature is whether budget tightness or inflation control, or both, are the determinant variables. The attempts to sort this out have been mixed: there is a strong consensus that lower inflation stimulates growth, but separate effects of inflation compared with those of budget deficits are not easily established. This may be due to two factors. First, almost all these models are *ad hoc* and not derived from structural equations, including, for example, simultaneous determination of inflation and growth. In cases where inflation is separately determined, deficits do show positive and significant correlations with both inflation and growth. Second, fiscal deficits may have been too narrowly measured, excluding off-budget transfers, central bank—directed lending etc. Since stabilization cannot be narrowly defined, a typically good

proxy for the entire strategy may, indeed, be inflation reduction; hence the results one observes: inflation control is highly significant in growth regressions.

Liberalization of markets and related structural reforms also show up as one of the main determinants of growth during the transition (see Bakanova et al., 2004, and Vinhas de Souza, 2004), though this is true for the aggregated synthetic measures, such as the EBRD transition index, but less so for individual components. Thus, price liberalization alone is significant in only a few studies; privatisation also comes out insignificant in most but significant in a few specifications. This suggests that it is the combined effect of several policies that matters in creating new opportunities for private sector activity, not a surprising or controversial result. More controversial is the role of privatisation relative to market institutions. Quantitative analyses of the effects of privatisation have come to a clear consensus: transfer of ownership alone has some small positive effects, but significant benefits come only with the complementary development of competitive market institutions. What this means precisely is not easy to define, because all studies use a broad synthetic index of institutions, covering the competitive environment, security of property rights, rule of law, and government corruption. But it does strongly confirm the view that some minimum degree of institutional development is needed alongside private sector development.²

It is widely agreed that institutions are important for sustained growth, though Johnson and Subramanian (2005) note there remains a critical unanswered question: *is there any way one can effectively promote good institutions?* There are many writings on the role of institutions in non-transition economies, starting with the pioneering contributions of North (1993) and (1995) and ending with the most recent revival of his ideas for developing countries. We note only a few points most pertinent to transition. Only a handful of the writings analyzing growth in transition include institutional quality as a variable. Moers (1999) Havrylyshyn and van Rooden (2003) conclude that institutions contribute significantly to growth in transition, and especially in the later phase of sustained growth, while liberalization, stabilization, and initial conditions are more important in the early recovery. Beck and Laeven show econometric results that attribute almost all the explanatory power to institutional quality alone, a puzzling result for the short term, though consistent with the ‘deep explanation’ school of thought, as Johnson and Subramanian (2005) labelled it, which postulates that since good institutions lead to good policies in the long run, they alone fully

² The use of synthetic indices for institutions may not be such a big shortcoming, because objective measures generally cannot capture the implementation quality, which is, after all, what matters. Most objective measures show the quantity of legislation, judicial resources devoted to commercial issues, etc. It is possible that some measures such as the time taken for bankruptcy cases to be concluded begin to capture quality, but so far the best measure of quality may, indeed, be ex post perceptions of market actors.

explain growth. Despite some differences, the few econometric studies relating growth and institutions in transition agree that there is a strong and important link.

It is important to note that market liberalization, privatisation, or institutions alone do not have overwhelming explanatory power, but rather all of them matter, as they act in a complementary fashion. This last econometric result may teach a humbling lesson to both big-bang reformers and gradualists. Rapid-reform advocates have by now understood that it was not enough to recognize conceptually the role of institutions — the fact that they developed much more slowly in some countries than others may have reflected the insufficient weight given to them in policy recommendations. For both gradualists and institutionalists, this result indicates that it was, indeed, necessary to move on several fronts at once, but there surely would have been little gain from pushing first for institutional development while delaying liberalization and privatisation.

Only a handful of econometric studies of growth have grappled with the debate on gradualism versus big bang, but these have not been as conclusive as simpler qualitative analysis because each of them defined speed in a different way. Heybey and Murrell (1999) find that speed does not matter, but the cumulated level of reforms does; Berg and others (1999) define it as early attainment of a cumulative level and find that it matters. A threshold level of reforms eventually also brought growth to the CIS countries, as is shown in Section 3.

Concerning the importance of *initial conditions* relative to reform policies such as stabilization, liberalization, and institutional development, there is no clear-cut result in the econometric studies or in qualitative analyses. In the econometric ones, these have been measured as the degree of over-industrialization, share of defence industry, years under communism (a proxy for market memory or “mental” distance from capitalism), distance from European markets, incidence or non-incidence of war or civil conflict, etc. Because the possible number of measures of initial conditions is so large, the results vary according to the choice of variable, choice of period, and econometric specification. A strong role of initial conditions is found by DeMelo, Denizer and Gelb et al. (1999). Later, Havrylyshyn et al. (1999), using the same measures with additional years of data, point out that even if this was true in the early years, the statistical significance of initial conditions declined over time (Bakanova et al., 2004, finds the same results). In the same spirit, Zinnes, Eilat and Sachs et al. (2001) distinguished immutable conditions (geography, history) from changeable ones (degree of industrialization, share of the defence industry) and also found that the latter matter little after a short period.

Perhaps the strongest argument against the path-determining effect of initial conditions has not been tested in the literature, namely that some of them may have either negative or positive effects on growth. Thus, for example, the share of the defence industry in GDP in some countries (high in Ukraine and Russia, very low in the Baltic republics; high in Slovakia, lower in the Czech Republic) can be not only a drag on the reallocation of resources to new industries but also, given that this industry contained the highest level of human capital and technology, an

opportunity for generating a lot of new growth *under the proper incentives*. This is analogous to the common arguments about natural resources, which, in principle, should be a benefit to the country under good policies, but, in practice, may lead to complacency and bad policies and turn out, historically, to have had a negative influence on growth. That defence industries were often strong lobbies for slow adjustment is hardly debatable.

Endogeneity amongst initial conditions, policy choices, and growth is the strongest argument for the importance of initial conditions. It cannot be disputed that policy choices are not made in an abstract textbook vacuum and must be influenced by the economic and political circumstances facing governments. It is entirely legitimate to describe the process as one in which actual policy choices made (say, the faster liberalization in Latvia versus Ukraine after 1991) were influenced by the different initial conditions. But this logic taken to its extreme, leads to nothing more than historical determinism, emasculating the role of any policy choice, and must therefore be argued with great caution. The extreme version is reflected in the immensely popular view that Central Europe, being close to Western Europe and having a shorter period under communism, was bound to do better. If one buys into this simple explanation, one must also conclude that there are millions of wasted pages of print discussing transition policies and recommendations in the past decade; such an argument basically says what happened would have happened regardless of policy advice and debate.

We take the view here that there was a relevant policy choice despite the importance of these historical influences. This is exemplified in the early nineties by the very slow reforms in Romania; the aborted efforts to move quickly in Albania, Bulgaria, the Kyrgyz Republic, Moldova, and especially Russia; and the very early efforts of Armenia and Georgia that were stalled by civil conflicts. Some of these were reversed by policy (Belarus, Bulgaria, Moldova, and Russia), some were frustrated by the land-bound geographic isolation (the Kyrgyz Republic) and others by inattention to financial time-bombs (Albania and less dramatically, the Czech Republic); and some were temporarily reversed by freely chosen, political changes (Slovakia). These examples show that *choices could be and were made*, contrary to what the prior historical forces dictated. This view is also informed by the reality of how choices are made: not objectively according to the most compelling intellectual argument but instead strongly influenced by vested interests.

Anyone closely involved with policy making in the early euphoric period of post-communism will find the following examples familiar. In the newly independent states, many politicians and policymakers had been members of the political or technical *nomenklatura*, and it was not difficult to recognize who was in favour of a shift to the market and who was, for various reasons, opposed. The opponents rarely stated publicly that they were against the market. Instead, they played for time to find good arguments against going all the way to a private market economy. Intellectual debates on how best to do it, the many methods of privatisation, the burden of initial conditions, and the pain of too-rapid reforms

provided the opponents to reform with the “scientific” rationale they needed to delay reforms. Thus, one soon heard from them that one must go slow lest the people starve as prices become unaffordable, that one can privatize bakeries but must require their new owners to produce only bread lest there be shortages, and that one must put in place all the legislation and agencies that regulate competition before privatizing. One of our personal favourites is the use of market-memory arguments, especially by Kolkhoz directors opposing too-rapid privatisation of the land: “It’s a good idea of course, but it must wait until *the people* are ready for the market.” Invariably when such words were uttered, it was in fact the speaker who was not ready for the market.

3. Resumption of Growth in CIS Countries

The econometric studies of growth generally cover only the nineties, given the time lag between data availability and publication of research papers. Unfortunately, they miss a key turning point in the recovery, which is the surge in growth rates after 1999 for CIS countries with moderate progress in reforms (the set of countries we call CISM, see Table 1.1), at which time, interestingly, the lagging CIS countries (for the members of this set of countries, see Table 1.1) who had, based on official data, grown much faster in late nineties, experienced a slowdown (reversed in 2004-2005). The simplest and most popular explanation has been the sharp increase in oil and gas prices, which directly benefited Azerbaijan, Kazakhstan, Russia, and Turkmenistan and was thought to indirectly benefit others in the region through the spillover effect of increased imports. The problem with the spill-over argument is that it was not enough to explain the equally high or even higher growth rates for major energy importers such as Ukraine — surely the terms of trade loss should have kept their rates lower, even considering the gains from the re-export of processed oil and the revenues from transit fees, which are indexed to the prices of oil and gas.³ Furthermore, the imports effect was declining over time, as the diversification of trade away from intra-CIS trade continued and for many countries in the region the share of exports to Russia had fallen from well over 50 percent in the nineties to a third or less by 2005 (see Elborgh-Woytek, 2003, and Vinhas de Souza and Catrinescu, 2006).

The first alternative explanation is the achievement of macro stability, and particularly the control of inflation. The chapters of this book demonstrate amply that increasingly sensible fiscal and monetary policies began to be implemented as early as the mid-nineties and that the maturation of the monetary system provided a vehicle for their implementation. Table 1.2 also clearly shows that by 2003

³ Albeit this may not be case for Belarus, at least between 2003 and 2005: see Chapter 9.

inflation in CIS countries, especially the more reformist CISM group, was well controlled, though it was still higher than in Central Europe.

Table 1.2 Inflation Performance (CPI Increase in 2003, Percent)

	Mid Point	Low Case	High Case
A. Central Europe	2.5	Czech Rep. (0.2)	Hungary (4.7)
Baltic Countries	0.9	Lithuania (-1.2)	Latvia (3.0)
Southeast Europe	8.8	Macedonia (1.1)	Romania (15.4)
CISM	9.7	Kyrgyz (3.1)	Tajikistan (16.3)
CISL	13.3	Turkmenistan (6.5)	Belarus (28.5)

Source: EBRD Transition Report 2004, Table A 2.3

Owen and Robinson (2003) demonstrates that even for Russia oil was not the whole story — at least as important was the beneficial side-effect of the 1998 financial crisis of a real exchange rate adjustment of initially about a 50 percent devaluation. Also, Chapter 5 of this volume emphasizes the primary role of energy exports but notes that this was due not only to the high prices but also to a large increase in production volume. Furthermore, it recognizes that the first stimulant was the sharp devaluation of 1998, which by 2005 had been largely offset by the steady real appreciation of the rouble. It also presents statistical evidence of the substantial growth in other sectors of the economy, some, but not all, of which reflected spillover effects from energy exports.

Most of the other CISM currencies eventually followed the rouble devaluation and, hence, also benefited from its effect on growth of export and import-substituting domestic production. Berengaut et al. (2003) provides a good analysis of the various possible factors behind this growth surge in Ukraine and include, besides the above two, the simple possibility that Ukraine (and, by extension, other countries) had hit such a low point in the decline that its rebound was bound to be strong.

It is useful to recollect the very high growth rates (5–10 percent) in the mid-nineties, when war and internal conflicts subsided in countries such as Albania, Armenia, and Georgia. Tajikistan since 2000 may be a similar case. But Berengaut et al. (2003) also includes a policy variable in its explanation for Ukraine: a distinct hardening of the budget constraint, especially as it relates to implicit energy rents and subsidies, under the more reform-minded Prime Minister Yushchenko and his Energy Minister Tymoshenko. Owen and Robinson (2003) and others describe a similar hardening in Russia under President Putin, with regional budgets subordinated to the federal one; tax-collections greatly increased; and oil revenues wisely used to pay off substantial portions of the external debt, which fell from over 60 percent of GDP in 1999 to about 13 percent in 2005.

Does this surge in growth conform with the econometric consensus described in Section 2? In one way, it is contrary to expectations: the Central European countries, who have advanced much further with structural reforms, have now seen growth decline to an average far below that of the CIS countries, as seen in

Table 1.1, though the average for the Baltic countries remains high and comparable, following a sharp dip in 1999 that reflected the Russian crisis.

However, this is too static an interpretation of the relation between the level of market progress attained and growth. Consider the EBRD measure of market reforms, the Transition Progress Indicator (TPI), for the Central European and Baltic countries, which by this time had values in the range of 3.4 to 3.8 or very close to a well-functioning market economy. The short-term factors that explain recovery in transition thus begin to be replaced by conventional explanations. This is not the place for a detailed analysis of that sort, but we note that the much faster-growing Baltic countries have kept their public deficits well under 3 percent while those of the Central European countries have exploded to more than 5 percent.

For the CIS countries, the most relevant question to ask in view of earlier econometric studies may be whether they had by 1999 reached the same level of structural reforms, as measured by TPI values, that one saw for Central Europe and the Baltic countries at the time of their first recoveries—that is, an average in the year preceding their first positive growth of TPI=2.55 (2.50 for Central Europe and 2.65 for Baltic countries). Table 1.3 shows for each CISM country the approximate year in which this value was reached, in brackets; the TPI value; and then the year of first positive growth. With a few exceptions,⁴ the conclusion one draws after reviewing Table 1.3 is that when the first positive growth came in CISM countries, they had reached something close to the same magnitude of TPI values as had been seen during the Central European recoveries. In most CISM country cases, this occurred before 1998, but the beginning of the recovery trend was halted by the financial crisis in Russia, though the delay was not long, with the resumed recovery even picking up additional momentum from the post-1998 factors mentioned previously. Therefore, one can conclude that the recent surge in growth—while attributable to several factors, not least of which oil—is at least in some part, a reflection of countries having finally made sufficient progress towards creation of a market economy to stimulate domestic economic activity.

The prospects for sustained growth in CIS countries are moderately good, though it is unlikely that the growth rates of around 10 percent seen in some of them will continue. Indeed, the first indicators for 2005 clearly show declines in all major CIS countries. In February 2006, Russia's Federal Statistical Services (ROS Stat) published GDP growth projections for 2005 of 6.4 percent, compared with 7.2 percent in 2004. Ukraine has seen the sharpest fall in growth, from an official 12.1 percent in 2004 (though there is some doubt that it was in fact quite so high) to 2.6 percent in 2005. That this slowdown is seen in both energy

⁴ The main exceptions can be explained as follows: Azerbaijan is due to oil bonuses coming in before exploitation; Armenia, Georgia, and Tajikistan were hit hard by war and conflicts and, hence, the usual sharp rebound from a very low bottom.

importers and exporters,⁵ and at a time when oil prices are continuing to increase again suggests that the link between oil and growth in Russia and other CIS countries is not a simple one-to-one correlation.⁶ Belarus and Kazakhstan also saw a reduced growth performances in 2005.

Table 1.3 Year TPI growth threshold (2.55) reached by CISM countries

	Year	TPI value	First Year of Growth
Armenia	1997	(2.45)	1994
Georgia	1996	(2.5)	1995
Kazakhstan	1996	(2.6)	1996
Russia	1995	(2.5)	1996
Kyrgyz	1995	(2.5)	1996
Moldova	1995	(2.5)	1997
Ukraine	2000	(2.54)	2000
Azerbaijan	2001	(2.45)	1996
Tajikistan	2003	(2.39)	1997

Source: EBRD Transition Report, various years.

A slowdown to still-respectable high rates of 5 percent or more might have been expected for several reasons. Even as oil prices continue to increase, the ability of the key energy exporters to expand production may plateau for a few years, as more investment is needed for improvement in production, extraction, efficiency, and transit. Chapter 5 emphasizes this for the Russian gas sector, in particular. To the extent that the high growth rates were a reversal of the very low rates reached earlier, the former cannot continue indefinitely. The post-conflict growth rates of 7–10 percent observed in the mid-nineties for Armenia and Georgia quickly fell to much lower levels in the late nineties. Most important, structural reforms, as measured by the TPI, may by the late nineties have reached the catalytic threshold level of 2.5 noted above, but most CIS countries did not take advantage of the boom years to catch up to Central European levels of market progress (TPI was about 3.7 there in 2005). Instead, very slow progress was seen with 2005 TPI values in the CISM group ranging from a high of 3.1 in two countries (Armenia and Georgia) to a low of about 2.7-2.3 for two countries (Azerbaijan and Tajikistan). A more resolute effort to accelerate the structural

⁵ Several of the smaller CIS countries -Armenia, Azerbaijan, Georgia and Turkmenistan- are exceptions to this slowdown. Azerbaijan actually was the fastest growing economy in the world in 2005, with growth *above 26 percent*.

⁶ Vinhas de Souza (2006a) estimates that, not only the *direct* contribution of the energy sector to growth in Russia was halved between 2004 and 2005 (a reduction trend initiated already in 2002), but that the contribution of the machine-building industry to growth in 2005 was actually substantially larger than the fuel industry.

reforms and institutional quality is one of the keys to ensuring the surge in GDP growth of 2000–2005 is not lost and that steady, sustained growth continues in the future, even if it does not approach the 10 percent range.

The brightest spot in the policy record is found in macro-economic policy and stability, especially for the CISM group of countries. While Russia and, in 2005, Ukraine and Belarus may still experience inflation of above 10 percent, the trend is clearly downward, reflecting vastly improved management of fiscal and monetary policies. Budget balances have been in surplus for energy exporters, and the oil windfall has been prudently used to reduce debt and/or accumulate reserves in various forms. Even energy importers have had occasional budget surpluses or at least relatively low deficits of 1–2 percent of GDP. The evolution of monetary policy management is described in several chapters here; what comes out clearly is the conclusion that in most CIS countries, prudent basic macro-management has become commonplace, allowing the emphasis to move to more micro, structural reforms. This does not mean a problem-free future, since populist pressures for social spending are, if anything, stronger, while the non-transparent subsidy and tax privileges of the past decade are far from being entirely cleansed.

An important exception to the prudent management conclusion concerns the three lagging reformers: Belarus, Uzbekistan, and Turkmenistan. While official budget data do not show larger deficits, there may be in those countries much greater problems than elsewhere in the CIS with off-budget activities, including continuation of direct credits to enterprises. Certainly they have the highest inflation rates of the CIS group, ranging between 10 and 20 percent annually according to official data. Although this is a considerable improvement from the rates seen in the nineties, it is significantly above the levels attained by the other CIS countries and certainly high enough to raise concerns about the prospects for sustained growth, since here even their basic macro stabilization is still in doubt.

4. Domestic and External Macro Policies as a Growth Factor

This book deals with the question of growth resumption in a very specific region of the planet, mostly the Western CIS countries. Growth *resumption* and the related question of growth *sustainability* both have a dimension of continued macro stabilization after the “transition” shock (which is related to external sustainability, monetary and exchange rate regimes, and disinflation), and now, with at least relative macro stabilization having been achieved by most countries in the region, a more micro, structural dimension, which is what will ensure that growth will be sustainable in the long run.

The dichotomy between a domestically based framework-setting for continued reforms, as opposed to a more externally-led process (or at least one modeled on external references) is also highlighted by some of the studies here. This may be especially relevant for Ukraine, where the European Union and the alluring

possibility of integration into it at some point in the future looms large in terms of its current policy models.

The first section of the book presents studies that deal with the largest CIS country and the core of this regional grouping, the Russian Federation. It starts with Chapter 2, entitled “Monetary Policy Transmission and CBR Monetary Policy”, by Yulia Vymyatnina from the European University at St. Petersburg (Russia). This study analyzed monetary policy transmission mechanisms in Russia during the period extending from July 1995 to September 2004. The Central Bank of Russia (CBR) uses the monetary base and the monetary aggregate M2 as indicative operational and intermediate targets and policy instruments, a position that implies the controllability of the monetary base, the stability of money multiplier, and the existence and stability of a money-demand function. At the same time, the CBR states that using the interest rate as a policy tool would be inefficient, owing to the underdevelopment of the financial system. Using a SVECM, the author estimates a money-demand function which is prone to instability at the beginning and the end of the studied period. This, and the instability of money multiplier and the questionable ability of the CBR to control base money suggest that using monetary aggregates as monetary policy instruments might not be the best choice, since the assumptions allowing for the successful use of these policy tools are violated. Her analysis also demonstrates that using the monetary aggregate as a tool of monetary policy leads to greater variability in output and prices, compared with a situation in which the interest rate is used as a policy instrument.

This is a potentially very interesting result, as a stable and effective monetary-transmission mechanism is important for growth, not only from a stabilization perspective (i.e., concerning inflation control) but also because it implies a deep and developed enough financial system to enable the effective implementation of such a policy. A deep and developed financial system is also a prerequisite for sustainable growth, and those results may lend support to the notion that the Russian financial system may be getting into a position to start performing its role as an intermediary between savers and investors.

In contrast, Chapter 3, entitled “Choice of the Substitution Currency in Russia: How to Explain the Dollar’s Dominance?”, by Anna Dorbec, University of Paris X Nanterre (France), deals with the question of dollarisation in the Russian economy. Dollarisation (or, in a strict sense, currency substitution) is a widely observed phenomenon in emerging economies, including Russia. Extensive currency substitution may complicate domestic monetary policy, but, as discussed in Havrylyshyn and Beddies (2003), this has not been a serious problem in practice. However, it may make active exchange rate intervention more dangerous. Currency substitution may also have serious fiscal consequences as foreign cash transactions reduce the costs of tax evasion and facilitate participation in the underground economy, which weakens the government’s ability to command real resources from the private sector and deepens fiscal deficits. Also, the use of the dollar as a saving instrument in Russia may have been

helpful very early on before other financial instruments developed, but if it is continued for long, it may weaken the ability of the national banking system to reallocate liquidity inside the economy, therefore reducing the supply of financing to domestic producers. All of these outcomes have potentially deleterious effects on growth.

Specifically, the author tries to understand the factors determining the choice of the substitution currency by economic agents in Russia, a case of particular interest because of the existence of extensive dollar usage in a country with strong economic links to the European Union. This situation exposes the Russian financial system to an additional exchange rate risk: although its main trade and investment flows are with the EU, the major part of Russian assets are still denominated in U.S. dollars.

Using data extending from early 1999 to late 2004, the author finds that households and enterprises do not behave in the same manner: while the exchange rate dynamic is highly important for households' decisions, its influence on banks' or enterprises' decisions is rather limited. The recent euro appreciation, while favourable for the diversification of currency portfolios of households, kept unchanged the choice of enterprises, and the increasing volume of real trade between the EU and Russia seems not to be a sufficient factor to reduce the dollar dominance. Therefore, the importance of the inertial component, including network externalities and hysteresis elements, is confirmed in her analysis.

In Chapter 4, entitled "Monetary Policy in Russia", by Brigitte Granville, University of London (United Kingdom) and Sushanta Mallick, Loughborough University (United Kingdom), the authors investigate the relation between the interest rate, inflation rate, exchange rate, and money supply in Russia since 1992. Using VAR techniques, they show that the interest rate has responded more to changes in the exchange rate than to inflation in the short run. They conclude that this suggests that inflation needs to be targeted by the central bank via the interest rate as a *direct* instrument of monetary control, and they advise that the CBR consider moving to a flexible-inflation-targeting type of monetary policy framework, where a pre-announced inflation target would coordinate expectations and thus generate a more stable inflation scenario for the economy. These conclusions very much support the analysis presented in Chapter 2, and conform to the CBR's own plans of a middle-run switch to a floating exchange rate *cum* inflation targeting policy framework (perhaps already by 2007-2008).

In Chapter 5, entitled "Russia's Economic Expansion 1999-2005", by Rudiger Ahrend, Organization for Economic Cooperation and Development, Paris (France), the author presents an analysis of the strong post-1998 Russian economic expansion, which brought about an average yearly growth rate of almost 7 percent. He explains the drivers of this performance in three different phases of growth. First, in the immediate aftermath of the 1998 crisis, growth was mainly driven by the temporary boost to competitiveness brought about by the sharp devaluation of the rouble. Later, as the effects of the devaluation gradually faded, the resource sector took over as the main driver; and in 2002-2004 Russia

experienced an oil extraction boom. With oil production growth starting to decline rapidly beginning in 2004, Russian growth has since been increasingly driven by a consumption boom supported by rapidly improving terms of trade and an increasing fiscal expansion.

He also stresses that the main drivers in each of the periods would not have been sufficient had it not been for other fundamental developments: a substantial corporate sector restructuring, the rapid development of the small and medium-sized enterprise sector, and the right policies, especially the—until now—solid fiscal policy stance. In particular the last factor—*right policies*—are deemed essential for sustainable growth in Russia.

The author notes the Yukos affair may have affected negatively the behaviour of investors, but the upturn in investment by mid-2005 suggest he may have overestimated this impact. Also, beyond the indisputably greater efficiency of the private oil firms in raising production and investment, they—as the author recognizes—concentrated their efforts in increasing production from *existing* oil fields. (Yukos is the best example of this type of development, as its increase in production was achieved through use of enhanced recovery techniques to extract oil from the most profitable deposits, while at the same time 35 percent of its oil wells were closed and its investments in *exploration* were among the lowest of the Russian oil companies, *at below 2 percent* of the total invested.) One can argue that the attempts of the Russian government to increase the state presence in the sector partially aim to correct for this “short termism” of the private sector. This could also arguably be corrected by improving the security of property rights of the private firms in the sector or via fiscal incentives.

As a whole, the section on Russia presents a country that has already returned to robust growth, owing—to a large degree—to increased production and higher prices of oil but also to other factors (on this, see footnote 6 and Vinhas de Souza, 2006a), in particular *structural reform progress*. In spite of continued forward movement, however, structural reform is still only a half-completed process in Russia, even in terms of the institutions necessary for effective macro management of the economy, not to mention the micro side of these reforms.

The second section of the book, dealing with Ukraine, starts with Chapter 6, entitled “Evidence on the Bank Lending Channel in Ukraine”, by Inna Golodniuk, CASE (Ukraine), which deals, again, with the question of the monetary policy transmission mechanism, but from a micro-economic perspective. This chapter considers one of the mechanisms that operate through credit markets—the bank lending channel. The existence of a bank lending channel has important implications for the conduct of monetary policy by a central bank, as it has direct implications for the effectiveness of an interest rate-based policy.

Using a unique panel of annual balance-sheet data (extending from 1998 to 2003) on 149 Ukrainian commercial banks and testing whether lending responses to a change in monetary policy differ depending on the balance-sheet strength of a bank, she obtains results strongly suggesting that undercapitalized banks are more affected by a monetary policy action than an average bank, which

is consistent with the bank-lending-channel hypothesis. In other words, the bank lending channel operates effectively in the Ukrainian economy, a surprising and promising indication of a potentially effective monetary stabilization policy and also of a relatively high degree of development of the banking system, with all that this implies in terms of growth sustainability.

Chapter 7, entitled “Now So Near, and Yet Still So Far: Relations Between Ukraine and the European Union”, by Lúcio Vinhas de Souza, IfW (Germany); and European Commission (Belgium); Rainer Schweickert, IfW (Germany), and Veronica Movchan, Olena Bilan and Igor Burakovsky, Institute for Economic Research and Policy Consulting (Ukraine), deals with the perspectives of Ukraine under the new political leadership that came to power in late 2004. The authors state that under Yushchenko, Ukraine has an opportunity to engage in a series of deep structural reforms, including concerning its relations with the EU; and, given the current economic links with the EU, Ukraine’s largest economic partner, the potential gains to Ukraine from those stronger links are very substantial. Ukraine has experienced a remarkable macroeconomic stabilization and growth resumption in the last few years, and the authors express the opinion that Ukraine should press for fast reforms and closer links with the EU, albeit they also make clear that securing EU membership is a long-term effort and that the Ukrainian government should have no illusions about that.

The EU—beyond the sheer advantages it offers Ukraine of closer economic linkages, including a potential participation in a free trade area—is an external “framework provider” that could help Ukraine lock in the structural, micro and regulatory reforms necessary for achieving sustainable long-run growth, eventually via the stick-and-carrot process of Accession, albeit it is not clear that a less comprehensive framework like the non-enlargement ENP (European Neighbourhood Policy) can provide similar effects.⁷

The next section of the book, on Belarus, starts with Chapter 8, entitled “Modeling the Demand for Money and Inflation in Belarus”, by Igor Pelipas, Research Center of the Institute for Privatisation and Management (Belarus). Here again, questions related to monetary policy and macro stabilization are discussed. Namely, the estimation of a money-demand function for Belarus is attempted. Although the elements of a market economy in the country appeared in the first half of 1990s, subsequent economic policy has turned Belarus into one of the outliers amongst “transition” economies. Pervasive and intensive government intervention in economic activity substantially blocks market mechanisms and hampers private sector development. Macroeconomic stability and high inflation still remain a problem for the Belarusian economy. In such conditions, the analysis of the money demand function allows, on the one hand, to clarify how the demand

⁷ The effects of EU membership prospects on “transition” countries’ policies is explored in more detail in Havrylyshyn (2006), Chapter 7 and in Vinhas de Souza (2004).

of monetary balances is formed in an economy with a high degree of state regulation, and how this influences inflation. On the other hand, such analysis provides empirical information that is useful for formulating an effective monetary policy and anti-inflation measures. Using cointegration analysis and an equilibrium correction model framework, the author estimates a money-demand function for Belarus over the period 1992–2003. His results indicate that this demand function is stable both in the long and short runs and that there is empirical evidence of the monetary nature of inflation in Belarus, which indicates that even under limited structural liberalization, some degree of monetary stabilization policy is possible.

Chapter 9, entitled “Economic Growth in Belarus (1996–2004): Main Drivers and Risks of the Current Strategy”, by Marina Bakanova and Lev Freinkman (World Bank), discusses the sources of the steady and sizable real growth observed in Belarus since 1996. The combination of high growth and slow reform places the Belarusian experience somewhat at odds with the standard “transition” paradigm, as nine years of growth in Belarus have not been backed by sound and consistent macroeconomic policies, advanced structural and institutional reforms, and a strong private sector. As indicated earlier, the Belarusian economy has a number of features that make it quite different from most “transition” economies. These include (i) the dominance of traditional firms (state-owned or quasi-private) in production and exports; (ii) a high degree of government interventions in enterprise operations (that cover both SOEs and privatized firms), including preserving some elements of central government planning of output, wages, and employment; (iii) a high level of tax burden and major budget redistribution of funds aimed at supporting traditional firms and employment; and (iv) a high dependence on trade with Russia and a slow pace of geographic diversification of exports; (v) and favourable terms of trade provided by explicit subsidies for Russian energy imports and implicit ones, via barter arrangements accepting exports which may not be globally competitive.

The chapter concludes by stating that the Belarusian economy is facing a considerable risk of declining competitiveness, as the real sector is seriously affected by high administrative and labour costs, excessive taxation, and high costs of financing. The pace of export diversification is slow, which poses the economy to additional external shocks. To sustain growth, the authors state that a significant policy adjustment is necessary to enhance market discipline and encourage new business entry.

It is important to note that other analysts have questioned both the level and growth of GDP in Belarus, noting for example, the high Russian subsidies on energy imports (see Vinhas de Souza, 2005). The authors may also overstate the case for the strength of the undoubtedly *real* GDP growth observed in Belarus, especially when it comes to the usage of industrial surveys as corroborating evidence for the official GDP growth numbers. Here, their finding that the trends of both are the same does not necessarily imply that the overall growth rates are the same, or, more basically, even that those started at the same level.

In any case, Belarus provides an interesting counterpoint to its CIS neighbours, and especially to westward-leaning Ukraine. One must note that the particular case of Belarus *cannot* be understood separately from the level of direct and indirect support provided by the Russian Federation: for instance, if one uses closer to EU gas prices and the indirect fiscal transfers via oil taxation for estimating the total implicit transfers (see Vinhas de Souza, 2005), what the experience of Ukraine in early 2006 would suggest is adequate (see Vinhas de Souza, 2006b), it is clear that those not only are still *very* substantial, but, contrary to what the authors claim, they have *not* been reduced in the last few years. This, therefore, not only puts clear limits on the long-run sustainability of growth in Belarus but also limits the replication of this experiment by other countries, thus denying it the classification of a “model”.

The next section is made up of regional, cross-country studies and starts with Chapter 10, entitled “Why is Financial Strength Important for Central Banks?”, by Franziska Schobert, Deutsche Bundesbank (Germany). This chapter compares central banks in the new EU members and EU acceding and candidate countries with central banks in the Commonwealth of Independent States (CIS), analyzing the importance of market-based sterilization versus other forms of sterilization.

It concludes that central banks in the new EU member countries are in an advanced stage of “transition,” as their balance sheets are fairly clean regarding “junk assets”, whereas the share of sterilization instruments is important. In contrast, sterilization instruments still play a minor role in most central banks’ balance sheets in CIS countries and EU acceding and candidate countries, which points up first the power of the “institutions export” linked to the EU enlargement process, and also to the still-incomplete reform and macro stabilization process in the wider Eastern European region.

Chapter 11, entitled “The Impact of Financial Openness on Economic Integration: Evidence From Europe and the CIS”, by Fabrizio Carmignani and Abdur Chowdhury, United Nations Economic Commission for Europe (Switzerland), aims to assess whether financial openness facilitates international trade in goods and services and catching up on per capita income across countries in Europe and the CIS. The authors’ motivation is twofold. On the one hand, the widespread progress on capital account liberalization, the massive increase in financial flows across the borders, and the financial crises that hit emerging economies in the 1990s have stimulated a lively debate on the broad economic effects of financial openness. Their chapter aims to contribute to this debate by focusing on two of the dimensions that most critically characterize the process of economic integration, namely international trade and income convergence. This chapter provides empirical evidence on whether financial openness is to be included among such policies.

The key results of the chapter are that financial openness, measured as the degree to which international capital movements are not restricted, is a powerful force driving economic integration in terms of both international trade and per capita income convergence. This conclusion holds after controlling for the impact

of domestic financial development and a number of other determinants of economic integration. The effect is particularly strong, at least with respect to the trade dimension of economic integration, for “transition” and “post transition” economies. International financial integration also promotes economic integration to a significant extent.

The basic result emerging from their empirical analysis is that financial openness promotes economic integration in terms of both trade in goods and services and per capita income convergence, and this result holds for both their entire sample of countries and the subgroup that includes the CIS. For those latter ones, the trade-promoting effect appears to be particularly strong. Consequently, beyond regional integration schemes, the beneficial growth effects from international integration are also very important for sustainable growth.

Finally, closing the book, we have Chapter 12, entitled “Debt Sustainability in the Wider Eastern European Region: The Long Shadow of the EU”, by Lúcio Vinhas de Souza, IfW (Germany) and European Commission (Belgium), and Natalya Selitska, University of Kiel (Germany). This chapter aims to briefly study the question of debt sustainability in the wider Eastern European region and the role of “institutions”—broadly defined—on the different levels of debt that are sustainable among different sub-regions. Debt-distress episodes have been widespread among emerging economies throughout the 1980s and 1990s. Nevertheless, Central Eastern Europe has had a somewhat different experience, when compared with other emerging regions, and even neighbouring ones, as it seems to have been much less crisis-prone than, for instance, the CIS, not to mention Asia or Latin America. A possible explanation for this is that developments in this region must be understood in terms of the process of Accession to the European Union.

This underlying assumption of this study was supported by a series of probit estimations: “institutions” can substantially reduce the occurrence of “debt distress” episodes. A “credibility import” from external regional groupings, as experienced by the new member states (NMS) of the European Union, plus a perceived credible possibility of eliminating the external constraint through the process of EU membership and consequent eventual euro area membership can lower the debt sensitivity of those countries to levels more similar to the ones observed in mature market economies, thus helping to support sustainable and stable growth for the countries in question.

The policy implication of this for the other countries in the wider Eastern European region is that such a credibility/institutions import, perhaps via multilateral “framework providers” such as the IMF, the OECD, or the WTO, or even other regional actors, such as the CIS *could* produce somewhat similar effects, helping to make the regional growth upswing more sustainable in the long run, albeit none of those “framework providers” even approaches the degree of comprehensiveness of the EU’s “*acquis communautaire*”. In contrast, for the Eastern European countries who are not likely candidates for eventual EU membership, it is open to question whether the new ENP (European

Neighbourhood Policy) would have the same degree of effectiveness as an accession framework, given the lack of the EU membership incentive to lock in deep structural reforms.

Of course, the endogenous construction of “good institutions” is obviously possible, but an “institution import,” if feasible, would likely imply a faster and less costly process.

5. Conclusions

This book’s aim is to analyze the return to growth in a very particular region of the planet, the former centrally planned economies that used to be part of the USSR, and, among those, specifically its three largest western economies, Russia, Ukraine, and Belarus. Almost a decade and a half since the break up of the Soviet Union, most of those economies are experiencing robust growth rates, and, in most cases, this has been the situation for several years. Macro stabilization has— to a degree—been reached by most of them, laying the foundations for growth. But, repeating what was stated several times before in this chapter, *macro stabilization is a necessary, but not sufficient, condition for growth*, and certainly it is not sufficient for growth sustainability in the middle-to-long run. Therefore, the reform agendas of most governments in the region have now clearly switched towards reforms of a more micro, structural, regulatory, and market-discipline-enhancing nature.

Concerning those types of reforms, an important question is what sort of “framework providers” can be used to maximize their effectiveness. Should they be domestic institutions or external ones, either in the form of the IFIs or regional organizations; and should they be of world relevance (or at least global ambition), like the EU, or have a more limited regional focus, like the CIS? The countries studied here present examples of each one of those alternative strategies.

Concerning this point, one must also note that only certain types of IFIs are truly adequate to support the implementing of such micro reforms in a consistent fashion: the IMF is an institution designed for the initial, macro-stabilization type of reforms, while the World Bank (WB), the World Trade Organization (WTO), the EBRD, and the EU are arguably more effective in the later stages of reform.⁸

⁸ As a small anecdote to illustrate this point, while the staff of the IMF office in Moscow decreased from over a dozen –including local staff- in the immediate post-1998 “glory days”, to only 1 officer in mid-2005, the World Bank Group, while falling from around 150 officers, still had around 100 persons working in the country in the combined WB/IFC offices at the same date. On the other hand the (ever?) expanding European Union has been progressively increasing its’ EU Delegation in Moscow, which reached around 130 persons in mid-2005.

Even among these “structurally” oriented organizations, there are different “life-cycle profiles”. The WB/IFC presence in the region will inevitably be reduced in the medium-run, as the area climbs further towards a middle-income level, while the scale of the mid to long run EU presence in the region will be linked to the possibility of Accession by some countries (notably, Ukraine), to the effectiveness of the ENP, and to the status of the EU-Russia Partnership. As is known, the full force of the EU’s “framework exporting” is tightly linked to the Accession processes, whose likelihood will always be limited to only certain countries in the region (Ukraine, perhaps eventually Belarus, Georgia and Moldova), while the ENP very much remains an untested, non-Accession framework. Nevertheless, even here, one must remember that, contrary to the IFIs, the EU does have a permanent, long-run interest in the region, as it is its’ strategic neighbourhood, and will always remain so, for as long as the EU exists.⁹

As for the CIS as a (purely) regional organization with potential reform “framework-provider” functions, both its future and scope are very uncertain, as are the future and scope of other sub regional arrangements, such as an eventual Belarus-Russia Union State, or the Single Economic Space (SES, likely involving Belarus, Kazakhstan and Russia, given growing uncertainties about Ukraine’s participation).

That leads us to the final, essential question: what exactly is the role of domestic institutions in the sustainability of reforms, and, therefore, of growth? The interrelation between external “framework providers” and the endogenous choices for reform is a very complicated and nonlinear one (Vinhas de Souza, 2004, showed the problems with trying to clearly estimate the domestic/external causality of reforms and liberalization, even when looking at what one could expect would be a clear-cut case, the role of EU Accession and domestic institutions in the new EU member states). Even inside the EU, the recent problems related to the effectiveness of the euro area’s fiscal surveillance mechanism neatly illustrate that the EU is *not* a full replacement for strong domestic institutions.

One must conclude that there is no unique answer to this question (after all, economics is not called “the dismal science” for nothing): the “importing of credibility” from abroad may be very effective, in terms of anchoring expectations and in providing functioning institutional and regulatory models and the necessary resources—technical and financial—for the reform process, but it will *never* replace solid domestic institutions. Even the “go alone” strategy, which can be

⁹ Also, one should not underestimate the growth effects of the EU in the CIS as a whole: Vinhas de Souza and Catrinescu (2006) find those not only to be significant but *stronger than Russia’s*, even in the recent Russian growth resumption phase, when one looks at trade flows, FDI and remittances – especially when using the EU-25 (i.e., including the new EU members from Eastern Europe that entered the Union in 2004), instead of the EU-15.

perhaps better described as unilateral opening up to “globalization,” is feasible under certain circumstances, but arguably takes more time, is more costly, and is more vulnerable to external shocks. Here, our final conclusion must be that *solid, market-discipline-enhancing institutions are essential for sustainable growth, but there is no single way to achieve those, and therefore, policy choices are crucially important.*

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Chapter 2

Monetary Policy Transmission and CBR Monetary Policy

Yulia Vymyatnina

1. Introduction

Recently a number of papers have been addressing the issues of monetary policy effectiveness and timing, including monetary policy transmission mechanisms. The motivation behind these studies is driven by the fact that monetary union in Europe raised new questions about the effectiveness of monetary policy and its influence on the real side of economy as well as the timing of this influence. The evidence on the transmission mechanism of monetary policy is an important guide for central banks in their policy conduct, and in every country the operating mechanism of monetary policy might be different depending, among other factors, on the available instruments, stability of the demand for money function, controllability of monetary aggregates. The unique combination of different factors influencing transmission mechanism in a country implies that monetary policy advice should be different for different countries.

The present chapter directly addresses the issues of monetary transmission mechanism in Russia by using a structural vector error correction model (SVECM) as a special case of structural VAR approach. This approach allows both to account for the long-run properties of the variables and to impose structural relations coming from economic theory on the unconstrained VAR. The SVECM is built in two steps: first, the cointegrating relations between endogenous variables are tested, then, after the resulting vector error correction model is supported by a set of diagnostic tests, the structural relations are imposed and tested. This approach allows, among other things, the estimating of the effects of monetary policy shocks by modelling impulse response functions, which clarifies the influence of monetary policy on the real side of the economy.

The chapter is organised as follows: the next section gives a theoretical background on monetary transmission mechanisms, the following section provides an overview of monetary policy in Russia. In the next section the data used and the econometric methodology are detailed, while next section describes the results, and the last section concludes.

2. Theoretical Background and Empirical Findings

Monetary policy has a substantial impact on the real economic aggregates and therefore it is important to understand how the transmission mechanism of monetary policy works. A better understanding of it implies better choices of targets, instruments and timing, as well as the possibility of fine-tuning the institutions responsible for the implementation of the policy, be those a central bank and/or government.

The major channels of monetary policy transmission are the interest rate channel (through the monetary aggregate and interest rate policy instruments), the credit channel, and the exchange rate channel. The traditional textbook story of monetary policy operation implies a transmission channel when the central bank controls high-powered money or base money, and by changing the amount of base money the central bank is able to exercise desired impact of monetary policy. Changes in the base money, according to this theory, lead to changes in the monetary mass via the money multiplier, which then result in disequilibrium on the money market, which lead to changes in interest rate in order to restore equilibrium. Changes in interest rates imply changes of investment and, to some extent, of consumption, and changes in output and prices follow. This type of monetary policy works only when there exists a stable relation between the supply of real money balances and other economic variables such as real output level, nominal interest rate, inflation expectations etc, i.e. a stable money demand function is required. Besides, this approach suggests the constancy or, at least, the stability of the money multiplier, in order for the monetary policy to exert a predictable influence on the real side of the economy. (Howells and Bain, 2003, pp. 178)

The interest rate channel of monetary policy transmission, with the interest rate as a policy instrument has the following logic. When a central bank changes its refinancing rate (lending rate to commercial banks), it changes, in effect, the 'price' of additional funding the banks may need to continue with their current level of lending activities. This changes bank lending attractiveness for the clients, and leads to changes in overall interest rates level in the economy. This, in turn, results in changes of the amount of new credit issued to finance investment decisions of the real sector of the economy, leading to changes in the aggregate output and prices. This transmission channel of monetary policy is not constrained by the restrictive assumptions of using monetary aggregates as a policy tool and seems to be generally relied upon by most of central banks – according to the survey of Borio (1997), most of central banks use the short-term interest rate as major policy instrument.

The interest rate channel of monetary policy transmission is closely intertwined with the credit channel, since it is credit of commercial banks that plays an important role in interest rate transmission mechanism. The credit channel stresses the importance of taking the amount of bank credit into account in monetary policy conduct, by pointing out to the asymmetry in responses of the economy to restrictive and expansionary monetary policy stances. The consequences of a restrictive monetary policy might be more adverse for the

economy in the absolute values of changes of real output, when compared to positive effects from an expansionary policy. This is due to the fact that to issue loans for a bank is a costly procedure, and this means that if credit becomes more expensive after the interest rate goes up, the risk of the credit being unpaid increases, and the share of unpaid sunk costs related to information gathering and processing concerning new credits tends to increase. Banks believe that in more difficult conditions there are less profitable investment projects and hence decline some clients in their credit demand. Sometimes this leads, especially for small and medium companies, to difficulties in meeting even current monetary obligations, and they go bankrupt. The process resembles a self-fulfilling forecast process and stresses the asymmetry of information and agency problems in this case. (Stiglitz and Greenwald, 2003) The studies of Gertler and Gilchrist (1993, 1994), and Domac (1999) demonstrated that companies with limited access to short-term borrowing (mostly small ones) had to reduce inventories following an adverse monetary policy stance.

The importance of the exchange rate channel is viewed to be the highest under high capital mobility and flexible exchange rate. The change in the interest rate as an instrument of monetary policy in the case of an open economy will result in changes in the interest rate differential and, depending on the degree of capital mobility in the country, there will be either an inflow or an outflow of capital in the country (inflow for tighter monetary policy and outflow otherwise). Further, the effect depends on the objectives of the central bank concerning domestic currency exchange rate. Provided the exchange rate is fixed, there is no room left for the monetary policy to be effective, since any active monetary policy actions of the central bank are offset by the necessity to stabilise the exchange rate back to the original level, as shown by the Mundell-Fleming model. However, with a flexible exchange rate, monetary policy is effective to the extent free capital mobility is exercised in the country and to the extent central bank refrains from a dirty float regime of exchange rate. In the case of capital inflows under flexible exchange rate regime, the resulting influence of the exchange rate transmission channel is unclear, since on the one hand investments should be increasing due to inflow of capital, and on the other hand an increase in interest rates lowers investments and besides, under currency appreciation, all domestic goods, including investment ones, become less attractive. The resulting influence depends on the interplay of these effects.

For transition or emerging market economies, the extent of the aforementioned channels' importance in the transmission of monetary policy might be different from the developed market economies. Issues of dollarisation and financial fragility become more important for such countries, as those may make monetary aggregates a less controllable instrument of monetary policy by the central bank, and therefore may make the impact and extent of the impact of the exchange rate channel even more difficult to predict. Underdeveloped financial system in such countries usually results in central banks confining themselves to the use of monetary base rather than interest rate as the major policy instrument, implicitly assuming that interest rate channel *per se* does not work.

Recent empirical results demonstrate both differences and similarities between developed and developing economies in terms of monetary policy transmission mechanisms. Thus, Camarero et al. (2002) have found out that in Spain there is evidence of interest rate and exchange rate channels of monetary policy, Vlaar and Schuberth (1999) discovered that monetary targeting policy was questionable for the 14 countries of the EU, since the controllability of broad monetary aggregate via policy variables is impaired. Chrystal and Mizen (2002) find that credit channel is important for monetary policy transmission in the UK, with a special stress in the process on lending to firms. Juselius and Toro (2005) has shown that in Spain after its accession in the European Monetary Union the effectiveness of monetary policy was mostly due to inflation adjustment within the union, while in the pre-accession period the effectiveness of monetary policy was highly questionable. The examples of monetary policy transmission mechanism studies for the transition economies include the research by Kierzenkowski (2005) showing changing degree of pass-through from bank lending in Poland, Korhonen and Wachtel (2006) finding evidence on the existence of pass-through of exchange rate movements on to prices, Golodniuk, in Chapter 6, demonstrating existence of the bank lending channel in Ukraine, Vymyatnina (2006) showing indirectly evidence of interest rate channel of monetary policy operating in Russia.

3. Overview of the CBR's Monetary Policy

After the collapse of the Soviet Union, the Central Bank of Russia (CBR) has assumed gradually full responsibility for the monetary policy conduct in Russia. Following the period of vague state fiscal and monetary policy in 1992 – mid 1995, with the results being first currency crisis of October 1994 and severe fiscal problems, in July 1995 an attempt to stabilise economy was launched with the issue of government short-term debt (GKO) and with the introduction of the crawling band exchange rate regime. The refinancing interest rate was gradually decreasing until November 1997 when the first consequences of the Asian financial crisis became evident. The monetary policy had a mostly passive character, adjusting to the circumstances

After the collapse of financial system in August 1998, the CBR had to provide the government and banking system with liquidity to overcome the crisis. It was stressed by the IMF staff (Balino, 1998; IMF, 2000) that after the crisis the CBR was reluctant to use market-based instruments of monetary policy (e.g. interest rate management on different types of refinancing operations, CBR bonds) to ensure the liquidity of the banking system, and relied instead on the reserve requirements rate, which was increased on four occasions by the mid 2000 (from 5% to 10% as the highest). In part this is explained by the fact that after the breakdown of the government short-term bonds system, commercial banks preferred to deposit their excessive funds at the CBR. Since the end of the crisis, the banking system has never experienced systemic liquidity problems, and this provides an explanation of the failure of the CBR Lombard auctions in 2000 –

2003, which might be seen as an attempt to introduce interest rate management by the CBR.

Since the financial crisis of 1998 the CBR developed a more active monetary policy, starting with the 1999 publication of “General foundations of the state monetary policy”, where a detailed analysis of the current macroeconomic situation, the CBR forecasts and policy targets and suggested policy instruments were described. The major goal of the CBR since 1999 has been gradual disinflation with the use of monetary methods, which is “to be led in a very smooth way, since an analysis of disinflation practices of other countries suggests that only smooth and consistent disinflation policies gives the best results”¹⁰. Interestingly, only in 2003 the CBR was successful in meeting the inflation target of 12%, though some doubts on the reliability of the data provided undermine even this achievement. (see Table 2.1)

Table 2.1. Dynamics of inflation, monetary aggregates and refinancing rates

Year	Inflation target*	Real inflation**	M0 growth**	M2 growth**	Refinancing rate***
1992	--	2508,8%		494,8%	60%
1993	--	839,9%		409,3%	139,3%
1994	--	215,1%		199,9%	180,6%
1995	--	131,3%		125,8%	185,8%
1996	--	21,8%		33,7%	104,3%
1997	--	11%	27,3%	29,7%	32,5%
1998	--	84,4%	20,1%	6,1%	52,8%
1999	--	36,5%	64,9%	62,8%	57,2%
2000	18%	20,2%	73,7%	60,3%	33,2%
2001	12-14%	18,6%	22,3%	38,9%	25%
2002	12-14%	15,1%	39,2%	34,1%	22,2%
2003	10-12%	12%	50,5%	55%	18,4%
2004	8-10%	11,7%	24,7%	22,6%	13,5%

*Source: «Basic directions of the state monetary policy on 2000, 2001, 2002, 2003, 2004»

**Source: CBR <http://www.cbr.ru>

***Weighted average, source: CBR, <http://www.cbr.ru>

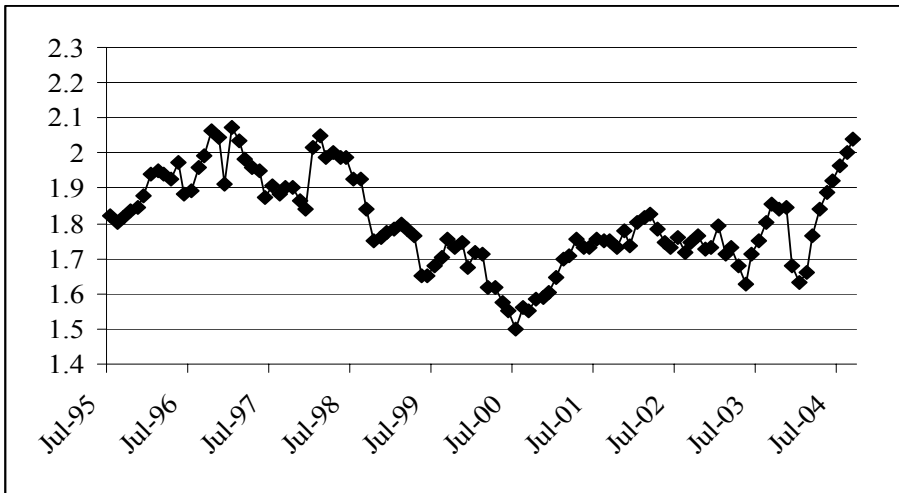
The intermediate target for the CBR is the percentage of increase in M2 monetary aggregate (national currency in circulation, demand and time deposits in national currency). This implicitly implies that there is a stable money demand function for the M2 aggregate, that the CBR effectively controls monetary base, and that money multiplier for the M2 aggregate is stable. At the same time already in its “General foundations of the state monetary policy on 2001”, the CBR admits

¹⁰ CBR: “Basic directions of the state monetary policy on 2001”, p. 19, <http://www.cbr.ru>.

that the short-term statistical correlation between M2 and inflation is weak, which makes it not a very reliable intermediate target. Therefore, it is stated further, the target values on M2 increase are indicative only¹¹. The M2 money multiplier is highly volatile (see Fig. 2.1), which also undermines the choice of intermediate target.

The operational goal of the CBR is the increase in money base, which is supposed to be under its control. However, according to the Law on Currency Control, all exporters are obliged to sell a certain proportion of export proceedings in foreign currency to the CBR. The latter is accordingly obliged to buy. In spite of the fact that the CBR is the major player on the currency exchange market in Russia, its ability to outplay the exports' influence on the monetary base are limited. Purely monetary methods intended to keep the monetary base from growing extensively in reaction to high oil prices, were not successful, and the Stabilization Fund was launched in order to restrain the monetary mass increase.

Figure 2.1 M2 money multiplier in Russia, July 1995 – September 2004



Source: Statistics of the CBR, www.cbr.ru.

Beyond exercising control over the monetary base (both directly through changes in required reserve ratio and indirectly through exchange market interventions) the CBR uses measures of direct control over commercial banks to influence their lending and thus to restrict monetary mass growth. A number of requirements are to be satisfied by commercial banks in their lending activities: not to lend to one company more than 5% of the own capital of the bank, not to draw a credit line to its shareholders over 20% of the own capital of the bank, not

¹¹ CBR: “Basic directions of the state monetary policy on 2001”, p. 48, <http://www.cbr.ru>.

to use more than 25% of own capital to buy stocks of one company¹². All these measures imply that CBR assumes monetary aggregate to be an effective instrument of monetary policy.

4. Data and Econometric Methodology

We use the SVECM approach to take into account the long-run properties of the variables and to test some economic considerations concerning the influence of external shocks in the economy.

The data employed are M2 monetary aggregate (m_2), consumer price index (p), real total trade as a proxy for real output (y), average monthly exchange rate (e) and interest rate on the inter-bank market (i). All data are monthly for the period July 1995 – September 2004 available on the website of the CBR, at <http://www.cbr.ru> and of the State Statistical Committee, <http://www.gks.ru>. The choice of period is explained by data availability. All data are taken in natural logarithms in order to adjust for possible scale effect and also for the possible cointegrating relation to have a long-run money demand function interpretation.

The econometric analysis proceeded in the following steps. First, all data were analysed for the order of integration with the use of ADF tests. In order to increase the power of the ADF tests, the general to specific approach was used with the initial lag length of 15 and a further removal of insignificant lags. For the series that visually exhibited tendency to have a break in September-October 1998 after the financial crisis, namely, for the exchange rate, price level and real total trade, Perron (1994) tests for innovative outliers (accounting for changes in intercept and slope of the trend) were carried out.

The next step was to estimate cointegrating relations using the reduced-rank Johansen (1988) methodology. A five-equation VECM was built, using the form

$$\Gamma_0 \Delta x_t = \alpha \beta' x_{t-1} + \Gamma_1 \Delta x_{t-1} + \dots + \Gamma_4 \Delta x_{t-4} + \Psi D_t + \varepsilon_t \quad (1)$$

where $x_t = (m_2, p, y, i, e)$ and D_t stands for deterministic variables which include constant and centred seasonal dummy for December, as the price level and real total trade variables demonstrated ‘end of year’ changes of larger variance than for the other months. The lag length of the VECM was chosen on the basis of Akaike and Schwartz information criteria.

The resulting VECM model accounted for the results of Johansen cointegration tests and was tested for adequacy. In particular, the tests for normality, autocorrelation, heteroskedasticity and lag misspecification were conducted. After that the stability of cointegrating relations was tested, and structural modelling was applied to the resulting VECM model.

¹² Federal Law on the Bank of Russia, №65-Ф3 (from 12.07.99), art. 66, 69, 72.

5. Estimation Results

First, the data was checked for the order of integration by using ADF tests and for the three series – price level, real total trade and exchange rate – Perron tests for innovative outlier were conducted. The results are summarised in the table 2.2 below.

Thus, according to the results of the tests all series involved were considered to be integrated of order 1 with trend in levels. None of the series was recognised to be stationary with a break in the form of innovative outlier.

Next, the Johansen test for the existence of cointegrating relations was performed. The results are presented in the table 2.3.

Table 2.2 Results of tests on the order of integration

Levels					
Test	<i>m2</i>	<i>p</i>	<i>y</i>	<i>i</i>	<i>e</i>
ADF	-3.301460 (-3.474864)* C, trend			0.248755 (-1.9434) C, trend	
Perron		-1.227674 (-5.08) C, trend	-4.182593 (-5.08) C, trend		0.873639 (-5.08) C, trend
First differences					
Test	<i>m2</i>	<i>p</i>	<i>y</i>	<i>i</i>	<i>e</i>
ADF	-7.954108 (-2.8915) C	-3.898003 (-2.8915) C	-10.68771 (-2.8915) C	-7.713820 (-2.8915) C	-23.77667 (-2.8915) C

*Critical value of statistics in parentheses.

Table 2.3 Results of Johansen reduced-rank test for the order of integration

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	5 Percent Critical Value
None **	0.258277	76.90863	68.52
At most 1	0.200769	45.53684	47.21
At most 2	0.130858	22.00585	29.68
At most 3	0.063367	7.279760	15.41
At most 4	0.003859	0.406023	3.76

** denotes rejection of the hypothesis of cointegration absence at the 5%(1%) level
Trace test indicates 1 cointegrating equation(s) at both 5% and 1% levels

The VECM was built with 4 lags initially, accounting for 1 cointegrating relation. Statistics for lag exclusion demonstrated that the third lag was insignificant in all equations at 5% significance level, and the lag structure was changed to include lags 1, 2 and 4. In this specification all lags were significant at 5% significance level at least in 3 equations of the model.

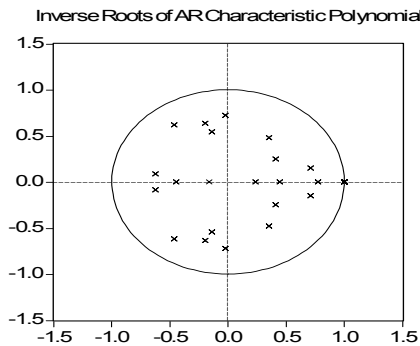
Table 2.4. Misspecification tests for VECM

Test	m2	p	y	i	e
Normality (Jarque-Bera, $\chi^2(2)$)	1.983467 (0.3709)	42.91307 (0.0000)	3.206900 (0.2012)	1.893576 (0.3880)	1.595494 (0.4503)
Heteroskedasticity $\chi^2(33)$	33.11691 (0.4616)	20.52011 (0.9557)	38.92031 (0.2206)	23.47306 (0.8897)	37.09058 (0.2859)
Heteroskedasticity F(33,71)	0.991214 (0.4972)	0.522602 (0.9790)	1.267222 (0.2010)	0.619460 (0.9347)	1.175109 (0.2809)
<i>Statistics related to the whole VECM</i>					
Heteroskedasticity $\chi^2(495)$					467.3321 (0.8092)
Residual autocorrelation LM test (8 lags)					14.71142 (0.9479)

P-value in parentheses.

Further, the adequacy of the VECM with one cointegrating vector was tested for misspecification by using tests on normality, heteroskedasticity and autocorrelation. The results of the tests are given in table 2.4.

As the misspecification tests indicate, the major problem of the received model is the non-normality of the price level. However, according to Gonzalo (1994) this is not a serious problem, since Johansen's cointegration method is reported to be robust to the non-normality of error terms. The tests for heteroskedasticity and residual autocorrelation indicate the correct choice of the model. The stability of the model was checked with the use of inverse roots of AR characteristic polynomial. Since one cointegrating relation was estimated, four roots are equal to unity and others are strictly less, which imply the stability of the estimated model (see Fig. 2.2).

Figure 2.2 Inverse roots of AR characteristic polynomial for VECM

Source: estimation by the author.

The cointegrating vector received was identified as the long-run money demand function, and price homogeneity restriction was tested. The restriction imposed is recognized as binding with the value of test statistics of 5.64 with the

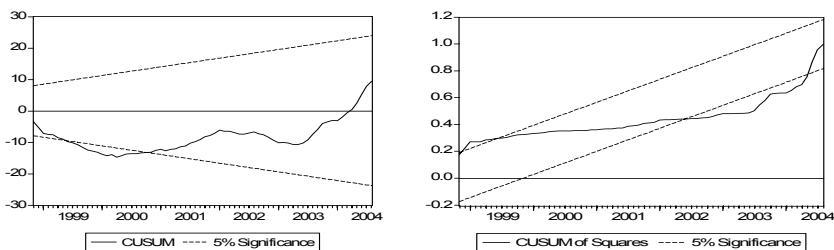
corresponding p-value of 0.017. The resulting cointegrating relation is defined as follows:

$$m2_t - p_t = 0.755 + 1.196y_t - 0.134i_t - 0.377e_t. \quad (2)$$

It is interesting to note that the elasticity of money demand for real money balances in the exchange rate is greater than in the interest rate. This demonstrates the long-living tendency of Russian monetary system towards non-credibility and, as a consequence, the inclination of economic agents to adjust holdings of foreign currency in greater scale than holdings of bank deposits under equal percentage changes of exchange and interest rate correspondingly.

The stability of the obtained cointegrating relation was checked by means of CUSUM and CUSUMQ tests of residuals. The results of these tests and cointegrating relation in dynamics are shown on Fig. 2.3 – 2.4. As might be seen from the graphs below, the cointegrating relation defined as a long-run money demand is unstable, especially at the beginning and at the end of the studied period. Instability in the beginning is explained largely by barter persistence in the economy at that time, the financial crisis of 1998 and by high currency substitution (the elasticity of substitution in 1995 – 2000 between Russian rouble and US dollar was between 2 and 3, see Fridman and Verbetsky, 2001). The second period of instability, starting approximately in 2002 might be explained by changes in the agents' expectations, the nominal appreciation of rouble in relation to the US dollar, the official introduction of euro into circulation and the corresponding reallocation of currency and deposits portfolio. The results indicate that the money demand function undergoes substantial changes in the last few years, which is in line with the view of the CBR about the lessening of statistical correlation between M2 aggregate and inflation. Thus, generally the estimated VECM is stable, though the cointegrating relation is non-stable over time due to adjustment process.

Figure 2.3 Results of CUSUM and CUSUMQ tests of residuals of the estimated cointegrating relation.



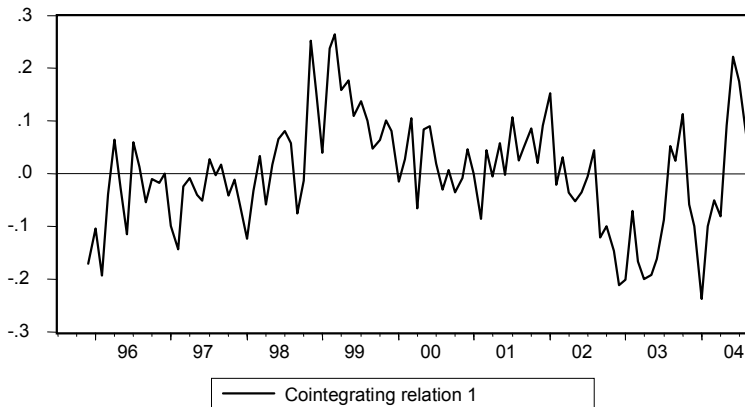
Source: estimation by the author.

Further, in order to estimate the transmission channels of monetary policy, structural modeling was applied to the resulting VECM. Generally, under structural modeling, the innovations ξ of the reduced form of VAR are linked to

structural disturbances ε in the following form: $\Gamma_0 \xi_t = B\varepsilon_t$. Usually, the orthogonality of structural shocks is assumed, which implies $B = I$. In this case, in order to identify the structural VECM, the matrix Γ_0 has to be estimated. The restrictions to be imposed on the Γ_0 matrix are obtained by constructing a log-linear macroeconomic model of the economy consisting of the reaction rule of the CBR, an aggregate demand function, an augmented Phillips curve, a equation related to the term structure of interest rates and balance of payments. Instantaneous reactions to external shocks in the equilibrium conditions described by these equations form the structural relations to be analysed within the VECM. When building the structural model the considerations below were taken into account.

The description of the CBR reaction rule was taken to include not only the reaction in money supply stock, which is the major policy instrument both according to the CBR official statements and to the research in the field (see e.g. Esanov, Merkl and Vinhas de Souza, 2005), but also the elements of hybrid or Ball rule including interest rate and exchange rate as reaction mechanisms. The research on the applicability of this rule draws a mixed picture (Esanov, Merkl and Vinhas de Souza, 2005), but at the same time CBR admits to a dirty floating of rouble and attempts to adjust refinancing rate to the existing conditions.

Figure 2.4 Dynamics of cointegrating relation changes through time.



Source: estimation by the author.

In the description of the aggregate demand equation's reaction to the external shocks, the following issues were taken into account: the Granger causality from prices to monetary aggregate which is found in some studies (Esanov, Merkl and Vinhas de Souza, 2005, Vymyatnina, 2006), the impact of price level changes in the output proxy and exchange rate. The latter is explained by the high

dependency of the Russian market as a whole upon the oil price, which is reflected in the exchange rate.

The augmented Phillips curve for the case of Russia is suggested to be non-vertical, since Russia is still far from the equilibrium conditions, and the supply side of the economy is intertwined with the price level and exchange rate changes. The term structure is likely to impose its influence upon prices and exchange rate though to a limited extent in both cases. And finally, the balance of payments specification is taken to be standard and relating the shocks of the exchange rate with the innovations in all other variables of the model.

The resulting matrix of links between innovations and structural shocks looks as follows:

$$\begin{pmatrix} 1 & 0 & 0 & \gamma_{14} & \gamma_{15} \\ \gamma_{21} & 1 & \gamma_{23} & 0 & \gamma_{25} \\ 0 & \gamma_{32} & 1 & \gamma_{34} & \gamma_{35} \\ 0 & \gamma_{42} & 0 & 1 & \gamma_{45} \\ \gamma_{51} & \gamma_{52} & \gamma_{53} & \gamma_{54} & 1 \end{pmatrix} \begin{pmatrix} \xi_{m2} \\ \xi_p \\ \xi_y \\ \xi_i \\ \xi_e \end{pmatrix} = \begin{pmatrix} \varepsilon^{MS} \\ \varepsilon^{AD} \\ \varepsilon^{AS} \\ \varepsilon^{TS} \\ \varepsilon^{BP} \end{pmatrix} \quad (3)$$

The scheme for identification suggested by this matrix imposes over-identifying restrictions, and the hypothesis of over-identification is not rejected with LR test giving $\chi^2(2) = 0.3614$ and the corresponding p-value of 0.8347.

The responses of all variables to the structural innovations in the monetary aggregate and in the interest rate were further analysed. Both innovations can be regarded as unexpected by economic agents' policy actions by the CBR. The results are compared in order to check for the more efficient instrument and for the channels driving monetary policy conduct. The responses to the structural innovations in the policy instruments are presented on Fig. 2.5 – 2.6.

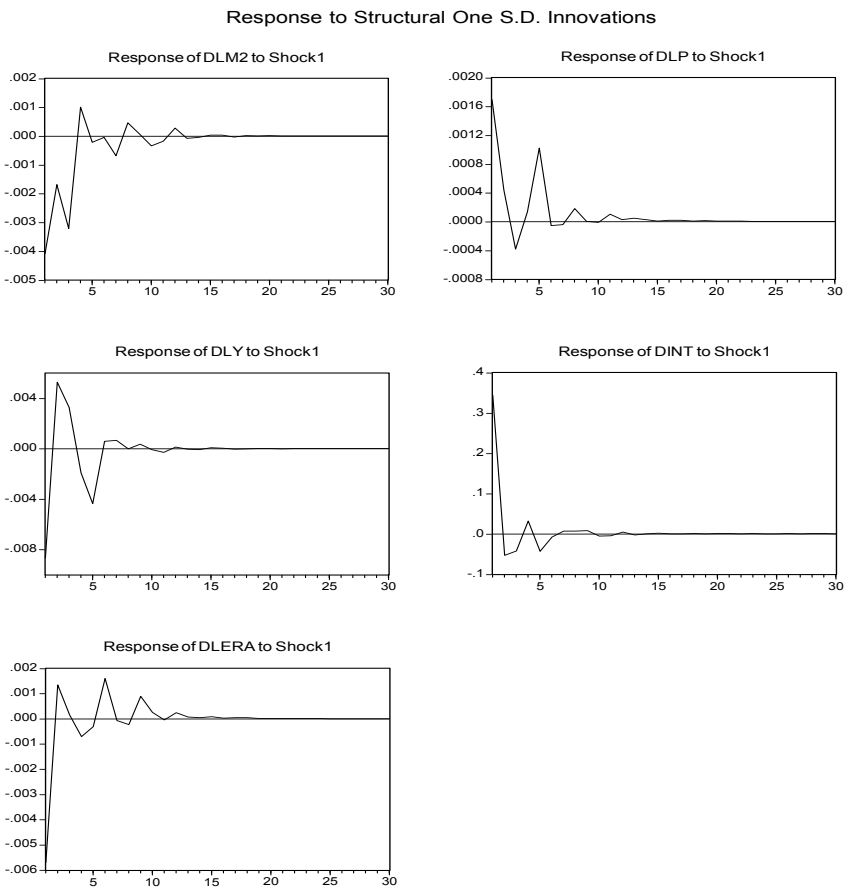
When comparing results of the reaction to the usage of two alternative monetary policy instruments, it should be noted first of all that the results provided indicate that using monetary aggregate as a policy tool might be not such a good choice for the CBR in pursuing its goals of disinflation. Even though the first differences in price level (i.e. inflation) reacts on a larger scale to the change in the monetary aggregate, the further adjustment process is more volatile, with a substantial inflation peak after several periods and a longer process of adjustment to the new equilibrium. The influence on inflation of the change in interest rate is less in scale and in time length, and results in less volatile transition of prices to the new equilibrium. Besides, the output proxy reacts in a smoother way to the change in interest rate, again with less variation, and does not lead to a serious output decline, corresponding to a temporary inflation pick-up under the usage of a monetary policy aggregate. These considerations might be taken into account by the CBR when planning for the development of its policy instruments.

In case of using the monetary aggregate as a policy instrument, the exchange rate adjusts after an initial large change at approximately the same time and with

more or less the same dynamics as when interest rates used as a policy instrument. On the other hand, the scale of adjustments in exchange rate is greater under innovations in interest rates. Hence, the exchange rate channel exists and is more important when interest rates are used as an instrument of monetary policy.

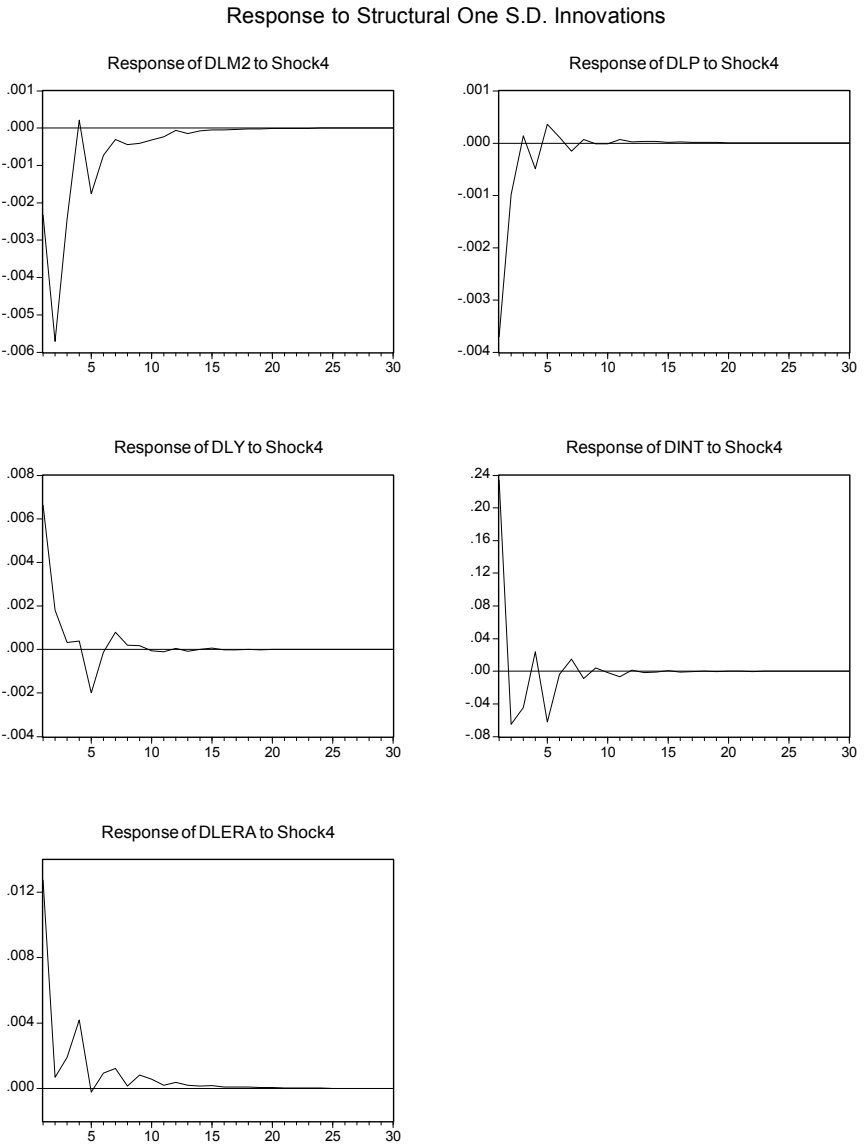
Interest rate changes exhibit approximately the same dynamics in both cases, though with larger in scale initial changes when the monetary aggregate is used as a policy instrument. This indicates the existence and importance of the interest rate channel in monetary policy transmission under both policy instruments.

Figure 2.5 Responses of variables to innovation in monetary aggregate of one standard deviation.



Source: estimation by the author.

Figure 2.6 Responses of variables to innovation in interest rate of one standard deviation.



Source: estimation by the author.

6. Conclusions

The present study analysed monetary policy transmission mechanisms in Russia in the period of July 1995 – September 2004. The CBR officially implements inflation targeting and in its “General foundations of monetary policy” declares the monetary base and monetary aggregate M2 as its operational and intermediate targets and policy instruments, insisting that using the interest rate as a policy tool would be inefficient due to the underdevelopment of the financial system. Such position assumes the controllability of the monetary base, the stability of money multiplier, and the existence and stability of a money demand function. At the same time, the CBR admits the weakening of statistical correlation between inflation and monetary aggregates.

Our aim was to check the implicit assumptions of the monetary policy conduct of the CBR. In order to fulfil it, a SVECM model was constructed, involving the monetary aggregate M2, the price level, real total trade as a proxy for output, the interbank interest rate and the average monthly exchange rate, with one cointegrating relation estimated. The estimated cointegrating relation was recognised to be a long-run money demand function. The hypothesis of price homogeneity was not rejected, and the resulting cointegrating relation describes a money demand function for the real M2 money balances. The money demand function estimated is prone to instability at the beginning and at the end of the studied period. Instability at the beginning can be explained by the barter persistence in the economy, high rate of currency substitution and financial crisis of 1998 that resulted in changes of behavioural characteristics of the economic agents. Instability at the end of the period under study might be explained by the changes in the agents’ expectations concerning exchange rate (nominal rouble appreciation from the end of 2002 till mid-2004 and the euro introduction in circulation), which led to portfolio reallocations and the corresponding adjustments in the money demand function. These circumstances, together with the instability of money multiplier and the questionable ability of the CBR to control the base money suggest that using monetary aggregates as monetary policy instruments might not be the best choice, since the assumptions allowing for successful use of these policy tools are violated.

Structural constraints were imposed on the estimated VECM and the responses of VECM variables to innovations in alternative instruments of monetary policy (monetary aggregate and interest rate) were analysed. The analysis demonstrated that using the monetary aggregate as a tool of monetary policy leads to greater variability in output and prices, though the time period of reaction is somewhat shorter as compared to the situation with interest rate as a policy instrument. The role of interest rate and exchange rate channels in monetary policy transmission is evident with both types of instrument.

The major policy recommendation from the results here is for the CBR to introduce interest rate management practices simultaneously with the further development of the financial system. Plans for a broader use of interest rate management are declared by the CBR at least since 2000, and the major reason for not using interest rates more extensively as a policy instrument is claimed to be

the underdevelopment of financial structure. Nevertheless, the present study suggests that *even under an underdeveloped financial system*, interest rate management might be a better policy option.

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Chapter 3

Choice of the Substitution Currency in Russia: How to Explain the Dollar's Dominance?

Anna Dorbec¹³

1. Dollarisation: An Introduction

Dollarisation is a largely observed phenomenon in emerging economies. Existing studies demonstrate the high level of dollarisation of Latin American economies (Feige and al., 2002) but also of economies of transition (Sahay and Vegh, 1995, Havrylyshyn and Beddies, 2003). Existing studies focus on the dollarisation in a large sense which includes the use of all foreign currencies inside country. The impact of dollarisation on policy issues (Baliño et al., 1999, Broda and Levy-Yeyati, 2002), banks balance sheets (Ize and Levy-Yeyati, 1998, Broda and Levy-Yeyati, 2003), financial crises (Powell and Sturzenegger, 2000) and exchange rate regimes (Arteta, 2002) have been widely documented. Researches about the origins of dollarisation mention a large set of factors including inflation and exchange rates volatility, weakness of local financial markets (Pionktovsky, 2003) coupled with the existence of the “shadow” (unofficial) sector of the economy (the influence of this factor being bi-directional, (Feidge and al., 2002)). Other researches (Caballero et al., 2004, De Nicolo et al., 2003) mention more long term oriented issues like the confidence (in money, in monetary policy and in banking system), but also the important persistence effects often qualified as hysteresis (Shinkevich and Oomes 2002). Our research, focused on the Russian case, suggests the existence of links between dollarisation and the overall uncertainty related to the institutional weakness (Khartchenko-Dorbec, 2004).

The discussion about the relevance of de-dollarisation policies versus complete (official) dollarisation is still animated (Goldfajn and Olivares, 2000). Advocates of complete dollarisation or euroisation suggest that adopting a strong foreign currency enables countries to eliminate the temptation of inflationary finance and thereby avoid currency and balance of payment crises, reduce the level and the

¹³ I thank Edouard Mambu ma Khenzu for help with the revision of the paper, Françoise Renversez for useful suggestions and all participants of BOFIT/CEFIR workshop on macroeconomics in transition for the interesting discussion. All remaining errors are mine.

volatility of interest rates, and ultimately stimulate growth. IMF (1999) suggests that reliance on foreign currency could facilitate the development of financial intermediation in a high inflation environment. It can also foster a closer integration with international financial markets, increase competition and make available a more complete set of assets for domestic investors.

Edwards and Igal Magendzo (2002) found however a strong evidence about the negative impact of full dollarisation to economic growth (while such policy helps to significantly reduce inflation) so the evidence about complete dollarisation positive impact on economic dynamics is still ambiguous.

Advocates of de-dollarisation measures cite loss of seignorage and loss of an independent monetary policy for dollarised countries (Feige and al., 2002). When dollarisation or euroisation is widespread, the effective money supply is much larger than the domestic money supply and is, moreover, less easily controlled by the monetary authority because of the public's propensity to substitute foreign for domestic currency (Havrylyshyn and Beddies, 2003). Extensive currency substitution not only makes domestic monetary policy less effective, it also makes active exchange rate intervention more dangerous. Currency substitution also has fiscal consequences that are particularly salient for transition countries. Foreign cash transactions reduce the costs of tax evasion and facilitate participation in the "underground" economy. By obscuring financial transactions, currency substitution reduces the cost of enterprise theft and facilitates corruption and rent seeking (Feige, 1994). This weakens the government's ability to command real resources from the private sector and deepens fiscal deficits. The wide use of the dollar as a saving instrument weakens the ability of the national banking system to reallocate liquidity inside the economy and thus reduces the supply of financing to domestic producers (Khartchenko-Dorbec, 2004).

As in many transition economies, in the Russian economy the use of foreign currencies includes not only its use for international trade purpose, but also as monetary instrument. According to the definition, unofficial euroisation and dollarisation results from individuals and firms voluntarily choosing to use foreign currency as either a means of transaction substitute (currency substitution) or a store of value substitute (asset substitution). In practice, asset substitution concerns not only foreign currencies denominated assets (deposits and securities) but also cash acquisitions realized by households.

In this chapter we focus on dollarisation/euroisation in a more narrow sense by trying to understand factors determining the choice of substitution currency by economic agents. The Russian case is particularly interesting from this point of view because of the existence of important dollar domination in a country being geographically and economically close to the EU. This situation exposes Russian financial system to an additional exchange rate risk: while main trade flows are realized with Europe (and the Europe's first place is maintained even if we adjust for oil exports) the major part of assets still nominated in USD.

The dominance of the dollar on international financial markets and its importance as an international reserve currency matters for the choice of currency

of substitution. According to the analysis of ECB (2005), the US dollar is used to nominate 43% of all debt securities issued on international financial markets (issued outside of the borrower's country of residence) while the share of the euro is about 31% (this share is continually increasing during past 6 years). However, the study indicates the important 'regional' aspect characterizing the international use of the euro: the European currency is largely used in countries geographically close to the European Union. In this situation the dominance of the dollar for Russia and CIS needs to be examined more in details.

The purpose of this chapter is to define factors of choice of Russian economic agents between two main international reserve currencies: the euro and the dollar. This questioning could help better understand the main issue of dollarisation and 'motivations' of different categories of agents concerned with. Such research is looking for evidence about relative efficiency of different de-dollarisation policy measures. We analyze data from early 1999 to late 2004. In order to better understand the different aspects of use of the euro and of the dollar in Russian economy we analyze separately different aspects of dollarisation by type of economic agent. Bordo and Choudri (1982) point out that the focalisation on exclusively financial (or speculative) approach in the dollarisation issue omits the transaction demand for currency. Some authors suggest (and particularly for the analysis of dollarisation in low and moderate inflation countries, which is actually the Russian case) that in order to have a proper measure for the dynamics of currency substitution, explicit measures for transaction demand are needed. Conforming to this critique we disaggregate dollarisation and euroisation indicators by separating flows of cash conversion operations, mainly realized by households, approximating a store of value role of substitution currency, and currency exchange operations which concern banks and enterprises and better approximate transactional demand of substitution currencies. This disaggregated approach shows the existence of heterogeneity of agents' behaviour and confirms that different policy approaches are needed to reduce dollar domination (and more generally to reduce dollarisation in a large sense). Finally, we suggest a theoretical interpretation of the results, using the theory of conventions.

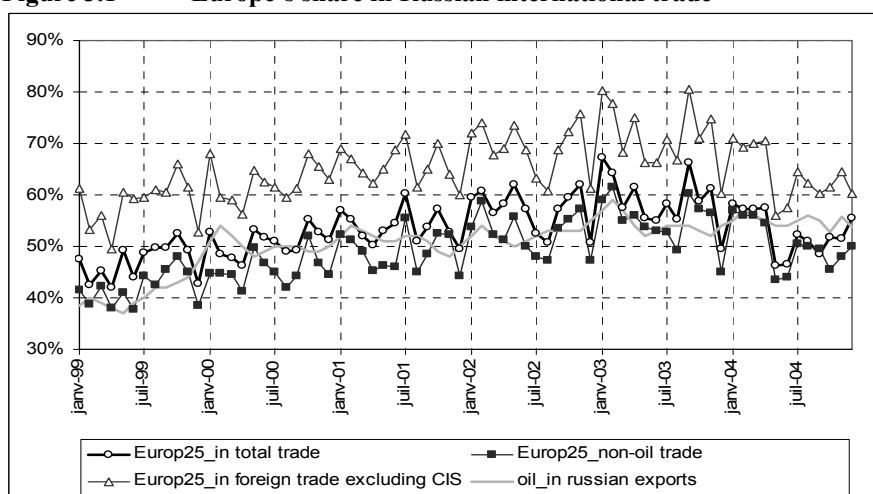
This chapter is organized as follows. The 1st. section contains a data analysis of different aspects concerning the choice of Russian economic agents between the euro and the dollar. The 2nd. section gives a brief survey of existing theories in the field of dollarisation which could be applied to the problem of choice of substitution currency. The 3rd. section contains the econometric estimation results. Section 4 presents the theoretical interpretation of observed results. The 5th. section concludes.

2. Empirical Evidence

The real aspects of Russian economic relations with euro- and dollar- dominated countries are examined at first. Secondly we analyze more in details financial aspects of this issue.

As we can observe on figure 3.1, 25 European Union countries account about 50-60 percent of Russian foreign trade. The importance of trade with European countries for Russia is accentuated by the indicator of trade with non CIS countries. Here European countries' share is about 80 percent in 2003 and 60 percent at the end of 2004. It is interesting to notice that if we exclude oil from exports (as being negotiated in dollars), Europe is still the main trade partner of Russian enterprises. The dominance of European countries cannot, therefore, be reduced to only oil exports, and necessarily contains other, euro nominated components.

Figure 3.1 Europe's share in Russian international trade



Source: Eurostat, Central Bank of Russia, Russian Federal Service of State Statistics, High College of Economics database

At the same time, the share of the USA in Russian foreign trade is still weak (3.8 percent for 2003 and 2004, 3.5 percent for 2002).

CIS countries are the second most important zone for Russia's trade relations. Their share in Russian external turnover was 17 percent in 2002, 17.5 percent in 2003, and 18.3 percent in 2004. Such trade relations could be the base for the development of an international role for the Rouble, yet, given the influence of the dollar in the CIS zone and a weak efficiency of CIS as an institution, one can argue that the trade with the CIS is mainly dollar-based.

If the dollar zone is considered in a wide sense, its' share in Russian foreign trade would account for about a half of the trade. In such a case, on the basis of international trade relations, one would expect a considerable euro demand and supply on national currency markets and consequently an important anchoring of monetary policy on the bi-currency basket.

Foreign direct investment is another area of application for international currencies, in addition to trade: the flows of FDI can account for the development

of close economic integration between countries, so a quick review of this statistic could be useful as an indicator of the existence of economic links. We should, however, notice that FDI does not represent the main international capital flows for Russia: according to official statistical data, it accounts for only 19.2 percent of foreign inflows in Russia for the period January-September 2004 (22.3 percent for the same period of 2003). Official statistics suggest however that more than 49 percent of total FDI accumulated in Russia came from one of the European countries (we excluded 13 percent concerning Cyprus due to its particular offshore status largely used by Russians in capital flight operations and undoubtedly including the return of previously exported capital). The USA has the 6th place with 9 percent of total accumulated investment. It can be seen that the share of euro zone countries is much greater than that of other investors, even of the Russian ones repatriating their capital from offshore. This situation should also reinforce the influence of the euro upon the Russian economy, the currency market, and expectations.

However, even a rapid overview of the macroeconomic statistics published by Russian government agencies (Federal Statistical Service, Bank of Russia) and of analytical materials issued by the specialized financial and economic press (Rosbusinessconsulting, Expert, Cbonds) makes it clear that the US dollar, while not a legal and institutionalized monetary unit, acts as the main unit of account for both private economic agents and the government. In this situation, the role of public institutions is controversial: on the one hand, it is more useful for them to publish statistics in the most common unit and on the other; this dollar bias of public administration tends to strengthen the dollar role in the economy.

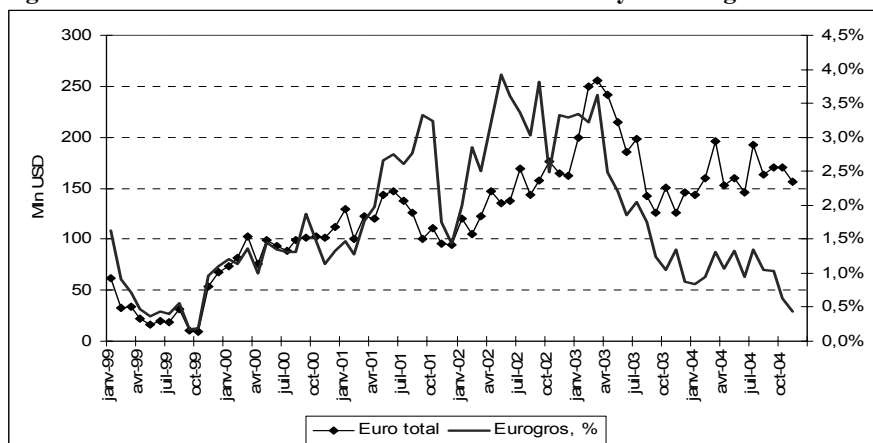
The above-mentioned situation in Russian foreign trade and the inflow of FDI should have led to high volumes of sales of euros on the national currency market. One would expect these operations to account for 35-50 percent of all the currency purchases and sales on the Russian market.

However, as can be seen from figure 3.2 below, the real situation is far from this hypothetical one; the dollar is obviously predominant on Russian interbank currency market (as we observe on the figure 3.2, its share has never been under 96 percent during 1999-2004). This data is confirmed by the analysis of interbank conversion operations by currency (including operations realized outside currency exchanges): euro-to-dollar conversion operations account for about 80 percent of total conversion operations realized on euro in Russia during 2003-2004, the rouble-to-euro operations' share is quite insignificant. So, euro is converted in dollars and not in roubles as we could expect.

As far as the dollar is concerned, the major part of conversion operations concerns conversion to roubles (the share is between 63 and 78 percent of total volume of exchange operations during the period 2003-2004) and to euros (16-25 percent for the same period). So we can conclude that dollar represents a vehicle currency supporting all kind of conversion operations. This information gives us additional evidence concerning a dominance of dollar in Russian financial sphere and confirms data presented on figure 3.2. Accordingly, currency demand factors

clearly play in favour of the dollar, despite the importance of Europe in Russian foreign trade. One can conclude that commercial contacts with Europe are denominated in dollars: in fact, according to the recent review of the international role of the euro realized by the ECB (2005) even for European countries (Belgium, France, Germany, Greece, Italy, Luxembourg, Portugal, Spain) the Euro is used as a settlement/invoicing currency only for 54 percent of exports and for 51 percent of imports. The observed data for Russia also reflects the evidence that euros and dollars are used not exclusively for international trade. While transactions in dollars between residents are officially forbidden (and so are very difficult to estimate), euros and dollars are widely used for asset nomination¹⁴. The data on table 3.1 provides some evidence about euro and dollar shares as the currencies of asset nomination. If we break down the stock of debt financing nominated in foreign currencies between euro and dollar financing (data for the end of 2004) the obtained evidence also confirms the dollar domination of financial sphere.

Figure 3.2 Euro in the trade of Russian Currency Exchanges



Source: Central Bank of Russia

The third indicator is households' savings. As we noted earlier, households' savings in Russia are dominated by foreign currencies (cash) holdings and in this case approximate well the 'store of value' role of euros and dollars in Russia.

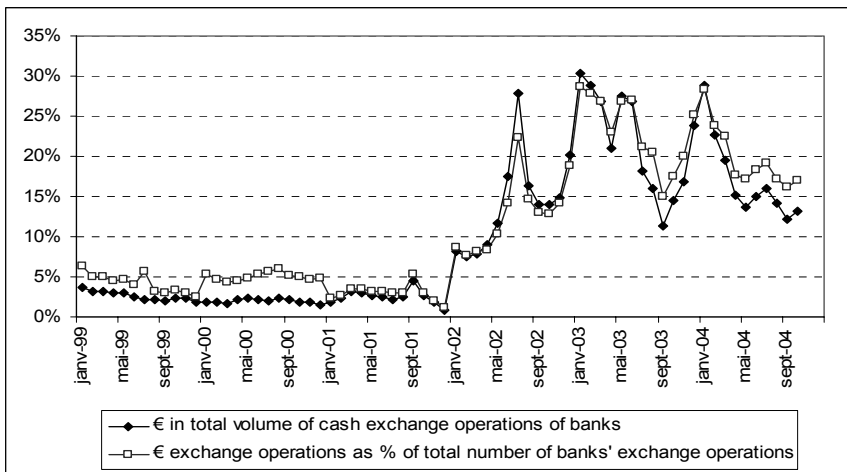
¹⁴ See Figures 3.5-3.6 in Annex I for data about asset substitution in a large sense.

Table 3.1 Euro and dollar denominated assets in Russia (end of 2004)

	Euro, Mln (1)	% volume* (2)	Dollar, Mln (3)	% volume* (4)	Total* (5)
Federal government	1 250	4%	40 148	96%	41 694
Subfederal government	774	91%	100	9%	1 058
Eurobonds** private	1 430	7%	23 320	93%	25 089
Bank forex denominated credit to non financial private sector	nd	nd	nd	nd	29 692

* The average 2003-2004 euro-dollar exchange rate is applied in order to calculate Total and percentages presented in columns (2), (4) and (5).

** The term Eurobonds is used here to define all foreign currencies nominated bonds.

Figure 3.3 Euro share in cash conversion operations of Russian banks

Source: CBR. Operations on euro before 2002 are approximated by DM operations (other currencies parts being insignificant).

One can see from the Figure 3.3 that the share of currency exchange operations of households on euros is steadily climbing up starting from 2002 (a date of euro cash currency appearance) attaining a maximum of 30 percent during 2003 and 20 percent during 2004. This dynamics let us conclude that personal savings are being diversified: households have rapidly appraised the exchange rate risk (the exchange rate Rouble/Dollar is decreasing starting from January 2003 while Rouble/Euro exchange rate continues to increase) and the payoff opportunities of investing in euros. This dynamics suggest that Russian households are behaving quite rationally and the problem of trust in the euro as a new currency does not seem to be so important: according to some surveys, Russian population's trust in euros still higher than their trust in the national banking system.

The importance of the dollar could, however, be related to policy issues. We should firstly remember the importance of dollar anchoring of exchange rate policy: the exchange rate corridor of 1995-1998 was exclusively dollar-based. The managed floating after August 1998 devaluation was still dollar-based. Recently the Central Bank of Russia (CBR) has revised this policy: in regard to the importance of the role of European Union in external economic relations, starting from 1/02/2005 the Bank of Russia interventions are based not exclusively on dollar rate, but on bi-currency 'basket' (10 percent of euro and 90 percent of dollar initially, in May 2005 the share of the euro was increased up to 30 percent). The structure of the CBR's currency reserve portfolio is another important signal to agents (and primarily for banks) about exchange policy: actually the share of the euro in foreign reserves of Bank of Russia is increasing. Whereas before 2002 the share of other currencies than USD (including DM, £, Yen) never attained 10 percent, the euro's share in the Bank of Russia reserves has reached 25 percent in the mid-2003 and 30-35 percent in 2004. Bank of Russia announces about maintaining of the euro share for 2005. This dynamics is a positive one according to the importance of Europe in foreign trade relations, but its efficiency can be estimated only in the future.

As a conclusion of our empirical analysis we can make two observations: in spite of the substantial trade relations with Europe, most of supporting financial operations are settled in dollars and exchange rate dynamics seems not to have any impact on this. As far as the savings behaviour of households is concerned, we can observe the diversification of currency portfolios of households as a reaction to the exchange rate dynamics despite the short history of the euro as a currency.

3. Choice of Substitution Currency: Theories and Estimation Hypothesis

While the international role of the euro is not a direct objective of ECB, the discussion about the importance of this issue for Europe is still animated (Portes, 1998, ECB, 2002, ECB, 2005). The available literature on the question of choice between substitute currencies is relatively rare (Heimonen, 2001). Some research on dollarisation in a large sense could however be applicable to our questioning. In this section we define a list of factors liable to explain the choice of one foreign currency in the country as a currency of substitution.

The first explanation of possible choice between currencies which we should test comes from international trade relations between countries which should be followed by transaction demand for foreign currency balances (Milner et al., 2000, de Vries, 1988, Ratti and Jeong, 1994). The foreign currency demand inside countries should be related to transaction needs emerging from foreign trade. From the point of view of the choice of the substitution currency we should test the possible existence of a significant impact of the trade with euro zone countries to euro balances of economic agents in Russia or at least concerning enterprises currency exchange operations. One should note, however, that similar research

realized on the case of Estonia (Heimonen, 2001) did not provide evidence of significant impact of real factor on the aggregated indicator of choice between euro and dollar: this situation results from the large use of foreign currency in domestic transactions.

Agents' demand of foreign currencies is often examined through the estimation of the opportunity costs of holding domestic money. We can distinguish three main factors affecting the opportunity cost of holding foreign currencies nominated money balances which could influence the choice of the substitute currency.

The first of them is the inflation rate. The depreciation of the local currencies at the beginning of transition coupled with the liberalization of foreign currencies markets and the given possibility to households to hold foreign currencies is the most often cited dollarisation factor (Calvo and Vegh, 1996). The theoretical interpretation of this fact address the existence of sunk costs supported by households from holding their savings in local currency. This cost is clearly depending on effective (anticipated) inflation rate. The use of dollars or euros as stable units of account which anchor prices is justified especially in situations when the exact future inflation dynamics is difficult to forecast. When we apply this framework to the problem of choice between dollar or euro currency balances, we should also expect that differences in inflation rates between euro zone and USA could affect the choice of agents. In our estimation we include inflation by adjusting nominal exchange rates.

The second variable affecting the opportunity cost of holding foreign currency balances/assets is the interest rate. Adjusted to inflation rate we obtain real interest rates. Thus, the opportunity cost of holding money can be distinguished as separate factors, i.e. the opportunity costs of holding money due to the interest rate and the opportunity cost of holding money due to relative rates of inflation. Accordingly, the 'asset substitution' should be affected by nominal or real interest rates. More generally, the use of foreign currencies as a store of value depends on interest rates (nominal or real) in the case when households make foreign currencies denominated deposits or buy other forex denominated assets. We should, however, notice that in the case of holding cash money (dollars or euros) as a store of value (because of weak confidence in banking system independently on opportunity costs) the interest rates should have less explanatory power.

The third variable having an impact on the opportunity cost of holding currencies is the nominal and real exchange rate dynamics (Heimonen, 2001). It affects either foreign currencies cash holdings or foreign currencies nominated assets (bank deposits and other securities). We test the possible impact of both nominal and real exchange rates to the structure of the demand of the substitute currency.

However, the approach in terms of opportunity costs does not seem to provide sufficient explanation of the above mentioned significant differences between the dollar domination of the financial sphere and the importance of the trade with European countries. The opportunity costs of holding dollars should be quite

lower than costs of holding euros. However, inflation differences or exchange rate volatility between the euro area and USA do not seem to be so excessive. Other possible factors are related to more 'irrational' behaviour of economic agents.

Inertia in currency substitution between domestic and foreign currency balances has been widely documented (Piontkovsky, 2003), yet there is a limited number of studies that specifically address the issue of detecting inertia among substitute foreign currencies. Possible inertia between euro and dollar balances has obvious importance to the dynamics of currency competition between them. According to the existing studies we can put forward two potential factors determining it: hysteresis and the existence of network externalities.

Several studies associate inertial behaviour with hysteresis. Feige (2003) notices that observed hysteresis effects in dollarisation ratios in transition countries are closely related to the lack of confidence in domestic monetary assets resulting from past inflations, devaluations and bank confiscations. This behaviour appears to be difficult to reverse, even when macroeconomic conditions stabilize. Ahumada (1992), Guidotti and Rodriguez (1992), Piterman (1988) all find empirical evidence that dollarisation may remain high even when the opportunity cost of holding domestic money has decreased. The decrease of inflation and the relative exchange rates stabilization did not decrease the high level of dollarisation in countries touched by this phenomenon. The hysteresis is often modelled as a 'ratchet effect'.

A 'ratchet effect' is said to occur when we observe an asymmetric reaction of the variable to changes in one or more factors depending on whether the latter is falling or rising (Mongardini and Mueller, 1999). This phenomenon is related to the long memory of important and violent changes in exogenous variables dynamics, which induces important uncertainty aversion in agents' behaviour (Epstein, 1999). In such situations agents' decisions are made by reference to the worst scenario, its decision weight being dependent on degree of 'probability imprecision'. The perception of it is increasing in situations of doubts about the relevance of previously used decision models (Routledge and Zin, 2001). In this case the stabilization does not induce a rapid return to the normal level. The adjustment is, therefore, asymmetric and achieved with many lags.

The ratchet effect in dollarisation is often modelled by introducing an adjustment or "switching" cost associated with learning how to use new financial instruments (Guidotti and Rodriguez, 1992, Sturzenegger, 1992, Engineer, 2000), which naturally creates a certain inflation or currency depreciation bands within which there is no incentive to de-dollarize. In this case some learning period is necessary to economic agents to understand the functioning of new financial instruments that provide substitutes for foreign currency (Dornbusch and Reynoso, 1989).

Another interpretation is that inertia is related to the fact that there exist some expectations' adjustment periods before domestic agents become convinced that current macroeconomic stability is permanent and inflationary policies will not be repeated (Peiers and Wrase, 1997).

The ‘learning costs’ explanation for ratchet effects/hysteresis does not seem however to be very relevant for our questioning, given the fact that the choice between euro or dollar do not really need any special learning procedures. However, the existence of psychological adjustment periods has certainly played a role especially knowing that the euro is a new currency and some period is necessary to be sure that ‘it works’ at least as well as the German Mark¹⁵. Logically, this effect should be more visible in financial and reserve aspects of the demand of substitution currency than in enterprises’ transactions which are realized instantaneously and do not suppose any special learning or long term expectations.

Another important factor explaining the existence of persistence in dollarisation which is directly applicable to the euro/dollar perspective is more related to transactional demand of money. Money as a mean of transaction produces network externalities (Feige and al., 2002, Shinkevich and Oomes, 2002)

“Network externalities occur when the benefits for a given agent of holding a certain currency increase with the use of this currency by other agents. In other words, when the use of dollars in a given trade network grows, this increases the value of holding dollars for each member of the network, irrespective of the depreciation rate or other rate of return considerations. If network externalities are strong enough, therefore, a high degree of dollarisation can persist after macroeconomic stabilization”. (Shinkevich and Oomes, 2002, p.6).

The authors use original data from the Bank of New York about dollar bills exports coupled with official Russian statistics and demonstrate the existence of network externalities in overall dollarisation behaviour in Russia for 1992-1998.

Knowing that the dollar have been the dominant currency of substitution during the transition period¹⁶, the use of the dollar as a mean of transaction (which includes officially forbidden internal transactions) should give it an advantage over the euro because the probability for an agent k to find a ‘dollarised’ partner is higher than for a ‘euroised’ one. In other words it is costly to transact in foreign currency if others do not use it or use it insufficiently (Uribe, 1997). We should notice that this approach is similar to that about origins of money, using the evolutionary games theoretic models (De Larquier et al., 2001). Thus, above a certain level of dollarisation, while the dollar is widely used, assuming all monetary functions, changing to the other currency of substitution as euro (or back to the domestic money) becomes costly. This explanation seems plausible as a factor of persistence of the dollar as a means of transaction. If network externalities are strong enough, therefore, a high degree of dollarisation can persist, even in the absence of ratchet variables.

¹⁵ This argument is closely related to ‘confidence in money’ issues.

¹⁶ Illicit dollar holdings had been perceived by population as a really ‘hard’ currency even before 1992, but no data exactly quantifying this phenomenon are available.

We can easily understand that transactional and reserve roles of foreign currencies are not equally concerned with network externalities. Applied to the reserve role of currencies, we should expect a lesser influence than to their transactional role. When all bank exchange offices realize both euro and dollar conversion operations (which is true in Russia) the savers should worry only about exchange rate dynamics and are less concerned with network externalities. However, this factor could be present in cases of illegal use of foreign currencies in transactions (which is frequent particularly for real estate transactions).

The choice of exchange rate regime is another factor related to the choice of substitute currency. As we have mentioned above, the important anchoring of Russian monetary policy on the dollar (recent existence in 1995-1998 of exchange rate corridor fixing dollar exchange rate fluctuation bands, the importance of the dollar as a main intervention currency of Central Bank of Russia during all estimation period and its use as a unit of account for all official international statistics) contributes to wider private use of dollars producing network externalities. The signalling interpretation of this phenomenon is also possible. In this case, recent change of CBR currency policy should contribute to the decrease of dollar domination in the medium term¹⁷.

4. Econometric Analysis

As follows from our descriptive analysis, but also from theoretical hypothesis, we should expect possible differences in behaviour of different types of economic agents (enterprises, banks, households) concerning the choice between currencies of substitution. In this study different aspects of the demand for substitution currencies are analyzed separately. According to available data we calculated proxies to estimate households' cash operations (reflecting their savings behaviour) and total transactions (non cash) realized on the Russian currency exchange market which can be considered a proxy of the currency structure of (mainly transactional) demand of enterprises/banks.

We use monthly series for the period from January 1999 to November 2004. All operations related to the euro cash for the period 1999-2001 are approximated by operations with German Marks as the only significant European currency on Russian forex market during this period.

Three alternative indicators of households' demand for foreign currencies cash and one indicator of the demand of enterprises are used in our estimations¹⁸ (the Central Bank of Russia is the source of all those data series).

¹⁷ This parameter cannot be included in this study because it is situated outside our data set.

¹⁸ The detailed description of all variables is presented in the Annex II. Detailed presentation of estimated equations is given in the Annex III.

(I) The share of the euro in total cash conversion operations of banks' currency exchange offices inside Russia (DECASH = euros exchanged/all currencies exchanged during the period).

(II) Transactions realized on the euro as a percentage of the total number of transactions of exchange offices of banks inside Russia (ETRANSACT = number of euro-rouble transactions/Total number of conversion transactions).

(III) Share of the euro in total imports of foreign currency bills to Russia (IMPORT_EUROBILLS = bills in euro imported/total foreign currency bills imported). As banks realize these imports, the estimated equations differ.

(IV) As a proxy of the demand for currencies from enterprises and banks including transactional and partly financial component of the demand on the currencies of substitution, we use the share of the euro in total turnover of Russian currency exchanges (EUROGROS). This proxy excludes illegal cash transactions, which are impossible to estimate on the basis of official statistics (and need a more informal measuring approach as queries).

As no statistical series on the structure of assets by currency concerning bank credits and deposits are publicly available (however, some data are presented in section 2), the estimation of 'financial' role of euro and dollar is impossible. As the discussion about the roles of the dollar and euro in CBR monetary policy is rather substantial, we hope this data to be available in the future.

According to our descriptive analysis and presented theories, we estimate econometrically the impact of three main factors on the choice of economic agents between the euro and the dollar.

- [A] Lagged endogenous: is to establish the possible inertia existing in the currency demand behaviour. As we mentioned above, in the case of existence of network externalities the importance of this factor should be more pronounced for EUROGROS variable (which is more closely related to the transactional demand) than for saving demand estimations (I-III indicators). In the case of existence of important hysteresis related to the choice of the currency of substitution, asset substitution is more concerned and we should account for more important impact of lagged variable in regressions using indicators I-III.
- [B] Exchange rate: we test the impact of Dollar/Euro and Rouble/Euro exchange rates¹⁹ expressed in nominal and in real terms (to account for possible inflation differential influence).
- [C] Real trade: we test 3 alternative indicators.
 - i) The share of the trade of Russia and the enlarged EU in total trade of Russia excluding oil (eu25_nonoil).
 - ii) The share of the trade between Russia and the enlarged EU in total external trade of Russia (eu25_total).

¹⁹ The increase of the exchange rate means the euro appreciation (versus Dollar or Rouble)

- iii) The share of the trade between Russia and the enlarged EU in external trade of Russia excluding CIS trade (eu25_noncis).
- [D] For regressions I and II an additional variable which could influence on the choice between currencies is included: the relative average margin applied by banks on conversion operations (Euomarge=margin on euro operations/margin on dollars operations). We do not include this variable for the IMPORT_EUROBILLS estimation because of its weak exogeneity: as the margin is decided by banks, it is necessarily dependent on their stocks of bills.
- [E] We also use dummies to capture the possible impact of introduction of the euro cash in 2002 (DUMMY_EUROCASH) and for recent banking crisis (summer 2004) (DUMMY_CRISE).

Estimation Results

- [A] Lagged endogenous. We tested several lags, but the best results are obtained with 6 months lag for all four examined indicators. We can interpret this result as an average reaction time that is necessary to account for possible switch in agents' behaviour. We can remark that the impact of the lagged variable is more important for transactional demand proxy (the related coefficient with EUROGROS is positive, statistically significant and is situated between 1.441 and 1.732), that for its use for savings purposes (their values are situated between 0.397 and 0.544 for DECAH, between 0.782 and 1.267 for ETRANSACT, between 0.816 and 1.317 for IMPORT_EUROBILLS). This result suggests that network externalities do really concern the transactional demand of substitution currency. The possible hysteresis influence on households savings behaviour related to the existence of a adjustment period, though existing, is, however, less important. As no great changes in euro/dollar rates were observed during the period of our study, this result seems not surprising.
- [B] Exchange rate.
- No influence on transactional demand (independently of the indicator used). This fact confirms our hypothesis about the importance of network externalities. The choice of transactions currency is unrelated to current nominal or real exchange rate dynamics, but probably is related to routinely repeated behaviour.
 - The Dollar/Euro exchange rate is a better explanatory variable of the choice of a substitution currency as a store of value. We see that the behaviour of Russian households is quite rational. This result suggests that the appreciation of the euro on international markets would have a positive impact for its role in Russian economy and thus helps to increase the euro's international role. The significance of both Rouble and Dollar to Euro exchange rates appears only for IMPORT_EUROBILLS estimation, which presumes the importance of both indicators in banking decisions.

- The differences between the impacts of exchange rates in nominal and real terms do not seem to be quite important: both indicators are positive and significant (Euro appreciation versus Dollar is followed by the increase in its share in Russian household savings' flows). We should suppose that inflation differentials have limited direct influence on the choice of substitution currencies, while nominal exchange rates' impact is more important.
- [C] Real trade
- Independently on the indicator used, real factors have no influence on households' demand for currency: their choice is based only on their previous practices and financial variables.
 - Real trade influence on transactional component, though positive and significant, is relatively weak. In this case we cannot expect the 'natural' equilibration of the market following real needs: routines are well anchored and a particular policy is necessary to equilibrate it and to incite exporters and importers to use euros when trading with Europe.
- [D] The impact of Euromarge variable on households' demand of euros and dollars is inconclusive: counter-intuitively it appears to be positive for some specifications while it is insignificant for others. Apparently, banks increase relative exchange margins in response for the increasing of demand of euros, but this fact does not discourage households from buying euros. On the contrary, we cannot exclude the existence of temporary deficit of euros for some periods which created some small panics on this market implying such non-market behaviour of households.
- [E] Finally, our estimation has confirmed the importance of a disaggregated approach: enterprises' and households' demands for substitution currencies do not depend on the same variables. While the inertial component seems to be significant for all specifications, which supposes the existence of routines, of network externalities and the necessity of some 'adaptation' period, the exchange rate dynamics is important only for households' choice of reserve currency. The transactional demand of enterprises is mainly driven by routines and network externalities and weakly by real trade.

Table 3.2 Estimation results: DECASH (I)
 All equations are estimated in first differences using GMM. Significant coefficients
 (P(t)<10%) are presented in bold

DECASH		Specifications											
	Variable	1	2	3	4	5	6	7	8	9	10	11	12
Const	Const	0,015	0,015	0,015	0,000	0,000	0,000	-2,347	-2,394	-2,389	0,034	0,042	0,041
	P(t)	0,047	0,051	0,055	0,998	0,996	0,995	0,000	0,000	0,000	0,740	0,698	0,724
[A] Inertial	DECASH(-6)	0,544	0,533	0,533	0,425	0,410	0,410	0,531	0,504	0,503	0,414	0,397	0,401
	P(t)	0,008	0,009	0,010	0,063	0,079	0,079	0,016	0,028	0,028	0,068	0,087	0,082
[H] Exchange rate	doll_euro	1,911	1,923	1,921									
	P(t)	0,000	0,000	0,000									
	nub_euro				-0,002	-0,002	-0,002						
	P(t)				0,665	0,616	0,625						
	doll_euro_real						2,365	2,411	2,406				
	P(t)						0,000	0,000	0,000				
	nub_euro_real									-0,034	-0,043	-0,041	
	P(t)									0,738	0,696	0,723	
[C] Real trade	eu25_nrcoil	0,039			-0,003		0,134			-0,005			
	P(t)	0,703			0,967		0,318			0,946			
	eu25_total		0,042			0,005		0,132			0,002		
	P(t)		0,669			0,936		0,317			0,969		
	eu25_nrcis			0,031			0,004		0,103			0,001	
	P(t)			0,698			0,938		0,334			0,967	
[D] Conversion	euomarge	0,127	0,127	0,128	-0,018	-0,019	-0,019	0,162	0,162	0,162	-0,020	-0,021	-0,020
	P(t)	0,047	0,049	0,048	0,619	0,609	0,605	0,044	0,046	0,045	0,597	0,573	0,578
	J-statistic	0,080	0,080	0,080	0,099	0,099	0,099	0,049	0,049	0,051	0,100	0,100	0,100
	P	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
	DW	1,83	1,84	1,85	1,44	1,43	1,43	1,86	1,89	1,90	1,44	1,43	1,43

Table 3.3 Estimation results: ETRANSACT (II)

All equations are estimated in first differences using GMM. Significant coefficients (P(t)<10%) are presented in bold

ETRANSACT		Specifications											
	Variable	1	2	3	4	5	6	7	8	9	10	11	12
Const	Const	0.015	0.016	0.015	0,000	0,000	0,000	-1.949	-1.941	-1.937	-0,107	-0,103	-0,102
	P(t)	0,027	0,020	0,024	0,878	0,985	0,989	0,000	0,000	0,000	0,386	0,393	0,417
[A] Inertial	ETRANSACT(-6)	0.823	0.783	0.782	0.842	0.930	0.931	1.267	1.253	1.233	0.931	0.927	0.928
	P(t)	0,002	0,001	0,002	0,001	0,001	0,001	0,036	0,043	0,045	0,001	0,001	0,001
[B] Exchangerate	doll_euro	1.479	1.508	1.501									
	P(t)	0,000	0,000	0,000									
	rub_euro				0,003	0,004	0,004						
	P(t)				0,614	0,371	0,396						
	doll_euro_real							1.960	1.953	1.949			
	P(t)							0,000	0,000	0,000			
	rub_euro_real									0,107	0,103	0,102	
	P(t)									0,385	0,392	0,415	
[C] Realtrade	eu25_nonoil	0,031			0,008			-0,130			0,004		
	P(t)	0,747			0,850			0,573			0,968		
	eu25_total		0,042			0,014			-0,090			0,011	
	P(t)		0,651			0,841			0,563			0,885	
	eu25_nomis			0,032			0,010			-0,067			0,007
	P(t)			0,669			0,869			0,578			0,914
[D] Conversionmargin	euromarge	0.115	0.111	0.114	0,012	0,021	0,020	0,104	0.117	0.118	0,022	0,024	0,023
	P(t)	0,035	0,040	0,036	0,689	0,454	0,456	0,151	0,080	0,079	0,446	0,392	0,396
	F-statistic	0,095	0,098	0,097	0,114	0,104	0,103	0,037	0,037	0,038	0,102	0,102	0,102
	P	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
	DW	1,70	1,72	1,73	1,56	1,64	1,63	1,78	1,73	1,73	1,39	1,60	1,60

Table 3.4 Estimation results: IMPORT_EUROBILLS(III)

All equations are estimated in first differences using GMM. Significant coefficients (F(t)>10%) are presented in bold

IMPORT_EUROBILLS		Specifications											
	Variable	1	2	3	4	5	6	7	8	9	10	11	12
Const	Const	0,041	0,042	0,044	-0,024	-0,025	-0,027	-7,395	-7,329	-7,233	-6,867	-6,721	-6,504
	F(t)	0,242	0,220	0,201	0,577	0,559	0,535	0,000	0,000	0,000	0,000	0,000	0,000
[A] Inertial	Import_eurobills(-6)	1,317	1,306	1,299	0,847	0,860	0,846	1,043	1,113	1,072	0,816	0,841	0,833
	F(t)	0,015	0,019	0,016	0,095	0,094	0,099	0,042	0,046	0,045	0,074	0,073	0,080
[B] Exchange rate	dell_euro	7,739	7,687	7,633									
	F(t)	0,000	0,000	0,000									
	nb_euro				0,294	0,293	0,290						
	F(t)				0,002	0,002	0,004						
	dell_euro_real							7,484	7,373	7,279			
	F(t)							0,000	0,000	0,000			
	nb_euro_real										6,863	6,718	6,503
	F(t)										0,000	0,000	0,000
[C] Real trade	eu25_real	-0,481			0,525			-1,185			-0,874		
	F(t)	0,493			0,544			0,150			0,313		
	eu25_total		-0,285			0,394			-0,748			-0,998	
	F(t)		0,571			0,677			0,172			0,241	
	eu25_realis			-0,233			0,206			-0,575			-0,965
	F(t)			0,534			0,783			0,149			0,142
	J-statistic	0,079	0,085	0,086	0,026	0,027	0,029	0,044	0,054	0,056	0,062	0,062	0,058
	P	1,000	1,000	1,000	0,987	0,987	0,986	1,000	1,000	1,000	0,989	0,989	0,971
	DW	1,74	1,71	1,71	1,76	1,78	1,77	1,82	1,89	1,70	1,71	1,82	1,80

Table 3.5 Estimation results: EUROGROS (IV)

All equations are estimated in first differences using GMM. Significant coefficients

(P(t) < 10%) are presented in bold

EUROGROS		Specifications											
	Variable	1	2	3	4	5	6	7	8	9	10	11	12
Const	Const	0,001	0,001	0,001	0,001	0,001	0,001	0,014	0,004	0,002	0,001	-0,001	0,000
	P(t)	0,077	0,105	0,095	0,033	0,133	0,118	0,560	0,869	0,927	0,973	0,975	0,995
[A] Inertial	EUROGROS6	1,706	1,598	1,552	1,646	1,554	1,512	1,732	1,607	1,557	1,588	1,467	1,441
	P(t)	0,044	0,048	0,055	0,026	0,050	0,055	0,043	0,049	0,055	0,064	0,068	0,075
[B] Exchange rate	doll_euro	-0,015	-0,006	-0,004									
	P(t)	0,493	0,788	0,853									
	rub_euro				-0,001	0,000	0,000						
	P(t)				0,068	0,820	0,837						
	doll_euro_real							-0,013	-0,003	-0,001			
	P(t)							0,592	0,902	0,960			
	rub_euro_real										0,000	0,001	0,001
	P(t)										0,990	0,940	0,957
[C] Real trade	eu25_nonoil	0,014			0,014			0,014			0,015		
	P(t)	0,089			0,084			0,108			0,135		
	eu25_total		0,014			0,013			0,014			0,014	
	P(t)		0,058			0,078			0,064			0,080	
	eu25_nonois			0,011			0,011			0,011			0,011
	P(t)			0,054			0,067			0,059			0,071
	J-statistic	0,094	0,089	0,089	0,108	0,092	0,092	0,095	0,090	0,090	0,098	0,090	0,090
	P	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
	DW	2,03	2,08	2,09	2,03	2,08	2,08	2,02	2,08	2,09	2,05	2,11	2,12

5. Inertia: Hysteresis, Network Externalities, Routines and Conventions

As we have demonstrated econometrically, transactional and reserve roles of substitution currencies have both an important inertial component. The choice of the currency of substitution is dependent not only on exogenous variables (such as exchange rates or trade volumes) but also on the past experience and on the behaviour of others. The existence of network externalities supposes the necessity of including some aspects of interaction between agents. Another aspect explaining the weakness of the euro as a substitution currency is related to routines and to the adaptation period necessary to build confidence. These aspects need a more detailed understanding particularly because of their impact on the reaction of concerned economic agents to de-dollarisation policies.

The observed dynamics are representative of so called conventional behaviour: repeatedly used solutions when coordination between agents is necessary. The problem of coordination is central when money is concerned: the coordination of economic agents by using one currency for their trade appears to improve the situation of every agent (Aglietta and Orléan, 2002). According to the theoretical approach of conventions, an example of good coordination (in our case, the large use of the dollar as a substitution currency) leads to the recurrence of a behaviour pattern on a routine basis; once started, the knowledge of the reason why this choice was made is unnecessary and could disappear rapidly; what is important is that the adopted convention is a solution that helps install a relatively successful coordination. By referring to the theoretical features of convention described by Batifoulier, De Larquier (2001) and Orléan (1994), we can easily see that the dominant position of US dollar as a main substitution currency in Russia despite the important economic relations with Europe could be qualified as a conventional arrangement.

Table 3.6 Dollar dominance as a convention

Convention's theoretical characteristics	Why is applicable to dollar dominance case
Arbitrariness/conventionality: other coordination is possible	The use of other currencies as a unit of account, means of transaction and store of value is possible in Russia
No explicit sanctions for non-use of dollar could be mentioned while implicit losses could exist	The dollar is as authorized as euro: no official limitations of euro circulation (face to dollar) could be mentioned
No official definition	Rouble is the Russian official currency. Officially no currency is set as the international transaction currency: free market approach is in use.
Repeatedly/automatically used	Once the dollar is installed as the main substitution currency, its use is repeated quite automatically

Conventional choices are not necessarily optimal: suboptimal choices can be continually used. Simulations, realized using evolutionary games approach (De Larquier and Gannon, 2001) formally demonstrate the slow and gradual modification of conventional behaviour inside a society. Evolutionary game theory identifies several factors of convention's inertia.

Conformity preference. One can suppose the existence of an additional payoff from adopting the widespread convention. As in *network externalities* approach, the overall use of one currency (Rouble, Dollar, or Euro) reduces potential transaction costs for each economic agent. In principle, it is relatively less important whether a decision is optimal or not—successful coordination's potential payoffs are greater. As we mentioned above, the degree of implication of the operation in social coordination (supposing interactions between agents) is highly important in defining the impact of this factor to the choice of agents.

Path dependency When a convention appears as the equilibrium outcome of an evolutionary game played in deterministic strategies, the replication learning (the procedure close to the 'learning by doing') implies the 'path dependency' of the obtained equilibrium (clearly depending from initial state). In such conditions the modification of a convention cannot be automatic: it needs some initial shock. Such shock could be introduced as an exogenous modification of gains matrix, but also by the introduction of 'mutation' (some fraction of agents adopts non-conventional strategy). Applied to the problematic of choice of substitution currency, such shock could be produced by important variation of exchange rate, but also by legal measures suggesting the use of the euro for some foreign currencies denominated operations.

Some conventional choices are stable because of their *versatility*. A convention is versatile if, by following it, one can hope at no additional cost, to accommodate oneself to another player, who is following a different convention. Such a convention is best adaptable to possible unforeseen changes in other players' strategies. The 'dollar convention' in Russia seems to be very versatile on account of the widespread use of the dollar around the world and also its high internal liquidity: this fact helps us to understand the use of a dollar as a vehicle currency observed on Russian national currency markets.

Risk dominance. A risk dominant strategy is the best choice in the case of the worst outcome of a non-cooperative game, i.e., in the case of the least favourable behaviour of others (Harsanyi and Selten, 1988). This factor is closely related to expectations and so to the store of value role of foreign currencies. Young (1993), Kandori et al. (1993) have demonstrated that in a game with two possible Nash equilibriums, one of which being Pareto optimal and the other being risk dominant, all players will gradually come to choose the second.

The risk dominance approach is related to *hysteresis*: agents continue to choose strategies that have offered them best results in 'worst cases' they knew in the

past. In the past dollar was good solution for the majority of economic agents (while the euro did not exist) during banking and currency crises (1994, 1995, and 1998). In this perspective the preference for the dollar (and particularly as saving instrument) could represent a risk dominant strategy for risk/uncertainty adverse agents. It is important to notice that past experience matters as instrument to define the 'worst scenario'. In this sense, the banking crisis of the summer 2004 has been probably a good opportunity to test the robustness of the euro, thus reducing the importance of the hysteresis factor for the choice of the substitution currency in Russia.

In the situations where individuals do not have a priori the complete information about past and future strategies, conventional practices play a normative role. When it is impossible to obtain complete information about future strategy of each agent in a society²⁰, repeated practices (conventions) becomes an example to follow. By analyzing the demand of foreign currency of Russian households, we can suppose that the overall use of the dollar incites uninformed agents to use it and thus reinforces the dollar dominance (we are here in presence of so called auto-referential behaviour as in Orléan, 1999).

The approach in terms of the theory of conventions helps us to understand the nature of the choice of the currency of substitution and the dominance of dollar in this role in Russia actually. As we demonstrated in our econometric study, this choice is not exclusively related to exogenous variables dynamics (as trade relations and exchange rate variations) but is also related to an important inertial component. The conventions approach suggests the importance of including other factors, especially the past experience, the degree of the implication of each particular form of currency holdings in a collective interactions game and the degree of risk/uncertainty aversion of involved economic agents in the analysis of this inertia. This approach seems to be relevant not only for specific analysis of the choice between the euro and the dollar, but also for the analysis of the dollarisation phenomenon in general.

6. Concluding Remarks

Our analysis of features of choice between substitution currencies in Russia leads to the following conclusions.

- (1) The gap between the geographical structure of the real trade and the choice of substitution currency in Russia is significant: while European area dominates real sphere, the dollar still the main currency used in financial sphere.

²⁰ Because of limited rationality of agents (Simon, 1982) but also of uncertainty (Keynes, 1937) which characterizes Russian transition period (Khartchenko-Dorbec, 2004)

- (2) Households and enterprises do not behave in the same manner: while exchange rate dynamic is highly important for households' decisions, its influence on banks/enterprises decisions is quite insignificant. The observed euro appreciation, while favourable for the diversification of currency portfolios of households, keeps unchanged the choice of enterprises²¹. On the other hand, the role of the increasing volume of real trade between Europe and Russia seems not to be a sufficient factor to reduce the dollar dominance.
- (3) The importance of the inertial component in the choice of substitution currency is confirmed in Russian case. The interpretation of this result from the point of view of conventions theory (which provides a general framework including network externalities and hysteresis approaches) supports the necessity of a disaggregated analysis to the dollarisation issues. The implication of each operation in collective game, the degree of risk aversion and the past experience seems to be necessary to be taken into account. This fact implies a weak short term efficiency of economic policies in this field: a long/medium term approach is necessary.

In the future this scheme could be applied to the dollarisation as a whole in Russia first and to other countries, which are also concerned with the dollarisation problem.

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²¹ Accordingly, the appreciation of the Rouble could be favourable to the conversion of households' savings in national currency. However, the Rouble appreciation, while it seems to be positive for its reserve role, has negative consequences in terms of national industry's competitiveness, so the overall impact of this policy should be estimated with accuracy. This estimation is an interesting research project being however beyond the objectives of this chapter.

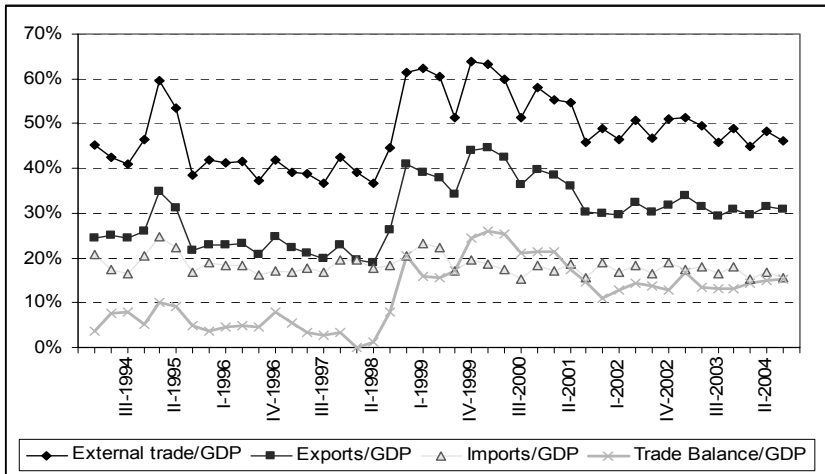
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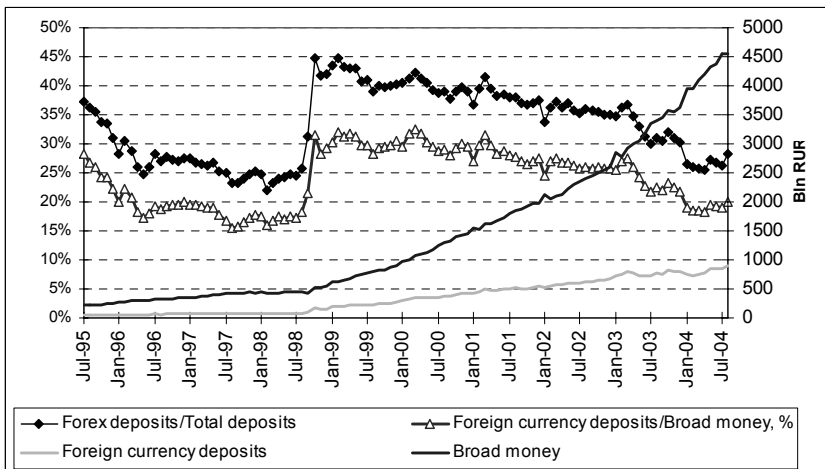
Annex I. Dollarisation in a large sense in Russia

Figure 3.4 Foreign trade in Russia 1994-2004



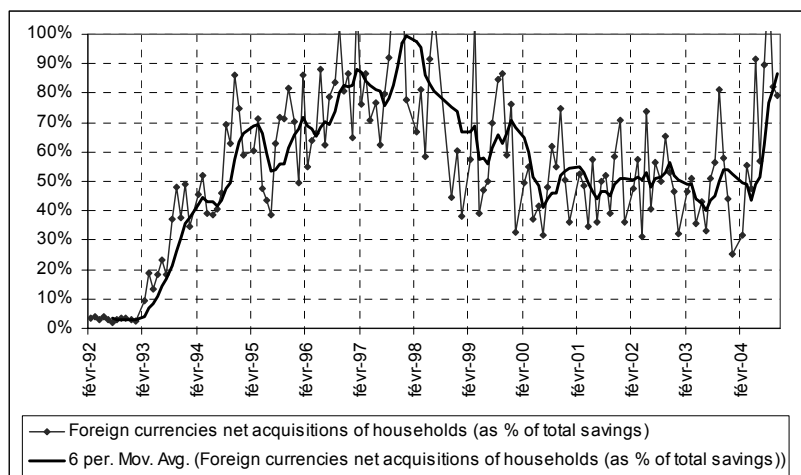
Source: CBR, Russian Federal Statistical Service

Figure 3.5 Dollarisation in a large sense in Russia 1995-2004



Source: CBR

From Figure 3.5 we can see that starting from 2001 the share of assets denominated in foreign currencies is declining (while Figure 3.4 shows an increase in foreign trade/GDP ratio), which clearly establishes an important financial component in the dollarisation phenomenon in Russia.

Figure 3.6 Dollarisation of households' savings 1992-2004

Source: CBR

The analysis of financial aspects in the dollarisation phenomena in Russia should take into account the important use of foreign currencies cash as an instrument of savings. We can clearly see from Figure 3.6 that this form of savings plays a highly important role (and still proves to be the first means of savings for households). We can observe two important peaks of dollar acquisitions related to the periods of high instability in the banking sector.

Annex II.

Table 3.7 Variables construction

Name	Status	Construction	Source
DECASH	endogenous	Euros exchanged by households in banks' exchange offices during the month [recalculated in Dollars using average exchange rate]/all currencies exchanged in banks' exchange offices during the month [recalculated in Dollars using average exchange rate]	CBR
ETRANSACT	endogenous	Number of euro-to-rouble conversion operations in banks' exchange offices during the period/total number of cash currency exchange operations of banks' exchange offices during the month	CBR
IMPORT_EUROBILLS	endogenous	Bills in euro imported by all Russian banks during the month [recalculated in Dollars using average exchange rate]/total amount of foreign bills imported by all Russian banks during the month [recalculated in Dollars using average exchange rate]	CBR
EUROGROS	endogenous	Total amount of euros exchanged on all official Russian currency exchanges [non cash exchange operations, recalculated in Dollars using average exchange rate]/total amount of currencies traded on Russian currency exchanges during the month [recalculated in Dollars using average exchange rate]	CBR
rub_euro	exogenous	Nominal euro to rouble exchange rate (for 1 euro)	CBR
doll_euro	exogenous	Nominal euro to dollar exchange rate (for 1 euro)	CBR
rub_euro_real	exogenous	$e_r = \frac{e^{euro/RUB} * P^{RUS}}{P^{euro}}$	
		Real rouble to dollar exchange rate	
doll_euro_real	exogenous	$e_r = \frac{e^{euro/USD} * P^{USD}}{P^{euro}}$	
		Real euro to dollar exchange rate	

Table 3.7 **Continued**

Name	Status	Construction	Source
eu25_nonoil	exogenous	exports of all goods less oil + imports of Russia to 25 European countries /total exports+imports of Russia	CBR and Eurostat
eu25_total	exogenous	exports + imports of Russia to 25 European countries /total exports + imports of Russia	CBR and Eurostat
eu25_noncis	exogenous	exports + imports of Russia to 25 European countries/total exports+imports of Russia outside CIS	CBR and Eurostat
euomarge	exogenous	average spread on operations with euro in banks' exchange offices inside Russia /average spread on operations with dollars in banks' exchange offices inside Russia	CBR
DUMMY_EUROCASH	dummy	1 for all periods after Jan-2002	
DUMMY_CRISE	dummy	1 for the periods from June-2004 (beginning of the bank crisis) to October-2004 (end of the crisis)	
ipc_ru	instrumental	Consumer price index in Russia	CBR
ipc_euro	instrumental	Consumer price index in euro	European Central
ipc_US	instrumental	Consumer price index in US	Fed
id_rub	instrumental	Average deposit rate in Russian	CBR
ic_rub	instrumental	Average credit rate in Russian	CBR
id_euro	instrumental	Deposit facility ECB rate	European Central
irefi_euro	instrumental	Main refinancing operations	European Central
ifed_doll	instrumental	US Federal Reserve discount rate	FED
rub_doll	instrumental	Nominal dollar to rouble	CBR
eu25_oil	instrumental	Oil exports from Russia to the	CBR and Eurostat
fuite	instrumental	Capital flight from Russia	CBR

6. $ETRANSACT = \text{const} + \alpha_1 ETRANSACT(-6) + \alpha_2 \text{rub_euro} + \alpha_3 \text{eu25_noncis} + \alpha_4 \text{euomarge} + \alpha_5 \text{dummy_crise} + \alpha_6 \text{dummy_eurocash} + \varepsilon_t$
7. $ETRANSACT = \text{const} + \alpha_1 ETRANSACT(-6) + \alpha_2 \text{doll_euro_real} + \alpha_3 \text{eu25_nonoil} + \alpha_4 \text{euomarge} + \alpha_5 \text{dummy_crise} + \alpha_6 \text{dummy_eurocash} + \varepsilon_t$
8. $ETRANSACT = \text{const} + \alpha_1 ETRANSACT(-6) + \alpha_2 \text{doll_euro_real} + \alpha_3 \text{eu25_total} + \alpha_4 \text{euomarge} + \alpha_5 \text{dummy_crise} + \alpha_6 \text{dummy_eurocash} + \varepsilon_t$
9. $ETRANSACT = \text{const} + \alpha_1 ETRANSACT(-6) + \alpha_2 \text{doll_euro_real} + \alpha_3 \text{eu25_noncis} + \alpha_4 \text{euomarge} + \alpha_5 \text{dummy_crise} + \alpha_6 \text{dummy_eurocash} + \varepsilon_t$
10. $ETRANSACT = \text{const} + \alpha_1 ETRANSACT(-6) + \alpha_2 \text{rub_euro_real} + \alpha_3 \text{eu25_nonoil} + \alpha_4 \text{euomarge} + \alpha_5 \text{dummy_crise} + \alpha_6 \text{dummy_eurocash} + \varepsilon_t$
11. $ETRANSACT = \text{const} + \alpha_1 ETRANSACT(-6) + \alpha_2 \text{rub_euro_real} + \alpha_3 \text{eu25_total} + \alpha_4 \text{euomarge} + \alpha_5 \text{dummy_crise} + \alpha_6 \text{dummy_eurocash} + \varepsilon_t$
12. $ETRANSACT = \text{const} + \alpha_1 ETRANSACT(-6) + \alpha_2 \text{rub_euro_real} + \alpha_3 \text{eu25_noncis} + \alpha_4 \text{euomarge} + \alpha_5 \text{dummy_crise} + \alpha_6 \text{dummy_eurocash} + \varepsilon_t$

Estimated models: IMPORT EUROBILLS (III)

1. $IMPORT_EUROBILLS = \text{const} + \alpha_1 IMPORT_EUROBILLS(-6) + \alpha_2 \text{doll_euro} + \alpha_3 \text{eu25_nonoil} + \alpha_4 \text{dummy_crise} + \alpha_5 \text{dummy_eurocash} + \varepsilon_t$
2. $IMPORT_EUROBILLS = \text{const} + \alpha_1 IMPORT_EUROBILLS(-6) + \alpha_2 \text{doll_euro} + \alpha_3 \text{eu25_total} + \alpha_4 \text{dummy_crise} + \alpha_5 \text{dummy_eurocash} + \varepsilon_t$
3. $IMPORT_EUROBILLS = \text{const} + \alpha_1 IMPORT_EUROBILLS(-6) + \alpha_2 \text{doll_euro} + \alpha_3 \text{eu25_noncis} + \alpha_4 \text{dummy_crise} + \alpha_5 \text{dummy_eurocash} + \varepsilon_t$
4. $IMPORT_EUROBILLS = \text{const} + \alpha_1 IMPORT_EUROBILLS(-6) + \alpha_2 \text{rub_euro} + \alpha_3 \text{eu25_nonoil} + \alpha_4 \text{dummy_crise} + \alpha_5 \text{dummy_eurocash} + \varepsilon_t$
5. $IMPORT_EUROBILLS = \text{const} + \alpha_1 IMPORT_EUROBILLS(-6) + \alpha_2 \text{rub_euro} + \alpha_3 \text{eu25_total} + \alpha_4 \text{dummy_crise} + \alpha_5 \text{dummy_eurocash} + \varepsilon_t$
6. $IMPORT_EUROBILLS = \text{const} + \alpha_1 IMPORT_EUROBILLS(-6) + \alpha_2 \text{rub_euro} + \alpha_3 \text{eu25_noncis} + \alpha_4 \text{dummy_crise} + \alpha_5 \text{dummy_eurocash} + \varepsilon_t$
7. $IMPORT_EUROBILLS = \text{const} + \alpha_1 IMPORT_EUROBILLS(-6) + \alpha_2 \text{doll_euro_real} + \alpha_3 \text{eu25_nonoil} + \alpha_4 \text{dummy_crise} + \alpha_5 \text{dummy_eurocash} + \varepsilon_t$
8. $IMPORT_EUROBILLS = \text{const} + \alpha_1 IMPORT_EUROBILLS(-6) + \alpha_2 \text{doll_euro_real} + \alpha_3 \text{eu25_total} + \alpha_4 \text{dummy_crise} + \alpha_5 \text{dummy_eurocash} + \varepsilon_t$
9. $IMPORT_EUROBILLS = \text{const} + \alpha_1 IMPORT_EUROBILLS(-6) + \alpha_2 \text{doll_euro_real} + \alpha_3 \text{eu25_noncis} + \alpha_4 \text{dummy_crise} + \alpha_5 \text{dummy_eurocash} + \varepsilon_t$
10. $IMPORT_EUROBILLS = \text{const} + \alpha_1 IMPORT_EUROBILLS(-6) + \alpha_2 \text{rub_euro_real} + \alpha_3 \text{eu25_nonoil} + \alpha_4 \text{dummy_crise} + \alpha_5 \text{dummy_eurocash} + \varepsilon_t$
11. $IMPORT_EUROBILLS = \text{const} + \alpha_1 IMPORT_EUROBILLS(-6) + \alpha_2 \text{rub_euro_real} + \alpha_3 \text{eu25_total} + \alpha_4 \text{dummy_crise} + \alpha_5 \text{dummy_eurocash} + \varepsilon_t$
12. $IMPORT_EUROBILLS = \text{const} + \alpha_1 IMPORT_EUROBILLS(-6) + \alpha_2 \text{rub_euro_real} + \alpha_3 \text{eu25_noncis} + \alpha_4 \text{dummy_crise} + \alpha_5 \text{dummy_eurocash} + \varepsilon_t$

Estimated models: EUROGROS (IV)

1. $\text{EUROGROS} = \text{const} + \alpha_1 \text{EUROGROS6} + \alpha_2 \text{doll_euro} + \alpha_3 \text{eu25_nonoil} + \alpha_4 \text{dummy_crise} + \alpha_5 \text{dummy_eurocash} + \varepsilon_t$
2. $\text{EUROGROS} = \text{const} + \alpha_1 \text{EUROGROS6} + \alpha_2 \text{doll_euro} + \alpha_3 \text{eu25_total} + \alpha_4 \text{dummy_crise} + \alpha_5 \text{dummy_eurocash} + \varepsilon_t$
3. $\text{EUROGROS} = \text{const} + \alpha_1 \text{EUROGROS6} + \alpha_2 \text{doll_euro} + \alpha_3 \text{eu25_noncis} + \alpha_4 \text{dummy_crise} + \alpha_5 \text{dummy_eurocash} + \varepsilon_t$
4. $\text{EUROGROS} = \text{const} + \alpha_1 \text{EUROGROS6} + \alpha_2 \text{rub_euro} + \alpha_3 \text{eu25_nonoil} + \alpha_4 \text{dummy_crise} + \alpha_5 \text{dummy_eurocash} + \varepsilon_t$
5. $\text{EUROGROS} = \text{const} + \alpha_1 \text{EUROGROS6} + \alpha_2 \text{rub_euro} + \alpha_3 \text{eu25_total} + \alpha_4 \text{dummy_crise} + \alpha_5 \text{dummy_eurocash} + \varepsilon_t$
6. $\text{EUROGROS} = \text{const} + \alpha_1 \text{EUROGROS6} + \alpha_2 \text{rub_euro} + \alpha_3 \text{eu25_noncis} + \alpha_4 \text{dummy_crise} + \alpha_5 \text{dummy_eurocash} + \varepsilon_t$
7. $\text{EUROGROS} = \text{const} + \alpha_1 \text{EUROGROS6} + \alpha_2 \text{doll_euro_real} + \alpha_3 \text{eu25_nonoil} + \alpha_4 \text{dummy_crise} + \alpha_5 \text{dummy_eurocash} + \varepsilon_t$
8. $\text{EUROGROS} = \text{const} + \alpha_1 \text{EUROGROS6} + \alpha_2 \text{doll_euro_real} + \alpha_3 \text{eu25_total} + \alpha_4 \text{dummy_crise} + \alpha_5 \text{dummy_eurocash} + \varepsilon_t$
9. $\text{EUROGROS} = \text{const} + \alpha_1 \text{EUROGROS6} + \alpha_2 \text{doll_euro_real} + \alpha_3 \text{eu25_noncis} + \alpha_4 \text{dummy_crise} + \alpha_5 \text{dummy_eurocash} + \varepsilon_t$
10. $\text{EUROGROS} = \text{const} + \alpha_1 \text{EUROGROS6} + \alpha_2 \text{rub_euro_real} + \alpha_3 \text{eu25_nonoil} + \alpha_4 \text{dummy_crise} + \alpha_5 \text{dummy_eurocash} + \varepsilon_t$
11. $\text{EUROGROS} = \text{const} + \alpha_1 \text{EUROGROS6} + \alpha_2 \text{rub_euro_real} + \alpha_3 \text{eu25_total} + \alpha_4 \text{dummy_crise} + \alpha_5 \text{dummy_eurocash} + \varepsilon_t$
12. $\text{EUROGROS} = \text{const} + \alpha_1 \text{EUROGROS6} + \alpha_2 \text{rub_euro_real} + \alpha_3 \text{eu25_noncis} + \alpha_4 \text{dummy_crise} + \alpha_5 \text{dummy_eurocash} + \varepsilon_t$

Chapter 4

Monetary Policy in Russia

Brigitte Granville and Sushanta Mallick

1. Introduction

The Russian economy has known dramatic economic events since the dismantlement of the Soviet Union. Those events have led to periods of very high and volatile inflation rates followed by successive stabilizations. For such an economic environment, the question as to what determined the central bank's stabilisation policy becomes important.

The central bank of a matured economy can be expected to use interest rates to regulate the inflation rate. In early Russia, the absence of an effective monetary policy framework was due not only to the challenge of establishing new institutions and regulations, but especially to the difficulty of overcoming the legacy of central planning where budget and credit financing were indistinguishable.²² The role of the Central Bank of Russia (CBR) was not well defined. During certain periods, the CBR acted as the banker of the government providing liquidity without consideration for the financial markets. During other periods, its action focussed on the financial markets to provide a restrictive monetary policy or to provide funds to a weak financial industry. In any of these cases one can expect a disconnection between inflation and interest rates.

Post-Communist Russia's monetary policy has passed through two monetary regimes: a money based programme was used from July 1992 to June 1995 and from September 1998 to the present (February 2005)²³; an exchange rate based stabilisation programme was used in the period from July 1995 to August 1998. Behind these variations in the policy regime lies a continuum in the tension between price and exchange rate stability. A constant factor can be discerned underlying this tension. This factor is the authorities' use of macroeconomic policy as a direct instrument of social welfare provision. In the period through to the August 1998 crisis, this phenomenon took the form of a lack of fiscal adjustment, in turn generating heavy budget deficit financing requirements. The subsequent period has seen sustained budget surpluses (since 2000) due to fiscal

²² See Granville (2003).

²³ Since February 1, 2005, the CBR is using a basket consisting of Euro and US Dollar, initially set at, respectively, 0.1 Euro and 0.9 US Dollar, but the Euro share on the basket has been progressively increased.

discipline rather than to the strength of the oil price.²⁴ High world oil prices have widened the balance of payments surplus. The monetary authorities have been pulled between the goal of reducing inflation and the goal of restraining the real exchange rate appreciation resulting from the balance of payments surplus in order to shelter domestic employment from import competition. The CBR seems to have preferred slowing the real exchange rate appreciation rather than the inflation rate, as a result inflation proxied by the consumer price index changes has stayed quite high, reaching 11.7 percent in 2004 compared with 12 percent in 2003, exceeding a government target of 8 percent to 10 percent.

To remedy the conflict taking place between price stability and currency appreciation, this paper recommends a move to inflation targeting that may give more control over price stability to the central bank while reducing its interventions in the foreign exchange market.²⁵ Other economies in transition such as the Czech Republic, Poland and Hungary have adopted inflation targeting for reasons of joining the EMU.²⁶ Our contribution here is to analyze the dynamics of Russian monetary policy suggesting that adopting inflation targeting could help the CBR to reduce the tension between the exchange rate and the monetary policy.

The chapter is organised as follows: In Section 2 we present the state of the monetary and exchange rate policies in Russia, with a model, deriving an optimal interest rate rule in section 3. The data, and the empirical results are presented in Section 4. The search for a possible relation between interest rate, inflation rate, exchange rate and real money growth is expected to indicate what type of policy has been followed by the central bank. Some interesting dynamics are established through impulse responses and variance decompositions within a VAR model. Section 5 concludes the chapter.

2. Monetary and Exchange Rate Policies in Russia

Post Soviet Russia started with the legacy of a high ratio of debt service to fiscal revenues. Monetary independence was achieved in July 1993, following the abandonment of the rouble zone²⁷. 1992 to mid-1995 saw large budget deficits being initially financed by money creation leading to high and volatile inflation rates. Studies on the 1990s high inflation include Buch (1998), Korhonen (1998) and Nikolic (2000). The average real interest rate was negative. Investors faced a choice between holding their liquidity in cash and bearing the full burden of inflation, or investing it in foreign exchange or short-term treasury bills. The

²⁴ See OECD (2004), p.7.

²⁵ See Bernanke, Laubach, Mishkin et al. (1999) for a review on the pros and cons of inflation targeting.

²⁶ Orłowski (2000), Jonas and Mishkin (2003).

²⁷ See Granville (2002).

domestic bond market was introduced in May 1993, with foreign borrowing being unavailable due to the 1991 debt default. Cotarelli and Doyle (1999) illustrate how the financing of budget deficit – whether by seignorage or by domestic debt issuance– constrained monetary policy. Granville (2001) examined monetary policy both historically and analytically by focussing on the balance sheet of the central bank and showed that after mid-1993, credit to government (that is, explicit monetary financing of the budget deficit) became the main source of domestic asset growth and the main cause of high inflation.

From about June 1995 to the financial crisis of August 1998, the switch to an exchange rate stabilisation programme and to bond-financing marked the beginning of relatively low average monthly inflation compared to the previous sub-period (1.85 percent compared with 13.18 percent). But financing the budget deficit through bond rather than money creation meant that public debt grew rapidly given the negative or low rates of real GDP growth. During 1995-98, the real interest rate was positive. In 1995, t-bill issues financed over half of the federal deficit, and by the end of 1996 the t-bill market accounted for almost half of total Russian domestic public debt. T-bill yields were very high and volatile reaching monthly rates of 12 percent before the first round of the presidential election in April 1996 and decreased to below 3 percent at the end of 1996. Throughout 1996, the government's need to refinance its debt and the decline in tax collection meant that to reduce t-bills yields over the medium term meant attracting foreigners into the t-bill market. As a result the central bank partially liberalized the t-bill market in August 1996. Towards the end of 1997, when Asian banks suffered losses on lending at home, they sold their holdings of Russian high-yielding bonds to improve their liquidity positions, putting pressure on the rouble and on the bond market. The central bank sought to defend the rouble by raising the refinance rate and allow interest rates to move to whatever level was necessary for the exchange rate to be maintained within the band. The refinance rate acted as an effective cap on the t-bill yield and so signalled the level at which the central bank would support the price. The refinance rate was raised first in mid-November 1997 from 21 percent to 28 percent. In February 1998, it was increased to 42 percent and in May 1998 to 150 percent. Such high interest rates, however, were fiscally unsustainable and on August 17, 1998 the Russian authorities announced the domestic debt default and devaluation of the domestic currency (followed shortly by the abandonment of the exchange rate target band).²⁸ Desai (2000) analyses the factors that led to the 1998 crash and argues that it resulted from exogenous factors such as the decline in oil and nonferrous metal prices interacting with fiscal policy weaknesses. Komulainen and Pirtilla (2000), by examining an unstructural vector-autoregressive model of prices, exchange rate, money and fiscal balance find that fiscal balance does not cause movements in the price series using the Granger test. The authors showed a large

²⁸ Granville (2001), Kharas, Pinto and Ulatov (2001).

effect from exchange rate to prices possibly explained by the role of the exchange rate in inflation expectations. Basdevant and Hall (2002) within a simulation exercise show that exchange rate expectations played a key role in the origin of the August 1998 financial crisis.

Following the August 1998 events, the 12 month inflation was 84 percent in December 1998, real interest rates were negative, monetary financing of the budget deficit resumed as both domestic and foreign borrowing were unavailable. Another source of money supply growth was the partial bail-out of the domestic banking system following its bankruptcies after devaluation. But “surprising everyone, the crisis became a positive turning point”²⁹. From the beginning of 1999 the fiscal situation started to improve due to a radical change in macroeconomic policy. Inflation was once again determined by exchange rate policy rather than fiscal policy – although the policy environment was now radically different, as the authorities ran budget surpluses (which, for the enlarged government, averaged 2% of GDP annually in the years 2000-2003). As a result, budget surpluses were able to blunt the inflationary impact of exchange rate targeting by sterilizing some of the money created to restrain the real effective appreciation of the rouble exchange rate. This restraint produced continued nominal depreciation of the rouble – despite large external surpluses – until as late as the last quarter of 2003. The immediate impact of devaluation is inflation, as many intermediate and final goods are imported.

In the post-1998 period, the dilemma Russia has faced is high global oil prices improving fiscal balance, but generating serious problems for monetary and exchange rate policies. This in turn compels the central bank to buy excess foreign exchange from the market, thereby expanding the money supply and generating inflation. On the contrary, if the CBR decided not to intervene in the foreign exchange market, this would have resulted in nominal appreciation of the rouble. In short, on the one hand, there is high inflation, and on the other hand there is high currency appreciation. Thus there is a tension between the policy objectives of stabilising the exchange rate or inflation. To resolve this tension, the policy challenge therefore is to design an optimal monetary policy, as a flexible targeting rule gives weights to both policy objectives.

3. A Model for the CBR’s Monetary Policy Reaction Function

The monetary authority – Central Bank of Russia – does not communicate a policy on inflation to private economic agents. Therefore we first look at how the agents set their expectations about inflation. As we consider price formation in the context of an open economy, the exchange rate will affect the money market equilibrium along with the preference of the authorities. With a flexible exchange

²⁹ Pinto, Gurvich and Ulatov (2004).

rate regime, currency fluctuations will influence the conduct of monetary policy. Thus the level of real output (y), expected inflation (π^e), interest rate (i) and exchange rate (e) can therefore determine the real money balances ($M/P=m$). The money market equilibrium to represent the demand side can be shown via an open economy LM function as follows:

$$m_t = \theta y_t - \beta(i - \pi^e)_t - \delta e_t \quad (1)$$

where the coefficients are all positive.

In this model, the depreciation of the exchange rate reflects the fact that domestic residents may also hold foreign currency for transactions or precautionary purposes in the presence of domestic inflation (Papazoglou and Pentecost, 2004). This means domestic currency depreciation may lead to a decline in real money balances encouraging currency substitution. The situation where real money balances are influenced by expected inflation is partly in line with a Cagan style relation under conditions of hyper inflation (see for example Taylor, 1991, Frenkel and Taylor, 1993) which also include currency depreciation in the estimation of the money demand function for high inflation countries). Choudhry (1998) also found that the rate of change of the exchange rate needs to be included in the demand function for real M2 to obtain a stationary long-run relationship.

If uncovered interest rate parity (UIP) holds reflecting the assumption of perfect capital mobility, then it suggests a link between i and e equating the expected return on domestic and foreign assets:

$$e_t = e_{t+1} + (i_t^* - i_t) \quad (2)$$

where i^* represents foreign interest rate.

The aggregate supply equation can be formulated following a traditional open-economy Phillips curve as follows:

$$\pi_t = \pi_t^e + \lambda y_t + \phi e_t \quad (3)$$

where the coefficients λ and ϕ are greater than zero.

Given the use of the US dollar in many transactions, any change in the exchange rate has a direct effect on prices. Here it is assumed that the policy-maker aims to minimize deviations from specified targets for inflation and exchange rate, formally represented by the loss function (L)³⁰.

³⁰ For a commonly used loss function with inflation and output to explain the central bank behaviour, see Barro and Gordon (1983), Clarida, Gali and Gertler (1999).

$$L = \omega(\pi - \pi^*)^2 + \mu(e - e^*)^2 \quad (4)$$

with $\omega > 0$ and $\mu > 0$.

As we have considered the exchange rate as one of the variables in the loss function, the specification is most appropriate in the context of Russia. We assume that the central bank minimizes its loss with inflation and exchange rate deviations from their targets and determines the interest rate. The interest rate is reduced to discourage currency appreciation, but it creates inflation, via monetary expansion, hence establishing a trade-off between the exchange rate and inflation. As the exchange rate stabilisation is one of the objectives of the central bank, then the exchange rate can be included as a determining factor in the central bank's reaction function, as suggested by Taylor (2001). This calls for a flexible targeting rule, which assigns weights to both the policy targets. The targeted exchange rate can be implicitly assumed to be in line with potential output level.

Rewriting equation (1) for y and substituting it in equation (3), we get:

$$\pi_t = \pi_t^e + \frac{\lambda}{\theta} m_t + \beta\lambda(i - \pi^e)_t + (\delta\lambda + \phi)e_t \quad (5)$$

Substituting (5) and (2) in (4), we minimize the loss function with respect to exchange rate, because the central bank tries to monitor the exchange rate to keep it stable. The following expression can therefore be obtained from the first order condition with respect to the exchange rate:

$$\frac{\partial L}{\partial e} = 2\omega\left(\pi^e + \frac{\lambda}{\theta} m + \beta\lambda(i - \pi^e) + (\delta\lambda + \phi)e - \pi^*\right)(\delta\lambda + \phi) + 2\mu(e_{t+1} + i^* - i - e^*) = 0$$

Assuming that the monetary authority maintains exchange rate stability, we can solve the above expression for the corresponding interest rate policy. The authorities' targeted inflation (π^*) can be normalized to be zero, as there is no inflation targeting in Russia, and actual inflation might be in line with the expected inflation (π^e) of private agents. We assume that $\pi^e = \pi$, and for simplicity $e_{t+1} = e_t$. Thus the monetary policy reaction function or the interest rate rule can be derived from the above expression as follows:

$$i_t = \frac{\mu^*}{\mu - \omega\beta\lambda\delta\lambda + \phi} + \frac{\alpha(\delta\lambda + \phi)(1 - \beta\lambda)}{\mu - \omega\beta\lambda\delta\lambda + \phi} \pi_t + \frac{\alpha(\delta\lambda + \phi)^2}{\mu - \omega\beta\lambda\delta\lambda + \phi} e_t + \frac{\lambda\alpha(\delta\lambda + \phi)}{\mu - \omega\beta\lambda\delta\lambda + \phi} m_t \quad (6)$$

Equation (6) can be rewritten as $i_t = \alpha_1 + \alpha_2 \pi_t + \alpha_3 e_t + \alpha_4 m_t$, where

$$\alpha_1 = \frac{\mu^*}{\mu - \omega\beta\lambda\delta\lambda + \phi}, \alpha_2 = \frac{\alpha(\delta\lambda + \phi)(1 - \beta\lambda)}{\mu - \omega\beta\lambda\delta\lambda + \phi}, \alpha_3 = \frac{\alpha(\delta\lambda + \phi)^2}{\mu - \omega\beta\lambda\delta\lambda + \phi}, \alpha_4 = \frac{\lambda\alpha(\delta\lambda + \phi)}{\mu - \omega\beta\lambda\delta\lambda + \phi}$$

This reduced form optimal reaction function suggests first that as inflation increases the interest rate increases, supporting a theoretical Fisher relation, and secondly that the interest rate increases in line with real money, and as the exchange rate is defined as the domestic currency price of a foreign currency, any depreciation in the exchange rate will be reflected in a rise in the interest rate.

The model needs to be tested as regards the question of whether the interest rate has reacted more to exchange rate changes or inflation. If it is the former, then it can be proved that the current monetary policy stance of the central bank is not primarily designed for price stability. For the model to be consistent with the closed economy Taylor rule, the coefficient of inflation should be larger than one. In the central bank's loss function, if $\mu > 0$, such preferences are defined as a policy of "flexible inflation targeting", if $\mu = 0$, it can describe a case of "strict inflation targeting" or an "inflation nutter" (Svensson, 1999).

4. Data and Empirical Results

Any attempt to model the Russian economy is constrained by the reality of a low-quality and limited data set (see, for example, Basdevant, 2000, who modelled the real side of the economy). Our focus in this paper is on the monetary side of the economy. Given the data limitations, we do not intend to look at the interaction between the real and monetary sectors. We use data at a monthly frequency between February 1992 and January 2005 (we start in February 1992 to avoid the huge price jump of over 240% due to the monetary overhang following price liberalisation). Monthly observations on the seasonally unadjusted consumer price index, CPI (a Laspeyres index), were collected as reported by the Russian State Statistics Committee, or Goskomstat.³¹ The data were deseasonalised using the US Census Bureau's X12 seasonal adjustment programme. The seasonally adjusted price data, CPI, were transformed into monthly inflation rates π_t in percentage terms using

$$\pi_t = \log\left(\frac{CPI_t}{CPI_{t-1}}\right) \times 100.$$

The nominal monthly exchange rate (end of the month), $erate_{end}$, is reported by the Central Bank. The end of the month exchange rate is transformed into monthly exchange rate changes e_t in percentage terms using

³¹ Goskomstat is the state agency gathering and publishing data for Russia. Goskomstat stopped publishing weekly inflation rates in January 1997, fear of hyperinflation after the August 1998 financial crisis saw the weekly figures publish for a while and since then only monthly rates are publicly available.

$$e_t = \log\left(\frac{\text{erateend}}{\text{erateend}_{t-1}}\right) \times 100.$$

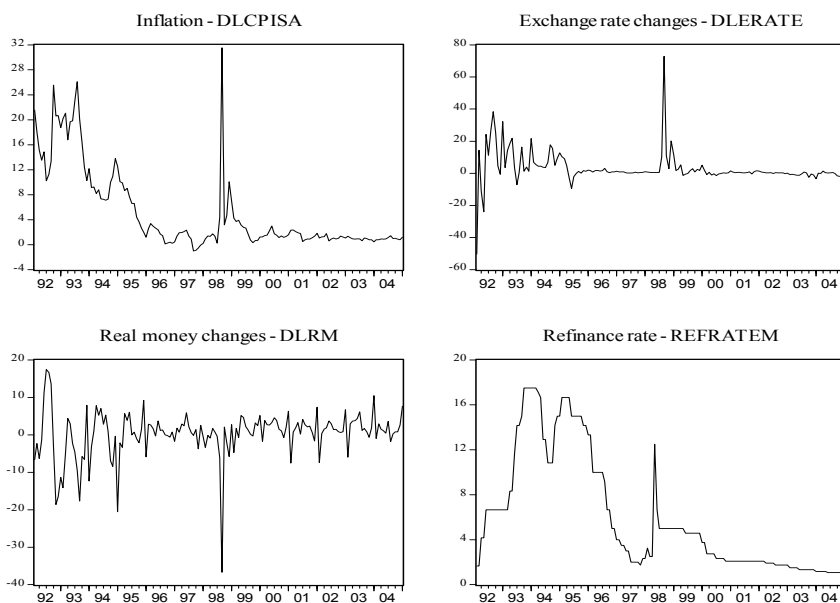
We use the refinancing rate (i.e. the discount rate) (*refratem*) as the official interest rate, which the central bank changes to respond to the changes in macroeconomic variables and we call it i_t . The M2 aggregate is the volume of cash in circulation (outside the banks) and balances in national currency in the settlement in current accounts and deposits of resident non-financial enterprises, organisations and individuals. It does not include foreign currency deposits.³² Since January 1, 1998, money supply does not include data on credit institutions which have had their licence recalled. To make it possible to analyse and compare the money supply data with previously published ones, the dynamic series of these indicators are calculated without the data of credit institutions which revoked licence and according to the former methodology over a maximum possible period of availability of such information. Both M2 and the refinance rate are reported by the CBR web site. In order to obtain real money balances (*rm*) changes the M2 data have been transformed in percentage, using

$$\text{rm} = \log\left(\frac{(\text{M2/CPI})_t}{(\text{M2/CPI})_{t-1}}\right) \times 100.$$

Figure 4.1 plots the monthly inflation, the refinance rate, the rate of nominal exchange rate depreciation at the end of the month and real balances changes. The data seem to reveal significant changes of the dynamics over time. The monthly rate of inflation in the Russian CPI since January 1992, marking price liberalisation. During 1992-98, the average monthly inflation rate reached 41 percent in 1992 (due to the price jump over 200 percent in January 1992 following the price liberalization, 18 percent without the January observation), 21 percent in 1993, 10 percent in 1994, 7 percent in 1995. 1996 marked the first average monthly inflation rate below 2 percent with 1.7 percent, followed in 1997 with a rate of 0.9 percent and 0.6 percent from January to July 1998.

³² See Kwon et al. (2004) for a discussion on money demand in Russia and how the inclusion of the foreign cash holdings in the definition of money improves the stability of the money demand function.

Figure 4.1 Inflation, refinance rate, nominal exchange rate and real balances changes in percent, 02/92 to 01/05.



We notice that for the period between February 1992 and April 1995 the average ex post real interest rate is negative. This situation occurred because the inflation rate rose to high levels and even though investors could place their savings into foreign exchange deposits such deposits were risky. A rational alternative was to leave a certain amount in the t-bills market but the amount of such investment remained small. The picture is reversed between May 1995 and July 1998 where the ex post real interest rate was constantly positive and even very high. It is likely that the government used t-bills to help provide liquidity to the financial market.

Using EViews5, we conduct several unit root tests (table 4.1). Applying the ADF(augmented Dickey-Fuller)³³, and Phillips-Perron (PP)³⁴ tests to our time series results in failure to reject the null hypothesis of non-stationarity at the 5% level for the inflation and the interest rate while the exchange rate and real money balances series seem to be stationary. But when following Dejong, Nankervis, Savin and Whiteman (1992), we used Elliot, Rothenberg and Stock (1996) (ERS) test, generalized least squares (GLS) local detrending, the Ng and Perron (2001) and the Kwiatkowski, Phillips, Schmidt and Shin (1992) (KPSS) tests, stationarity

³³ Dickey and Fuller (1979), and Dickey and Fuller (1981).

³⁴ Perron (1988), Phillips (1987) and Phillips and Perron (1988).

of the series are not supported especially not by the KPSS tests, and this includes the exchange rate and real money balances.

Table 4.1 Unit Root Statistics

ADF Unit Root tests							
	$ADF(\tau)$		$ADF(\mu)$		ADF		
π_t	-2.81		-2.32		-2.24		
i_t	-3.10		-1.46		-0.99		
e_t	-11.68		-10.66		-4.16		
rm_t	-8.71		-8.39		-8.40		
5%	-3.44		-2.88				

Elliot, Rothenberg and Stock Tests				KPSS Tests			
	$DFGLS(\tau)$	$DFGLS(\mu)$	$P(\tau)$	$P(\mu)$	η_τ	η_μ	
π_t	-2.09	-0.45	11.21	24.16	0.26	0.98	
i_t	-1.44	-1.25	29.00	8.55	0.11	0.98	
e_t	-1.29	-0.52	1.39	0.80	0.07	0.73	
rm_t	-5.66	-2.65	1.70	1.37	0.04	0.59	
5%	-2.98	-1.94	5.65	3.14	0.15	0.46	

Ng-Perron Tests								
	$MZ\alpha(\tau)$	$MZt(\tau)$	$MSB(\tau)$	$MPT(\tau)$	$MZ\alpha(\mu)$	$MZt(\mu)$	$MSB(\mu)$	$MPT(\mu)$
π_t	-8.71	-2.03	0.23	10.69	-0.81	-0.47	0.58	19.62
i_t	-3.93	-1.39	0.36	23.05	-3.07	-1.23	0.40	7.98
e_t	-33.20	-4.07	0.12	2.79	-9.91	-2.19	0.22	2.62
rm_t	-47.50	-4.87	0.10	1.96	-13.11	-2.42	0.18	2.42
5%	17.30	-2.91	0.17	5.48	-8.10	-1.98	0.23	3.17

Notes: $ADF(\tau)$, $ADF(\mu)$ and ADF , are tests of the unit root null hypothesis where the test regression includes a constant and a trend, a constant and no deterministic components, respectively. A similar notational convention is followed for the DFGLS and Ng-Perron tests. KPSS tests of stationarity around a non-zero mean and a linear trend are displayed as η_τ and η_μ .

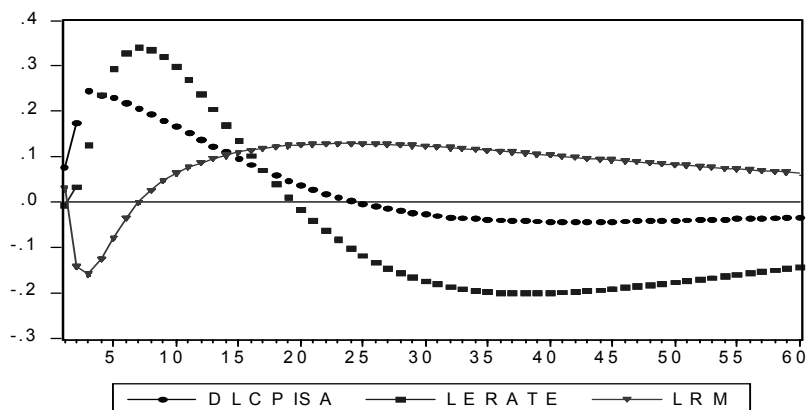
Given that all the series are not integrated of the same order, we test whether the theoretical relation postulated in the section 3 is true statistically in a general unrestricted vector autoregression (VAR) model. Granger causality/block exogeneity Wald tests seem to confirm that the inflation rate, exchange rate, and real money balances do explain changes in the interest rate, not the other way round, supporting the theoretical framework. Assuming all the variables as endogenous, we examine in the next section the impact of these variables on the interest rate within a VAR framework.

B. VAR Impulse Responses and Variance Decompositions

Following the lag length selection criteria, we found 2 lags to be the optimal lag for a VAR model to be estimated. We thus estimated a VAR (2) model and carried out impulse responses of the interest rate for one standard deviation shocks in inflation, exchange rate and money. Whether the interest rate responds more to currency depreciation as opposed to inflation is examined via impulse responses.

In order to examine the dominant effect of these variables, we have undertaken a variance decomposition analysis using the VAR model (figure 4.2).

Figure 4.2 Impulse Response of Interest rate to Generalized One S.D. Innovations



While the exchange rate has a positive and dominating effect on the interest rate in the short run, the real money growth has negatively affected interest rate, turning positive in the long-run. Inflation has positively influenced the interest rate for the entire sample in the short-run and negatively in the long-run. However, money growth has a permanent positive impact in the long-run. This is in line with the earlier findings in the context of Russia, in the sense that the monetary aggregates have been the key factor determining monetary policy (see for example Esanov, Merkl and Vinhas de Souza, 2005). The signs of the coefficients turned out to be as per the *a priori* expectation in equation (6). Exchange rate appears to have driven interest rate policy only in the short-run. The muted long-run impact of inflation on interest rate appears to reflect that the central bank does not use the interest rate to stabilise inflation.

Figure 4.3 analyses the response of inflation to a one standard deviation shock to the exchange rate and money. It shows that the short-run impact of changes in the exchange rate is more prominent in influencing inflation in the short run, as opposed to a shock in the monetary aggregate, which has dominated in the long-run. With higher inflation and currency depreciation, real money balances decline in the short-run and then improve in the medium term (figure 4.4).

Figure 4.3 Impulse Response of Inflation to Generalized One S.D. Innovations

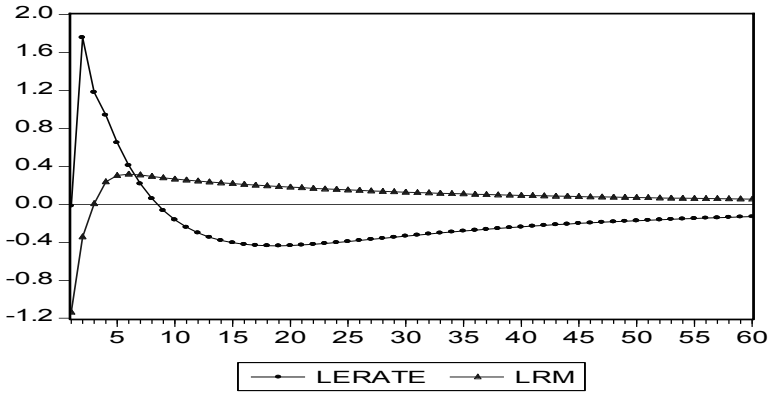


Figure 4.4 Impulse Response of real money to Generalized One S.D. Innovations

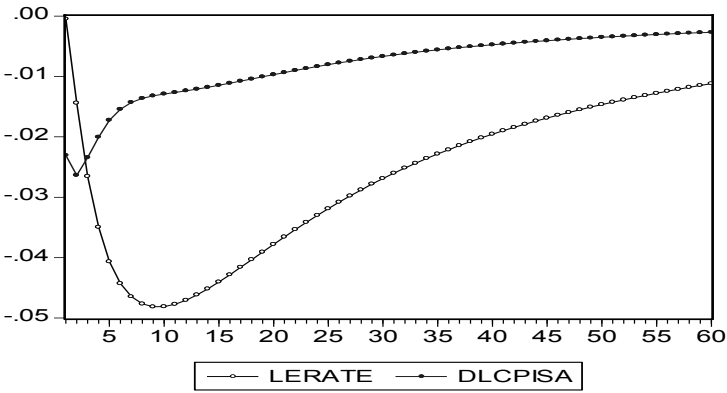
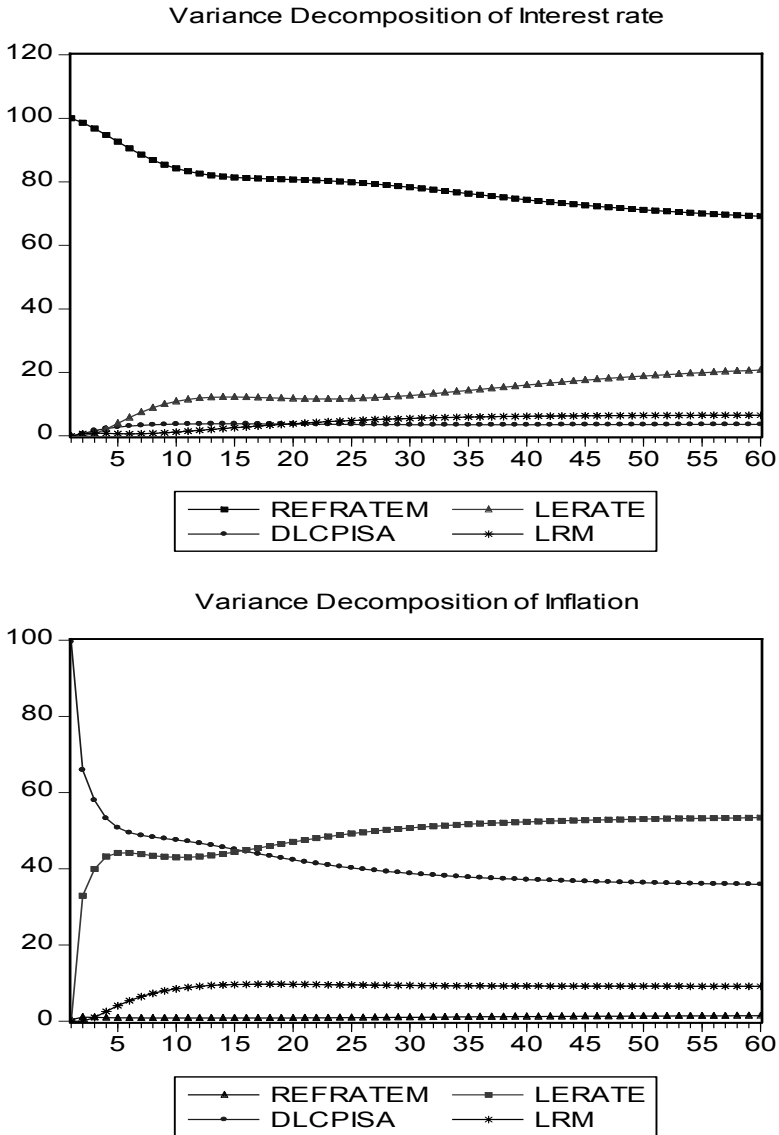


Figure 4.5 Variance decompositions of interest rate and inflation



Finally, the variance decomposition analysis provides a clear picture in order to gauge the dominant effect of the different variables in explaining the movements in the interest rate. The results in figure 4.5 suggest that exchange rate has a more dominant effect on interest rate, aside from its own innovations. Inflation variations are also explained more by the changes in the exchange rate for the whole sample period. Overall, the results appear to suggest that there is a

need to target inflation, as inflation is possibly occurring as a result of the expectation of currency depreciation in the recent years.

5. Conclusion

This chapter investigates the relation between the interest rate, inflation rate, exchange rate, and money supply in Russia since 1992. We have shown that the interest rate has responded more to changes in the exchange rate than to inflation in the short run. Whereas in the long-run money supply determined interest rates, we have shown that in the short-run, nominal interest rate has positively reacted to inflation and exchange rate. Using a variance decomposition analysis we find that the interest rate has changed more with respect to exchange rate than inflation and money growth. Further inflation also changes more in response to currency depreciation. This suggests that the inflation needs to be targeted by the central bank via interest rate as a direct instrument of monetary control. In general, in economies of transition and especially in Russia, the mechanisms of monetary transmission and financial intermediation have taken long periods to be put in place and are still in need of reform and regulation. From the starting point where credits were channelled to state-owned enterprises through state-owned banks, a long road would always have to be travelled before interest rates became a proper indicator of monetary policy. Moreover the 1998 default and devaluation undermined the progress accomplished since 1996 in the banking sector and capital market in general.

The central bank could move to a flexible inflation targeting type of monetary policy framework, where the interest rate could be used as a direct instrument of monetary control. Relevant studies highlight the challenges of a successful move to inflation targeting, but the central banks of the Czech Republic, Hungary and Poland have all achieved such a move.³⁵ In the case of those countries, this policy shift was driven by the obligatory conditionality for EMU accession. But for Russia's interest, the concern is that intervention in the foreign exchange market may hinder the credibility of monetary policy, because the public may realize that stabilizing the exchange rate takes precedence over promoting price stability as a policy objective.³⁶ We therefore conclude that Russia should adopt a pre-announced inflation target that would coordinate expectations and thus generate a more stable inflation scenario for the economy.

³⁵ See Jonas and Mishkin (2003).

³⁶ See Mishkin (2000).

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Chapter 5

Russia's Economic Expansion 1999-2005

Rudiger Ahrend³⁷

1. Introduction

Russia's economic expansion during 1999-2005 surprised most observers: both the strength of economic growth, at an average rate of almost 7 percent per annum, and the longevity of the expansion had been largely unexpected in 1999 (see Table 5.1).³⁸ This chapter tries to explain this unexpected performance, and therefore looks in detail at the drivers of growth, as well as the underlying developments and policies. Simplifying somewhat for the sake of clarity, it distinguishes three phases of growth between 1999 and 2005. In the immediate aftermath of the 1998 crisis, growth was mainly driven by the temporary boost to competitiveness brought about by the sharp devaluation of the rouble. As the effects of the devaluation gradually faded, the resource sector took over as the main driver, and in 2002-2004 Russia experienced an oil extraction boom. With oil production growth starting to decline rapidly in 2004, Russian growth has since been increasingly driven by a consumption boom, supported by rapidly improving terms of trade. However, while these have been the main drivers in each of the periods, they would not have been sufficient had it not also been for other fundamental developments. Strong corporate sector restructuring has been key for increasing the supply potential of the Russian economy, and hence for the

³⁷ Economics Department, OECD. This paper draws in some parts on material originally produced for the fifth *OECD Economic Survey of the Russian Federation*, published in September 2004. The views expressed in this paper are nonetheless those of the author and do not necessarily reflect those of the OECD or its member states. The author is indebted to Svetlana Arkina, Andrew Dean, Vladimir Drebentsov, Evsey Gurvich, Val Koromzay, Silvana Malle, Isabel Murray, Douglas Sutherland, William Tompson, Alexander Ustinov, Anna Vdovichenko, Ksenia Yudaeva and Oleg Zasov, as well as to many colleagues in the OECD Economics Department for helpful comments and discussions. Special thanks go to Corinne Chanteloup and Anne Legendre for technical assistance, as well as to Muriel Duluc for secretarial assistance. Responsibility for any errors of fact or judgement that remain in the paper rests, of course, entirely with the author.

³⁸ For an exception to this view, see Ahrend (1999) and Breach (1999).

sustainability of strong growth so far. Other important features have been the rapid development of the small and medium size enterprise sector, and more generally the emergence of a substantial service sector. Many of these things were made possible or supported at critical points by the right policies, with solid fiscal policy having been the cornerstone of the 1999-05 expansion.

Table 5.1 Basic Economic Indicators

	1998	1999	2000	2001	2002	2003	2004
Real GDP growth	-5.3	6.4	10.0	5.1	4.7	7.3	7.2
GFCF, growth	-12.4	6.4	18.1	10.2	2.8	12.8	10.8
CPI inflation (Dec./Dec.)	84.5	36.6	20.1	18.8	15.1	12.0	11.7
Exchange rate (RRB/USD, average)	9.7	24.6	28.1	29.2	31.4	30.7	28.8
Unemployment (ILO, eoy)	13.2	12.4	9.9	8.7	8.8	8.6	8.3
Exports of goods (USD billion)	74.4	75.6	0	9	3	9	5
Imports of goods (USD billion)	58.0	39.5	44.9	53.8	61.0	76.1	96.3
Current account (USD billion)	0.2	24.6	46.8	33.9	29.1	35.4	59.9
As a percent of GDP	0.1	12.6	18.0	11.1	8.4	8.2	10.3
Budget balance (gen. gov., % GDP)	-5.3	-0.5	3.5	3.1	0.3	1.2	
Budget balance (fed. gov., % GDP)	-5.0	-1.1	1.4	3.0	1.7	1.7	4.4
CBR gross foreign reserves (USD bn, e.o.p.)	12.2	12.5	28.0	36.6	47.8	76.9	124. 5

Source: Russian Federal Service for State Statistics, Central Bank of Russia, Ministry of Finance, Economic Expert Group, authors' calculations.

2. 1999-2001: The Post-Crisis Recovery

In the immediate aftermath of the 1998 financial collapse, the Russian economy virtually came to a standstill. The banking sector had been heavily exposed to rouble-denominated government securities, as well as to the rouble in derivatives markets. It was therefore hit especially hard by the devaluation and default, and many private banks stopped operating, causing the payments system to seize up for a time. Inflation accelerated sharply, and many shops and restaurants simply closed up temporarily. While the Central Bank of Russia (CBR) sought to unblock the payments system (mainly by injecting liquidity into Sberbank and some other systemically important and/or politically well-connected banks) and to rescue the banking system, the government was virtually paralysed for several weeks, until a new cabinet could be formed. In the months that followed, however, the new government executed a massive fiscal adjustment. This adjustment was largely automatic: the government simply refrained from indexing expenditure commitments to reflect surging inflation, while nominal revenues rose rapidly.

Politically, such an adjustment was probably possible only because the government really had very little choice in the matter. Substantial borrowing was virtually impossible following the default, and massive budget financing via the printing press would have led rapidly to hyperinflation. While the fiscal adjustment was crucial in stabilising the situation, the sharp fall in real wages after the devaluation, together with a large cut in real social spending resulted in a substantial drop in real household incomes, and poverty increased significantly. Imports also fell sharply as the prices of imported goods quadrupled in rouble terms, so the current account was soon showing a large surplus.

Despite widespread pessimism about Russia's prospects after the crisis, the economy started to recover fairly rapidly. Industrial production began to recover in October,³⁹ and by early spring 1999, it had already surpassed the pre-crisis peaks of 1997. While growth was very broadly based, the recovery was initially strongest in those sectors that had been doing worst before the crisis – domestically oriented non-resource sectors. This dramatic turnaround resulted mainly from the dramatic fall in wages and energy prices, in both real roubles and foreign currency terms, following the devaluation. This large initial decline in input costs allowed a significant share of Russian industry to become competitive and profitable again, while the sharp rise in the rouble prices of imported goods facilitated import substitution on a large scale. The improvement in the economic situation in the 'real sector' was also reflected in steadily declining levels of barter, arrears and non-payments as the economy became re-monetised. The early post-crisis years also saw a wave of sometimes very aggressive ownership consolidation, as though who had weathered the crisis sought to acquire assets cheaply, while exploiting the general confusion in the aftermath of the crisis to default with impunity on their more vulnerable creditors or to squeeze out minority share holders, via share dilutions or simply asset transfers from company to company. Some of today's leading Russian corporate governance champions were among the most aggressive in employing the above-mentioned schemes after the crisis. Russian companies also became adept at exploiting the weaknesses of the 1998 bankruptcy law in order to execute hostile corporate takeovers on the cheap, a practice its most expert practitioners developed into an art form.⁴⁰ Many of the large financial groups were also extremely adept at 'restructuring' failed

³⁹ Industrial production, adjusted for both seasonal factors and workdays, rose by 5 percent, October to September, and a further 2.2 percent in November relative to October. Seasonal adjustment of Russian data is notoriously difficult and such data should always be interpreted with caution. However, the fact that the growth continued on an upward path suggests that these numbers constituted neither a statistical aberration nor a 'dead-cat bounce'.

⁴⁰ See Lambert-Mogiliansky, Sonin and Zhuravskaya (2000) for details. To some extent, the use of bankruptcy as a takeover mechanism reflected the absence of a well functioning market in corporate control, which would have enabled acquisitions to be executed in a more 'normal' fashion.

banks in such a way as to shift as much of the value as possible into other vehicles, leaving the state and other creditors empty-handed.⁴¹

While the devaluation kick-started the economy, a low exchange rate by itself was not the only reason for the post-crisis recovery. In 1994, much the same combination of factors – a weak rouble, cheap domestic energy prices and relatively high export prices for oil⁴² – had failed to prevent a 12 percent drop in GDP and a fall of more than 20 percent in industrial production. By 1999, however, liberalisation and privatisation, controversial and incomplete though they were, had facilitated the emergence of an economic system in which private enterprises could and did respond to the opportunity provided by the devaluation. The economy's response to the devaluation and to the subsequent recovery in oil prices was in no small measure a product of the structural changes wrought during the 1990s. In this respect it is important to note that the economy began to grow strongly *before* oil prices started to recover. Improving terms of trade were undoubtedly helpful later on, but the initial post-crisis recovery was not dependent on, let alone driven by, oil-price increases.

When comparing the Russian crisis of 1998 with similar crises elsewhere two features stand out. The recovery in Russia started unusually quickly after the crash, and it has proved unusually robust. The explanation of the first puzzle is straightforward. The Russian banking system prior to the crisis was not performing the role of a normal banking system (transforming savings into loans), but was mainly playing stock markets and investing in government securities. Therefore, the collapse of the banking system did not lead to any noticeable credit crunch in the real sector. Ultimately, the banking crisis had remarkably little impact on economic activity. The reasons for the length and strength of the recovery are less obvious. The – necessarily temporary – boost to economic activity resulting from an unsustainably low real exchange rate and artificially low internal energy prices in 1999/2000 was largely exhausted by 2001, as wages, energy prices and the REER had all increased significantly. We address the issue of the longevity of the recovery in the next section.

3. 2001-2004: Resource-based growth (Oil extraction boom)

Growth in the immediate aftermath of the crisis was driven to a large degree by import substitution and hence was particularly strong in domestically oriented manufacturing sectors. However, in the 2001-04 period this changed dramatically as export-oriented natural resource sectors became the main engine of growth. This shift is not directly evident from GDP accounts. While immediately after the crisis – following a large fall in import volumes - the main contribution to growth came from net exports, domestic demand took over as the dominant driver by mid-

⁴¹ See Tompson (2000) on the use of 'bridge banks' during 1998–2000.

⁴² Oil prices in 1994 were close to the levels of 1999 in real terms.

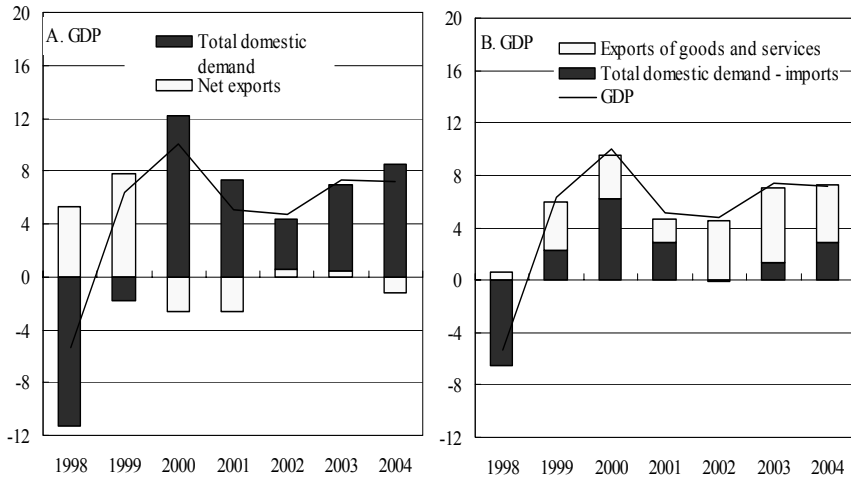
1999 (Figure 5.1A).⁴³ This does not, however, imply that the role of export-oriented sectors in driving growth declined. On the contrary, their importance *increased*, and during 2001–2004 such sectors accounted for around 2/3 of the growth in industrial production. Correspondingly, the role of domestic production in satisfying domestic demand peaked in 2000 (Figure 5.1B), and after mid-2002, increases in domestic demand were – in aggregate – largely satisfied by imports.⁴⁴ In other words, while rapid import growth – driven by strong domestic demand – continued to ensure that the contribution of net exports to GDP growth was small or negative, economic growth in 2002–04 would in all likelihood have been relatively weak in the absence of very strong growth of exports, most of which was driven by natural resource sectors.

Before looking in more detail at Russian growth from a production side view, it is necessary to consider a problem with the official data. Russian output data, though technically correct, present a somewhat distorted picture of the economy, because a large share of the value added generated by natural resource sectors is reflected not in the accounts of the extraction companies, but in the accounts of their affiliated trading companies. This practice is most common where output is exported, especially if the domestic and export prices of the goods involved differ substantially. As a result, export-oriented industries are under-represented in industrial production, and industry as a whole is under-represented in Russian national accounts. Trade, and hence the service sector, is over-represented.

⁴³ Starting from mid-2000 surging import volumes meant that the contribution to GDP growth of net exports was actually negative or insignificant. It is important to bear in mind that contributions to growth here depend on export and import *volumes*. Focus on the current account and merchandise trade balances, which depend largely on price fluctuations, can obscure this.

⁴⁴ Some of this import growth has probably contributed directly to export growth (*e.g.* the re-export of gas or oil from Central Asia or the export of aluminium produced from imported bauxite). However, the impact on overall export growth would be limited and would not affect the overall picture.

Figure 5.1 Contributions to GDP growth, expenditure side view (as a percentage of GDP in previous period)

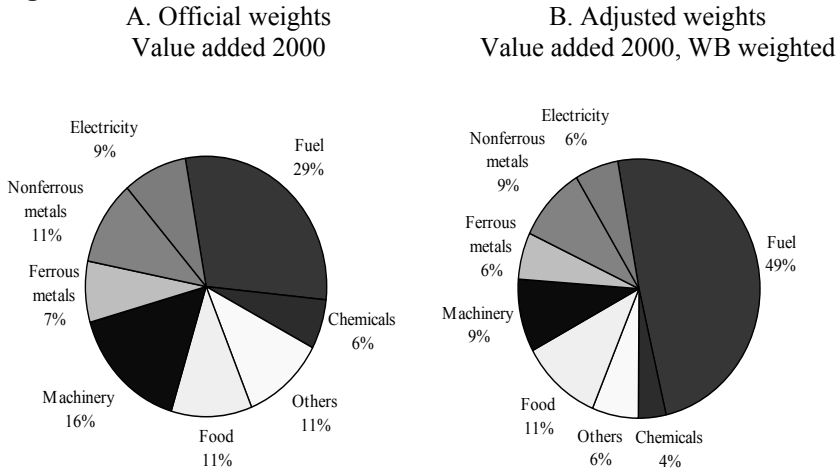


Source: Russian Federal Service for State Statistics.

There have been several attempts to correct for these distortions⁴⁵, and this analysis relies on one of them – the World Bank (2004) estimates. On these estimates, the share of industry increases from 27 to 41 percent, and the oil and gas sector's share of GDP rises from around 8 percent in the Goskomstat data for 2000 to just above 19 percent. This is broadly in line with the estimates produced by the Economic Expert Group attached to the Russian Ministry of Finance, which suggest that the oil and gas sector's share of GDP was around 21 percent in 2000 and hovered at around 17 percent thereafter.⁴⁶ At the same time, the services share drops from 60 to 46 percent when employing the World Bank weights, which seems far more plausible, given how underdeveloped Russian service sectors are. Figure 5.2 shows the structure of value added in industry by industrial sector under the official and adjusted weights. Its most striking feature is the vastly larger share of industrial value added of the fuel sector.

⁴⁵ Kuboniwa (2003), World Bank (2004), Gurchich (2004).

⁴⁶ Gurchich (2004).

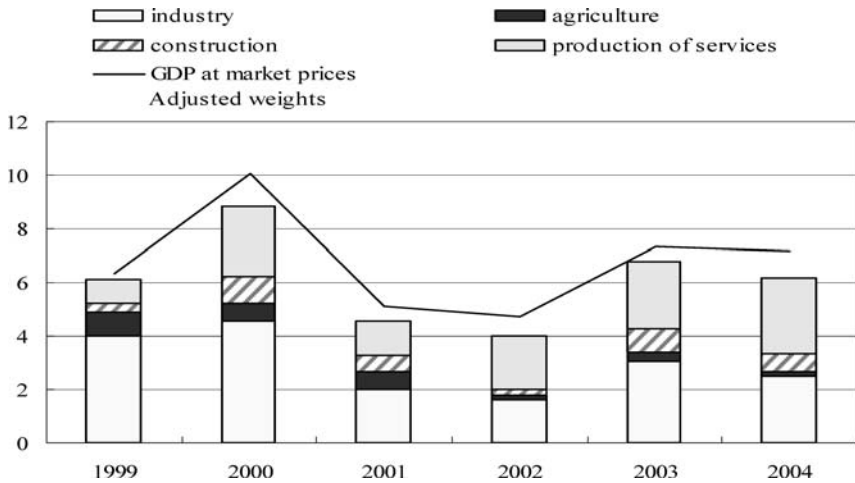
Figure 5.2 Structure of industrial value added

Source: Russian Federal Service for State Statistics, World Bank and author's calculations.

Taking into account the distortion described above, the contribution of different Russian sectors to economic growth can be fruitfully discussed. While growth immediately after the crisis was overwhelmingly driven by industry and construction, the relative importance of service-sector growth has since been increasing, especially in 2002-04 (Figure 5.3). Even when adjusting for the fact that the service sector's share of total GDP is significantly overstated in official Russian statistics, services still accounted for roughly one-third of economic growth in 2002-04. Within the service sector, both retail trade and catering, as well as communication and transport, were growing rapidly.⁴⁷

⁴⁷ Wholesale trade has recorded some of the strongest increases, but it is questionable to what degree this is genuine and does not rather reflect transfer pricing by resource-sector exporters.

Figure 5.3 Contributions to GDP growth, production side view (as a percentage of GDP in previous period)



Source: Russian Federal Service for State Statistics, World Bank, and OECD calculations.

Industrial growth, however, was highly concentrated, and the role energy played in Russia's expansion is striking. Natural resource sectors⁴⁸ directly accounted for roughly 70 percent of the growth of industrial production in 2001–2004⁴⁹, with the oil sector alone accounting for just under 45 percent (see Figure 5.4). This implies that natural resource sectors directly contributed more than one-third of Russian GDP growth over the period, and the oil industry alone close to one-quarter⁵⁰. This also corresponds closely to the conclusion reached by Gurvich (2004), who – using a different methodology – estimates that during 2000–03, the oil sector directly accounted for 24.8 percent of GDP growth. It should be noted that both estimates include only the direct contribution of the oil sector to growth: taking into account the knock-on effects from oil-sector procurement and wages

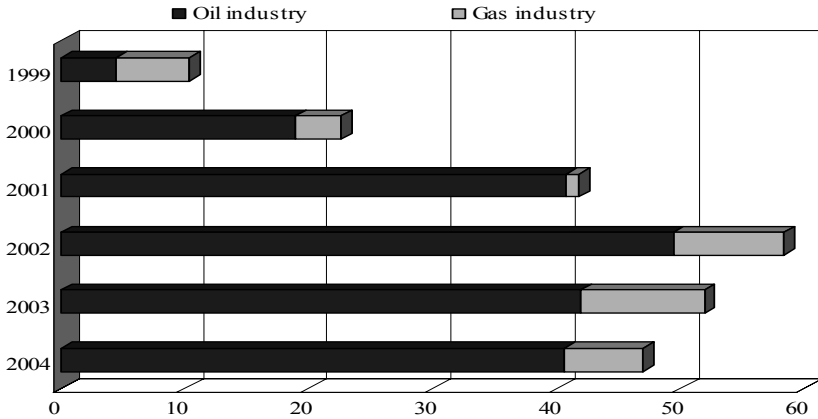
⁴⁸ Fuel, non-ferrous metals and forestry.

⁴⁹ There has also been relatively strong growth in some other areas (e.g. the food sector) but the comparatively small size of these sectors (especially using the adjusted sectoral weights) means that their contribution to industrial growth has been relatively small.

⁵⁰ Industry accounted for slightly below half of GDP growth in 2000–04 and the oil sector for somewhat below half of industrial growth. (Calculations made using the adjusted sectoral weights discussed above; contributions to industrial growth calculated on the assumption that the share of value added in production has been roughly constant in the short term).

on domestic demand, the actual contribution of the oil industry to economic growth was greater still.

Figure 5.4 Percentage of contribution of oil and gas sectors to industrial production growth



Note: Calculation based on adjusted sector weights, see World Bank (2004).

Source: Russian Federal Service for State Statistics, World Bank and author's calculations.

Increasing oil production has undoubtedly played a major role in sustaining growth in 2001-04, and changes in oil prices have also been a factor. However, the influence of the oil price *level* as such on growth is probably overstated.⁵¹ Given

⁵¹ The exception would be if oil prices fell to extremely low levels and stayed there for a significant period, so that oil production in Russia became unprofitable – a situation that is unlikely to occur. Other arguments that have been advanced in favour of the relevance of current oil price levels instead of oil price changes concern mainly the fact that oil companies may invest more – which will increase future production – when oil prices and thus current profits are high. While such considerations may have been more relevant in the 1990s, when Russian oil companies had little access to credit markets and had to finance most investment out of retained profits, the greater opportunities they now enjoy to tap financial markets and/or borrow from banks should have greatly reduced the dependence of oil-sector investment on current oil price levels. Moreover, the tax system has increasingly been adjusted in recent years so as to tax oil much more heavily as prices increase. As a result, the state now captures the great bulk of the windfall revenues generated at high oil prices. Finally, even if there were some positive effect from high oil prices on growth in the oil sector, it should not be forgotten that high oil prices also result in a

the large share of hydrocarbon products in Russian exports (well above 50 percent), the oil price undoubtedly is an important determinant of Russia's terms of trade and also of its current account and budget revenues. Nonetheless, it is hard to see why the *level* of a country's terms of trade as such should have a sizeable impact on economic growth. It is *changes* to the terms of trade that affect economic growth. The impact of such changes may be felt over time, however, so the impact of oil price changes in one period may continue to be felt in subsequent periods. In this respect, the more of the effect of an initial change in oil prices is absorbed by macro-economic stabilisation policies (see below), the more gradually the impact of oil price increases will feed into the economy.

At least as long oil prices are sufficiently high to make production of Russian oil profitable, one should therefore look at the impact of oil-price *changes* on Russian growth rather than at oil-price *levels*. While it is difficult to estimate precisely the impact of price changes in an economic environment that has been changing rapidly in recent years, it is possible at least to assess the order of magnitude of such effects. Estimates based on macroeconomic models⁵² can give a rough idea of what growth would have been if oil prices after 1999 had stabilised at their 15-year average of about USD 19/bbl for Urals crude rather than rising sharply. According to these estimates growth would have varied between about 5.3 and 7.1 percent, averaging slightly below 6 percent (Table 5.2). This would have been approximately one percentage point below the average growth rate actually recorded during the period. These estimates suggest that the economy would have grown very robustly even at *average* oil prices.

Table 5.2 Actual and simulated GDP growth rates

	Actual	Simulated ¹
2000	10.0	6.3
2001	5.1	6.1
2002	4.7	4.5
2003	7.3	6.2
Average	6.8	5.8

1. Assuming constant oil prices at long-term average levels (USD19 Urals) from 2000-03

Source: OECD calculations based on World Bank (2003).

Russia was also able to achieve high growth rates despite comparatively low investment rates. During 2001–04, investment as share of GDP hovered around 18 percent, which is significantly below the shares found in other fast-growing

stronger real exchange rate, and hence could affect growth in other industrial sectors negatively.

⁵² The estimates used are conservative, i.e. may have a tendency to overestimate the impact of oil price changes on growth. For details see OECD (2004).

countries in Eastern Europe or Asia and also well below the OECD average of around 22 percent. The large productivity increases that underlay recent strong growth were possible because Russian enterprises could draw on idle or under-utilised capital stock. While it cannot be excluded that there are still under-utilised or inefficiently utilised production facilities that could enable some Russian enterprises to achieve strong output growth with relatively little investment, there is certainly less scope for such increases in capacity utilisation than in previous years. In any case at least over the medium term it is unlikely that Russia will be able to sustain high growth unless investment rates increase.

From a supply-side point of view, Russian growth was almost certainly driven by strong increases in total factor productivity. Russian capital stock estimates are of relatively low quality, because investment undertaken in Soviet times is hard to evaluate, so exact estimates of TFP changes should be viewed with caution. Their order of magnitude, however, is interesting. OECD (2004), for example, suggests that both GDP and industrial growth were overwhelmingly driven by TFP increases in recent years, with neither changes in reported labour utilisation⁵³ nor changes in the installed capital stock making a significant positive contribution. Large increases in labour productivity (see below) would tend to support this hypothesis.

The main factor driving growth from a demand perspective was rapidly increasing private consumption, which grew by an average of almost 9 percent per annum starting 2000. Thriving consumption, in turn, was driven by increases in the real purchasing power of households, as a result of rising real disposable incomes and exchange-rate appreciation. Real wages increased by around 130 percent during 1999–2004, and were more than 40 percent above pre-crisis levels at the start of 2005. Productivity increases were however sufficiently rapid to offset the negative effect of wage and exchange rate increases on competitiveness in a large majority of sectors. Rapid growth in real incomes also led to even faster import growth. Until 2004, this growth was balanced by sharply increasing oil exports, which prevented consumption from putting the external balance in danger. It should also be noted that from 2002 onwards, fiscal restraint played an important role in preventing an unsustainable overheating.

The small business sector also developed relatively rapidly starting 2001, although its contribution to overall growth has been limited, as it remains comparatively small. This holds true even when adjusting for the unusually large role played by unincorporated entrepreneurs (the so-called PBOYuL)⁵⁴ in the small business sector.⁵⁵ This is important because PBOYuL do not currently appear in official statistics covering the small enterprises' (SE) sector. The number

⁵³ With the exception of the direct aftermath of the crisis.

⁵⁴ PBOYuL is the Russian acronym for *predprinimateli bez obrazovania iuridicheskogo litsa* ('entrepreneurs without the formation of a legal person').

⁵⁵ A great deal of activity that in other countries would be carried out by small companies is in fact done by PBOYuL in Russia.

of people working in the SE and PBOYuL sectors is roughly of the same order of magnitude, and together they account for somewhat above 20 percent of the workforce⁵⁶. While the small business sector is thus larger than usually claimed, it is still relatively small by the standards of OECD economies, where it is not unusual for more than half of the labour force to work in SMEs. The available data suggest that the combined SE/PBOYuL sector has been growing at around 15-20 percent per year since 2001, with growth accelerating to around 30 percent in 2003. It would appear that this pace was at least kept in 2004.⁵⁷ The acceleration in 2003-04 was mainly driven by the ongoing consumption boom, as witnessed by particularly strong increases in the retail sector and transport.

4. The Developments and Policies Underlying Russian Growth Since 1999

A. The Corporate Sector

Consolidation in the industrial sector continued at a rapid pace in the aftermath of the crisis. The industrial structure that emerged has been dominated by a relatively small number of large industrial groups, most of which were founded around some commodity exporting business, and which have in recent years mainly pursued strategies of vertical integration.⁵⁸ It is estimated that in 2001 the ten largest industrial groups, together with the state-controlled national gas and electricity companies, accounted for roughly half of Russian industrial output (Table 5.3).⁵⁹ The privately held industrial groups – usually tightly controlled by a small number of core shareholders – generally restructured the businesses they owned or acquired and most of them have been fairly well managed. As a result the productivity of many private industrial groups' enterprises has been increasing briskly.⁶⁰ If in the 1990s, banks and cash-rich resource companies simply bought up all they could as fast as they could, M&A activity since 2000 has been characterised by a purpose to create vertically integrated structures. Often companies with monopoly or near-monopoly positions in one sector sought to use their market power to extend their reach up- or down-stream into related sectors. Groups formed in the mid-90s rationalized their structures, leaving some activities

⁵⁶ For more information see OECD (2004), Annex 1.A4

⁵⁷ It should be borne in mind that, owing to the limitations of the available data, these estimates are necessarily very rough.

⁵⁸ This largely reflects a rational response to potential uncertainties and risks connected with enforcing contracts with third parties in the Russian legal environment.

⁵⁹ Dynkin (2004). It should be noted that these estimates rely on Goskomstat sectoral weights.

⁶⁰ See also Boone and Rodionov (2002). It seems that there have also been roughly equivalent productivity increases in privately owned enterprises that are not controlled by the large industrial groups.

to concentrate on others. While expanding into new sectors,⁶¹ most of these groupings remain heavily focussed on their core businesses.

While the longevity of the post-crisis recovery beyond 2001 owed much to a boom in oil extraction, far-reaching corporate restructuring and strong productivity gains in almost all industrial sectors were crucial to increasing output potential in non-hydrocarbon sectors. This, together with the rapid growth of the service sector, was also fundamental for the achievement of the high growth rates witnessed during these years. The performance of the non-mineral industrial sector is especially noteworthy given the cost pressure on Russian industrial enterprises.

Table 5.3 Output share of integrated business groups and state-controlled monopolies (2001)

	Share in industrial output	Share in output of goods and services
State controlled monopolies	13.9	10.5
Electricity	7.7	3.3
Gas	6.2	3.1
Railway transport		2.1
Pipeline transport		2.0
Integrated business groups	35.6	13.7
LUKoil	7.6	2.9
Alfa group - Renova	6.7	2.6
Yukos	5.3	2.1
Bazoviy Element - Sibneft	4.7	1.8
Interros	3.8	1.5
Surgutneftegaz	3.0	1.2
Sistema	3.0	1.2
Severstal	1.4	0.6
Others	50.5	75.8

Source: Dynkin (2004).

Following the large fall during the crisis the exchange rate appreciated steadily in real terms, and starting late 1999 wages rose rapidly, while energy and transport tariffs, frozen for some time after the crisis, also rose well above the rate of inflation. Despite these pressures, much of Russian industry seems to have done relatively well in maintaining competitiveness. While industrial production growth slowed in 2001-02, it recovered to almost 9 percent in 2003 and was still somewhat above 7 percent in 2004. The main reason for this resilience appears to have been significant increases in labour productivity in almost all major industrial sectors.

⁶¹ Dynkin (2004).

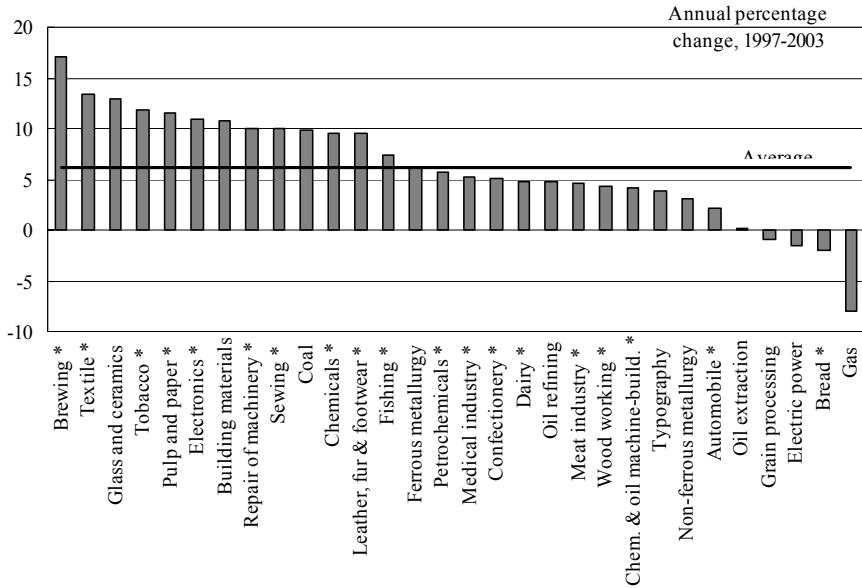
The growth of labour productivity averaged almost 10 percent per year from 1999 through 2004, with yearly increases above 12 percent in 2003-04 (Table 5.4). The performances of different sectors have varied widely, but there have been improvements in almost all of them. The few inglorious exceptions (Figure 5.3) turn out to be sectors in which there is still significant direct state control over enterprises or extensive state interference in economic activity. The productivity performance of the grain-processing and bread sectors, as well as oil (before 1999) and electricity (until 2002), is uninspiring. The gas industry is not so much at the bottom of the league as in a league of its own.

Table 5.4 Labour productivity (Annual percentage change)

	1999	2000	2001	2002	2003	2004
Total industry	11.8	10.2	5.1	6.6	12.4	12.0
Electric power industry	-5.3	-1.7	-1.1	-1.0	5.9	6.0
Fuel industry	9.7	6.2	-4.0	-2.9	18.7	16.2
Ferrous metallurgy	16.5	10.3	-2.4	1.1	20.4	6.6
Non-ferrous metallurgy	5.0	3.3	1.0	-2.1	9.7	9.4
Chemical and petrochemical industry	26.3	9.5	5.7	10.0	10.0	14.0
Machine-building and metal working	20.6	19.5	8.5	7.4	14.6	15.3
Logging, woodwork., pulp-and-paper	15.4	8.4	7.7	15.2	7.3	12.4
Building materials industry	9.2	18.6	7.1	17.0	10.1	9.2
Light industry*	15.2	23.0	9.5	4.0	12.4	9.2
Food industry	0.9	10.5	7.4	7.9	6.0	9.1

*Textiles, fur and leather goods only. A large share of what would be classed as light industry in other countries is categorised as machine-building in Russia.

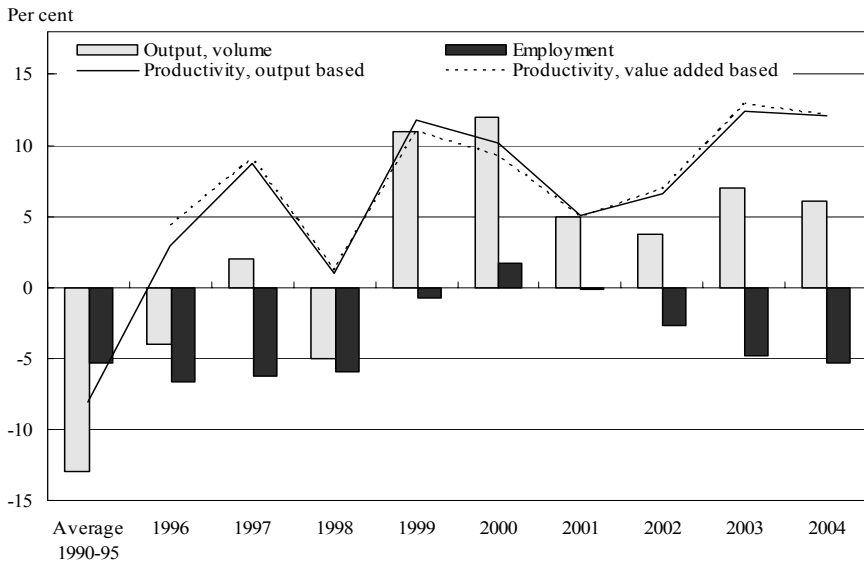
Source: Goskomstat and author's calculations.

Figure 5.5 Labour productivity: changes in the 30 largest industrial sectors

Source: Russian Federal Service for State Statistics and author's calculations.

There are also indications that there has been a shift to more active restructuring in recent years (Figure 5.6). While there were even some productivity increases in the period to 1998, they mainly resulted from passive restructuring in pursuit of short-term survival. Enterprises tried to reduce employment as output fell. Then, during 1999-2001, there was what may best be described as a 'recovery'. Productivity increased, but in aggregate this was mainly a by-product of increasing production. There were, of course, enterprises and sectors that restructured very deeply during this period, but it appears that many contented themselves with increasing output, and in aggregate there were no further reductions in industrial employment. It appears that in 2002, when it became clear that the 'easy' gains from the devaluation had been exhausted, large numbers of enterprises finally began restructuring with a view to improving productivity. Since 2002 industrial output has been growing relatively strongly while industrial employment has been falling.

Figure 5.6 The composition of industrial productivity growth (annual percentage change)



Source: Russian Federal Service for State Statistics and OECD calculations.

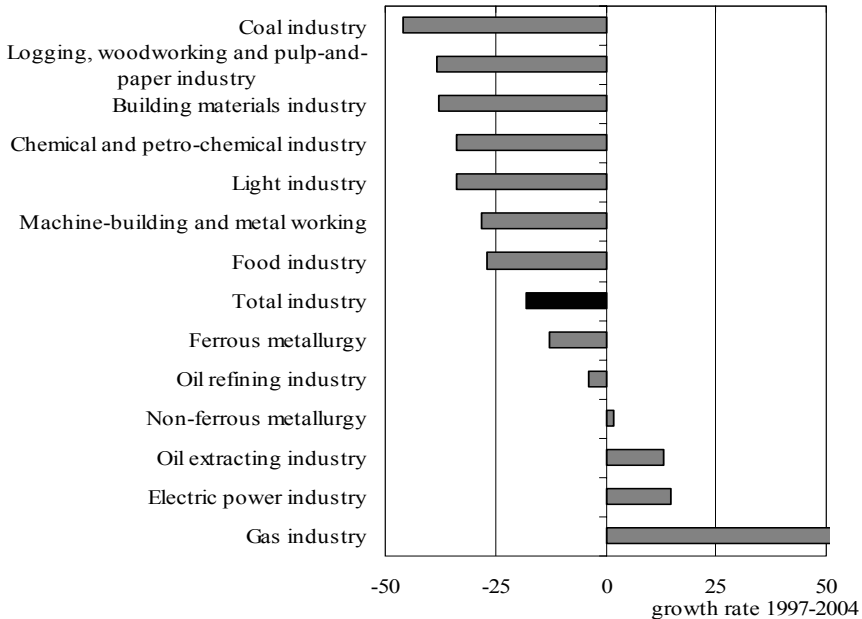
Although average industrial wages had recovered to pre-crisis levels by 2002, unit labour costs (ULCs) were still about 18 percent below 1997 levels in 2004. This reflected not only efficiency increases at enterprise and holding level, but also important relative adjustments within the industrial sector.⁶² Industries with poor competitiveness have generally been shedding labour, while some of the more competitive ones have been hiring. Moreover, there has also been better wage *differentiation*, as wage increases in less competitive sectors have generally been more moderate (see Ahrend, 2004 for details). As a result, wages in almost all important industrial sectors seem to have been developing in line with productivity increases over the period (Ahrend, 2005b). The major exceptions were the electricity, oil and gas sectors. ULCs in the electricity and oil sectors in 2004 were up by roughly 13 and 15 percent respectively, and in the gas industry, they almost doubled during 97-04.⁶³ (see Figure 5.7) This most probably reflects massively inflated wage and employment increases in recent years in the state controlled electricity monopoly, RAO UES, and especially in the gas monopoly OAO Gazprom. That said, there seems to have been quite significant improvement in labour productivity in RAO UES since 2003, as it has been

⁶² Overall economic efficiency was also increased by a net shift of labour from agriculture to services.

⁶³ Measured in the hypothetical unit (UE) described below.

preparing for privatisation. However, there is still no sign of such in Gazprom. Rent-seeking by insiders seems to be flourishing unabated, as witnessed by steady strong increases in ULCs in the gas sector between 97 and 04.⁶⁴

Figure 5.7 Unit labour costs by industry¹



1. ULC calculated on the basis of data on sectoral employment, sectoral production volumes (in 2000 prices) and average wages (expressed in a hypothetical unit (UE) consisting of half a US Dollar and half a Euro).

Source: Russian Federal Service for State Statistics and OECD calculations.

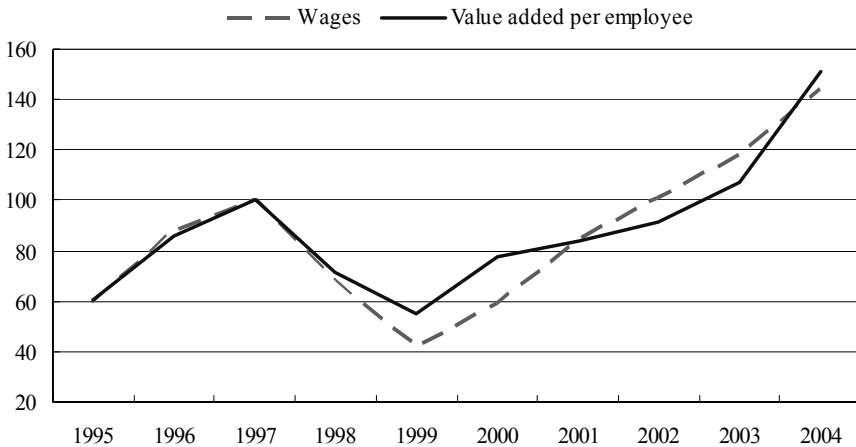
Apart from ULCs, it is also interesting to look at how wages and value added per employee have developed over time. It turns out that Russian industrial value added per employee,⁶⁵ after sharply declining in the aftermath of the crisis, attained pre-crisis levels in 2002, and in 2004 already was roughly 50 percent

⁶⁴ It is striking that gas-sector wages, which were already almost four times the average for industry as a whole in 1997, increased at exceptionally high rates during the 1997-2004 period, even as labour productivity in the gas sector *fell* by almost 40 percent, while increasing almost everywhere else. See Ahrend (2004) for further evidence on this. For a description of the Russian gas sector, which is dominated by Gazprom, see Ahrend and Tompson (2005).

⁶⁵ Expressed in a hypothetical unit (UE) consisting of half a US Dollar and half a Euro.

higher. Wages fell somewhat more as a result of the crisis than did value added per employee, but they also recovered more strongly afterwards. As a result, when looking at the whole period from 1995 through 2004, changes in wages and value added per employee have been strikingly similar (see Figure 5.8). This basically means that Russian industry between 1995 and 2004 did not witness any significant deterioration in its labour cost competitiveness.

Figure 5.8 Developments in value added per employee vs. wage developments (All industry, €-\$, index 1997=100)



Source: Russian Federal Service for State Statistics and author's estimates.

If Russian industry as a whole did not suffer any significant decrease in labour cost competitiveness from 1995-2004, this does not mean that this also applies to any individual sector, and especially the industrial sector when excluding energy (i.e., fuel and electricity). While recent sectoral value added data that would allow for exact calculations are unavailable, the available statistical evidence strongly suggests that in basically all important industrial sectors wages have been developing in line with productivity increases, with output per employee increasing at least at the speed of wages (see Ahrend et al., 2005). Ironically the only exceptions are the fuel and the electricity sectors themselves, where – as also indicated by the ULCs – wage increases have far outstripped productivity increases.

B. Contributions from Reform and Policies

A prudent fiscal stance was the authorities' most important contribution to sustaining growth. The conduct of a responsible fiscal policy was in sharp contrast to the pre-crisis period. Following a sharp fiscal adjustment in 1999, federal budgets for 2000–04 were drafted to aim for surpluses based on conservative oil price assumptions. This approach not only delivered sizeable surpluses but also a federal budget that was balanced over the oil-price cycle. Simulations show that

the federal budget would have remained in rough balance even with oil prices unchanged at USD 19/bbl (Urals) throughout the period (Kwon, 2003). Indeed, there would have been only a relatively moderate deficit, not exceeding 2 percent of GDP, if oil prices had fallen to extremely low levels (Table 5.5). To be sure, growing revenues due to favourable terms of trade and strong growth facilitated fiscal responsibility. However, during 2000-2004, the government largely resisted the temptation to spend this windfall, instead using a significant part of it to repay debt and accumulate reserves. Parts of these reserves were used to set up a Stabilisation Fund. The government also took advantage of the favourable fiscal situation to implement a comprehensive reform of the tax system, which would have been far more difficult under other circumstances, and also to adopt a number of institutional reforms designed to improve both the process of fiscal policy-making and the management of public expenditure. Such institutional reforms were intended to help entrench fiscally responsible practices.

Table 5.5 Federal budget: key variables under different oil price assumptions (as a share of GDP)

	1997	1998	1999	2000	2001	2002	2003
Actual revenues (excl. Social tax) (1)	10.8	9.2	12.8	15.5	17.8	17.2	16.7
Revenues assuming average oil price (2) (\$19-Urals)	12.6	10.4	13.2	14.1	16.2	15.3	15.0
Oil windfall (3) = (1) - (2)	-1.8	-1.2	-0.4	1.4	1.6	1.9	1.7
Actual budget balance (4)	-7.4	-5.0	-1.1	1.4	3.0	1.7	1.7
Budget balance assuming average oil price :							
(\$19-Urals)	-5.6	-3.9	-0.7	0.0	1.4	-0.2	0.0
(\$12-Urals)	-6.0	-4.4	-1.9	-1.0	0.0	-2.1	-2.0
Actual budget surplus as a % of oil windfall ((4) / (3))				103	190	88	100

Source: Economic Expert Group, OECD calculations based on Kwon (2003).

Tight fiscal policy was also instrumental in sterilising part of the foreign exchange inflows resulting from large external surpluses. These would otherwise have resulted in a sharper appreciation of the rouble or even faster monetary expansion. Fiscal sterilisation was mainly achieved via budget surpluses. However, an increasing -- though still small -- share of fiscal sterilisation was also realised by shifting hard-currency denominated sovereign debt into rouble-

denominated debt, reflecting the financial markets' renewed interest in such instruments.⁶⁶

Tax reform also played an important role in sustaining the recovery.⁶⁷ Greater simplicity has increased the efficiency of taxation while decreasing distortions to economic activity. Many tax rates were significantly reduced, while tax bases were broadened. This diminished both incentives and opportunities for tax evasion. Moreover, the tax system was also oriented towards capturing a larger share of natural resource rents, especially windfall profits from high oil prices. This, together with a reduction in the profit tax rate and the introduction of a simplified unified social tax (regrouping several social payments), was also a first step towards reducing the tax burden on the whole of the productive sector, while increasing taxation of the resource sector.

There were also very deep structural cuts on the expenditure side. General government expenditures (including all levels of government and social funds) in 2000-04 were about 10 percentage points of GDP lower than before the crisis, while revenues relative to GDP had remained at roughly their pre-crisis levels⁶⁸. This reduction in the spending-to-GDP ratio coincided with massive reductions in wage and pension arrears, and did not result in any substantial deterioration in the provision of public services. This suggests that the creation of a federal treasury, the reform of fiscal federal relations and the government's overall spending restraint contributed to more efficient expenditure management. There also was a 'virtuous cycle' with respect to debt, as debt repayment from budget surpluses and rouble appreciation led to sharp falls in the ratio of debt service to GDP. Federal interest expenditures fell from 3.4 percent of GDP in 1999 to 1.2 percent in 2004. Lower levels of government expenditure also gave Russia room to reduce the tax burden, which was an additional stimulus for private investment and consumption, and hence economic growth.

Prudent fiscal policy and the resulting budget surpluses played a key role in reviving private investment. From 1990 to 1998 real investment fell continuously. After 1995, this was to a great extent because large government deficits and correspondingly large borrowing requirements pushed real yields on government paper into double and even triple digits, crowding out private investment.⁶⁹ New issuance of government bonds after the crisis was very limited and took place at negative real interest rates, which served to redirect private capital to more productive uses. This was reflected in increasing investment. Moreover, while

⁶⁶ See OECD (2004), pp. 36 and 75 for details.

⁶⁷ For an overview of tax changes since 2000 see OECD (2002) and OECD (2004).

⁶⁸ In fact, effective revenues are substantially higher, as pre-crisis a significant share consisted of non-cash payments. The real value of these money surrogates was often substantially below their face value. See Tompson (1999) and Pinto et al. (2000) for details.

⁶⁹ See, e.g., Ahrend (1999).

interest rates for private borrowing mattered little immediately after the crisis (non-related-party lending was almost non-existent), in following years the positive impact of tight fiscal policy on interest rates became more important. Fiscal discipline helped reduce spreads on Russian external debt and helped lower internal real interest rates, as did a de facto loose monetary policy.

Macroeconomic stabilisation and the restoration of a common legal space in Russia after 1999 contributed to reduce economic uncertainty. This reduction in perceived risk was evident, for example, in the decline of the risk premia both on Russian sovereign and corporate foreign-currency debt. This, together with the widespread (at least until mid-2003) impression that property rights had become more secure, contributed to a stock-market boom which saw the RTS stock index increasing from a trough of 131 at the end of 2000 to a peak of 774 in early 2004, before trading sideways in the 550-700 range for the rest of 2004 and the first half of 2005, before reaching new heights in the second half of 2005.

The perception that property rights had become sufficiently secure (a perception that, in hindsight, turned out to be misguided in some cases) was one of the factors contributing to the recovery of investment in 2000 and especially 2001. This effect was particularly strong in the oil sector, where investment jumped from roughly 25 percent of industrial investment before the crisis to around 35 percent from 2000 onwards⁷⁰. Strikingly, the growth of oil-sector investment was led by companies controlled by the state or by oil industry insiders (the latter often referred to as *neftyaniki*): by 2000, their investment was already 70 percent above 1998 levels. This was in sharp contrast to oil companies whose owners' property rights were perceived as less secure, e.g. those owned by major financial groups (the so-called *finansisty*). In these companies investment in 2000 was only marginally above 1998 levels (Table 5.6). However, as perceptions of the security of property rights further improved, the latter group of companies began rapidly increasing investment in 2001, soon reaching levels comparable with the former group. This investment led to a sharp increase in oil production and exports in the following years.

Table 5.6 Oil sector investment (As a percentage of 1998 figures (in nominal USD))

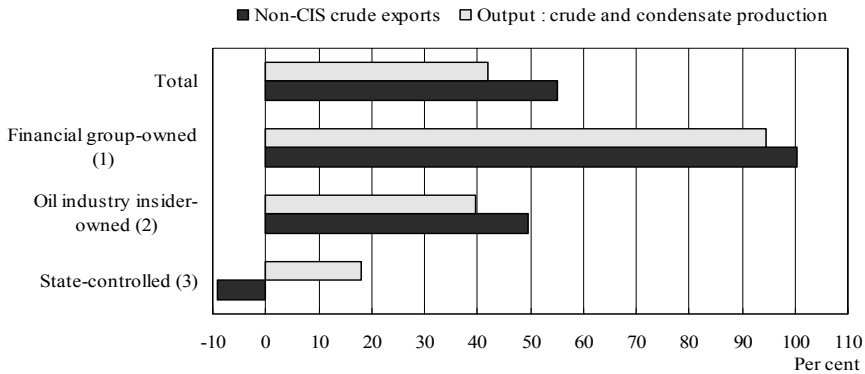
	Upstream capital spending					
	1999	2000	2001	2002	2003	2004
Total	65	148	215	167	194	206
Financial group owned (1)	35	122	225	202	260	226
Oil industry insider owned (2)	80	169	229	174	198	244
State controlled (3)	73	173	244	169	206	204

1. Sibneft, TNK, Yukos. 2. Lukoil, Surgutneftegas. 3. Bashneft, Rosneft, Tatneft
Source: Ministry of Energy, InfoTEK, Renaissance Capital estimates, RIANTEC, author's calculations.

⁷⁰ Clearly, high oil prices were another major factor.

The output and export growth of Russian oil companies was, however, very uneven during 2001-2003, as figure 5.9 clearly shows.⁷¹ Two points stand out. First, state-controlled companies barely increased output or exports.⁷² Russia's private oil companies accounted for almost all of the growth recorded over the period. Secondly, the private companies that did the most to drive this growth were those controlled by major financial groups rather than those under the control of oil-industry insiders.

Figure 5.9 Oil companies: relative performance (01-04 growth inclusive)



1. Sibneft, TNK, YUKOS. 2. LUKOIL, Surgutneftegaz. 3. Bashneft, Rosneft, Tatneft. Source: Ministry of Energy, InfoTEK, Renaissance Capital estimates, RIANTEC, author's calculations.

As a result, from 2001-04 the importance of the private oil companies' performance for the economy as a whole was enormous. As mentioned above, the oil sector contributed close to one quarter of GDP growth during 2001-04. Since state-controlled oil companies barely grew, this means that Russia's private oil companies directly accounted for somewhere between one fifth and one quarter of GDP growth. Taking into account the knock-on effects from oil-sector procurement and wages on domestic demand, the actual contribution of the private oil companies to economic growth was undoubtedly greater still. Moreover, the private oil companies played a crucial role in keeping Russia's external balance in surplus, and thus in allowing the current consumption boom to unfold.

In this respect it is, however, important to note that stressing the importance of the oil sector does not mean that oil sector growth by itself was sufficient to

⁷¹ For detailed data by company see OECD (2004), p.84-5

⁷² The term 'state-controlled' is preferable to 'state-owned', since this category includes companies like Tatneft, which are formally privatised but in reality controlled by state entities.

achieve the high economic growth observed; other factors were also vital for this performance. Nevertheless, it is unlikely that Russia would have been able to grow at anywhere near the rates it experienced in 2001-2004 without strong oil-sector growth. What is more, the performance of the state-controlled oil companies and of other important state-controlled companies⁷³ strongly suggests that Russia's leading private oil companies would not have achieved the growth performance of the last few years if they had remained under state control. In this respect, the gas sector - arguably Russia's least-reformed major sector (it is still dominated by a state-controlled monopolist, OAO Gazprom) seems a good case in point (see Ahrend and Tompson 2005 for details). Not only has the gas sector's record with respect to productivity and unit labour costs since 1998 been by far the worst of any major sector in Russia (see above), but its record with respect to production has also been very disappointing. Gas production has grown by a meagre 1.5 percent per annum over the last five years, as against an all industry average of almost 7 percent.⁷⁴ What is more, what little of growth there has been has usually not come from Gazprom, but from oil companies or independent gas producers. The Economic Expert Group attached to the finance ministry estimates the gas sector's contribution to total GDP growth during 2000-2003 at *-0.8 percent* - so the value added in the gas sector actually fell over the period.⁷⁵

More than half of Russian exports are hydrocarbons, and oil alone accounts for more than 40 percent of total exports. Export *volumes* increased by more than 40 percent during 2000-04 (Figure 5.10A). This increase was overwhelmingly driven by the oil sector, which increased export volumes by roughly 80 percent.

⁷³ See Ahrend (2005a), Ahrend and Tompson (2005) and Tompson (2004).

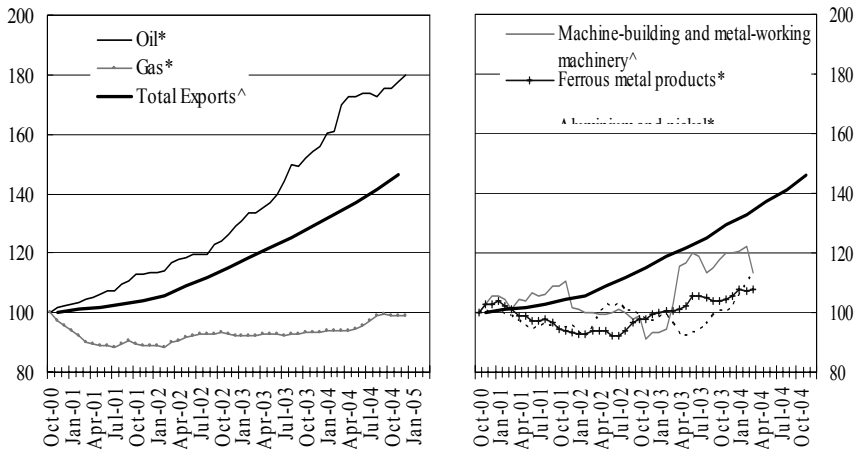
⁷⁴ The dire performance of the gas sector underlines the importance of gas-sector reform from a macroeconomic point of view. The oil sector has shown that with the correct incentive structures - including multiple privately owned production companies and fair access to export infrastructure - production increases on a totally unexpected scale have been possible. In all likelihood the same would hold for a gas sector reformed along these lines. If other producers were given fair access to the trunk pipeline network and some access to export markets, then non-Gazprom producers could increase investment and output very rapidly indeed. And that would probably even help stimulate better performance on the part of Gazprom itself. Unfortunately, developments in 2004-05 would suggest that the structure of the oil sector is more likely to move in the direction of the one prevalent in the gas sector than the other way round. (The "Yukos affair", the "acquisition" of Yugansneftegaz by RosNeft, as well as the planned consolidation of a controlling stake for the Russian government in Gazprom are prime examples.) That said, even relatively inefficient state controlled oil and gas companies should be able to achieve some production increases by teaming up with foreign private sector oil majors for specific projects.

⁷⁵ See Gurchich (2005), table 3.

The other major export sectors contributed little to overall export growth, as their export volumes increased way below those observed in the oil sector (Figure 5.10B),⁷⁶ and natural gas exports actually fell in volume terms.⁷⁷

Import volumes increased by an average of 21 percent per year between 2000 and 2004 – just over double the rate of growth of exports. Thus, both strong oil prices and sharply increasing oil export volumes were vital in keeping the current account in surplus. Since exports in 2000 were almost double the value of imports, import growth was able to outstrip export growth for several years without pushing the current account into deficit (rising export prices also helped).

Figure 5.10 Export performance of main sectors (12 months moving average, index Oct 2000 = 100)



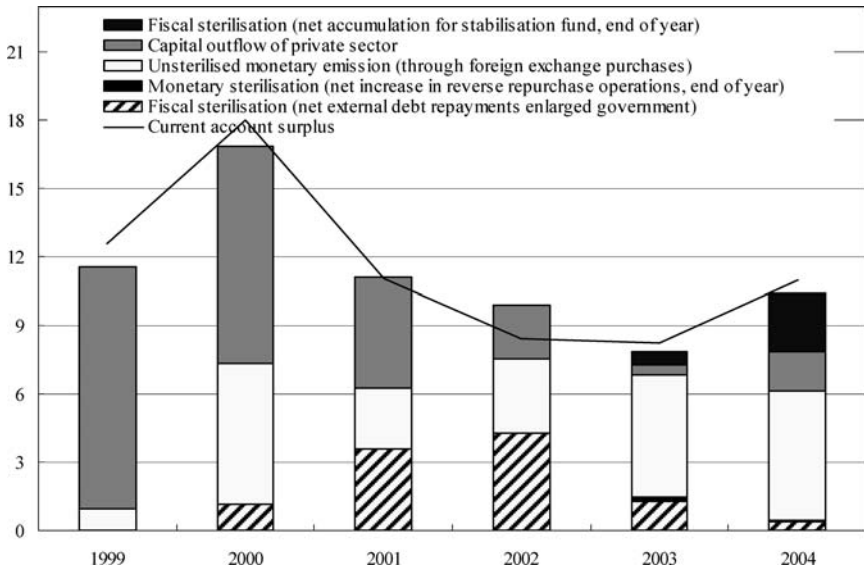
Source: Russian Federal Service for State Statistics, author's calculations and estimates.

⁷⁶ According to official statements, the armaments sector increased export volumes, but there are no official published statistics that would allow an evaluation of the extent of the increase. In any case it is unlikely that these increases would have influenced total export performance very substantially as the share of arms in exports is in all likelihood not very large, probably somewhere around 5 percent.

⁷⁷ Gas export volumes to non-CIS countries, which are widely reported, actually increased over the period. Total gas export volumes (including to CIS countries) fell quite significantly, however. To the extent that gas prices for sales to non-CIS countries are often significantly higher than for sales to CIS countries, this may have contributed to increasing export revenues in spite of falling export volumes.

Indeed, in spite of strongly increasing imports, Russia's current account surplus remained consistently large. This has complicated monetary policy as the CBR has simultaneously tried to limit the real appreciation of the rouble in order not to endanger the competitiveness of Russian industry, while gradually reducing inflation. These partly contradictory policy goals, in the presence of large current account surpluses, increasingly compelled the CBR to intervene on the foreign exchange market (see Figure 5.11). This expansionary monetary stance – in combination with a relatively strict fiscal stance – led to very low rates for rouble lending to enterprises and individuals starting mid-2000, and actually negative real interest rates on deposits or government bonds, with the obvious stimulus for short-term growth.

Figure 5.11 Decomposition of the current account surplus (capital account view, as a percentage of GDP)



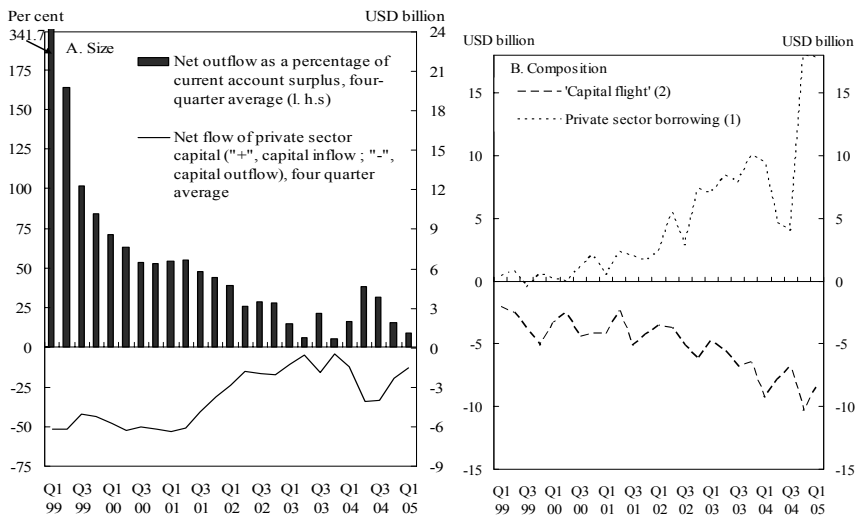
Source: Central Bank of Russia and Russian Federal Service for State Statistics.

Declining sovereign foreign debt levels, together with the improved perceptions of the Russian economy, helped large Russian companies to borrow increasingly from foreign banks and international markets. Enterprises' foreign debt exposure increased by around USD 38 bn during 2000–2004. While increased corporate borrowing in foreign currencies carries some systemic risks and has complicated monetary policy, the positive effect of this has been that

Russian banks have been forced to begin lending to a wider range of corporate clients than before, as well as to consumers.

The net outflow of private sector capital declined steadily between 2001 and mid-2003, as the situation in Russia was perceived to normalise (Figure 5.12A).⁷⁸ Since 2002, however, the change in net capital flows has increasingly been driven by corporate borrowing abroad. The almost perfect mirroring of private sector borrowing and capital flight⁷⁹ (Figure 5.12B) suggests strongly that owners of Russian enterprises have been increasingly borrowing abroad to finance the development of their enterprises, while at the same time taking large amounts of capital out of their companies and beyond the reach of the Russian state.

Figure 5.12 Net private capital flows



1. Net loans to non-financial enterprises and households and changes in liabilities of banks.
2. Non-repatriation of export proceeds and non-supply of goods and services against import advances plus errors and omissions.

Source: Central Bank of Russia.

5. Growth after 2004: A full fledged consumption boom

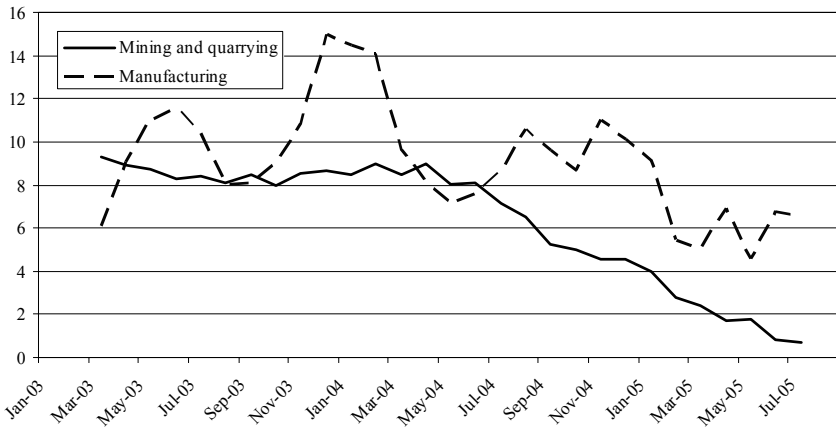
As noted above, thriving consumption in 2002-04 (though in 2004 to a lesser degree) was balanced by rapidly increasing volumes of oil exports, so that while growth was increasingly *driven* by consumption, it was largely *sustained* by

⁷⁸ Net private outflows, however, rose again as the "Yukos affair" unfolded.

⁷⁹ The capital flows that we refer to as capital flight here (and that could also be thought of as asset diversification) in all likelihood also include some financing of un- or under-reported imports.

increasing export volumes. The contribution of net exports to growth was small, but export growth was fast enough to prevent it from turning strongly negative despite booming imports. In the latter half of 2004 and early 2005, however, the quality of growth deteriorated. The consumption boom accelerated further as the authorities increasingly allowed cyclical gains in budget revenues from rising oil prices to feed into the economy in order to boost domestic demand. The boost to domestic demand was meant to increase the expansion of domestically oriented sectors such as services or manufacturing, and thus to counteract a sharp slowdown in industrial production growth, especially in the export oriented mining sectors (see figure 5.13). While the boost in demand stimulated an acceleration in the service sector (not in small measure due to the beneficial effect on retail trade of strongly increasing imports that rose almost 30 percent in USD terms in the second half of 2004 and the first half of 2005) its positive impact on domestically oriented manufacturing sectors remained limited. To be sure, manufacturing experienced a somewhat less severe slowdown than mining and quarrying. However given the large stimulus to domestic demand, the performance of the manufacturing sectors remained rather disappointing, which certainly owed much to the fact that a significant share of demand for its products had in recent years come from the resource extraction sector, and was hence affected by the latter's decline.

Figure 5.13 Industrial Output (y-o-y percentage growth, 3M MA)

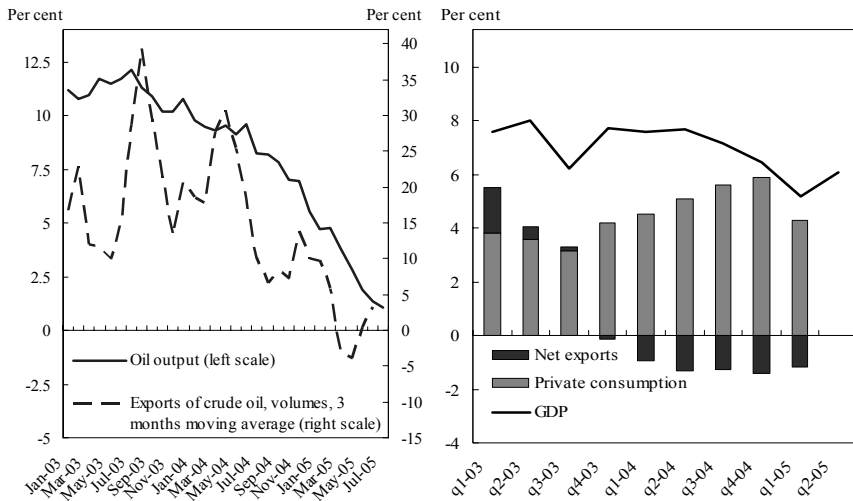


Source: Russian Federal Service for State Statistics

The sharp growth slowdown in mining and quarrying, in turn, was mainly driven by a slowdown in the oil sector (see Figure 5.14A). While undoubtedly the oil sector would not have been able to sustain double digit extraction and export growth indefinitely, there is no convincing geological reason why there should have been such a sharp slowdown in the growth of oil extraction from mid-2003 onwards. The oil sector slowdown was mainly a consequence of a sharp fall in oil

sector investment amidst the deterioration in the business climate that resulted from the complex legal and political campaign directed by the state against the private oil company Yukos and its main shareholders, combined with substantial increases in oil sector taxation and tightening infrastructure constraints, which raised the cost of exports.⁸⁰ The impact of the oil-sector slowdown on GDP growth was masked in the first half of 2004 by a further acceleration of already booming private consumption. However, slowing export growth meant that the contribution of net exports to growth became increasingly negative, so the effects of the slowdown in the oil industry on GDP growth became more apparent throughout 2004 and in early 2005 (Figure 5.14B).

Figure 5.14 Oil Extraction and Oil Exports (Growth, year-on-year), left pane, and Contributions to GDP growth (right pane)



Source: Russian Federal Service for State Statistics

⁸⁰ Part of the explanation may also have been infrastructure constraints. However, transport bottlenecks were nothing new, and Russian oil companies facing very high prices had previously responded to pipeline constraints by simply shipping oil via other, more expensive means, such as rail. A growing tax burden on the industry was also cited by some observers. Tax changes introduced in 2003-04 may have had some effect, but the tax burden on the Russian oil industry does not look particularly heavy by international standards and Russian producers have continued to report handsome profits. In this respect it is also noteworthy that increased insecurity raises the 'hurdle rates' for investment, and hence tax rates that would normally allow for sufficient investment may become suddenly prohibitive when there is a marked deterioration in the business climate.

In order to understand why the complex legal and political campaign against Yukos and its main shareholders had such a rapid and strong negative impact on economic growth it is important to understand that most oil-sector investment in Russia in recent years has been aimed at *increasing current production from existing fields rather than developing new fields*. As a result the lag from oil investment to oil production has been fairly short; for example increasing investment in 2000/2001 led to strong oil extraction growth already in 2001. With the onset of the ‘Yukos affair’, increased uncertainty with respect to the security of property rights, combined with the disruption of what was then Russia’s largest oil company led to a slowdown in oil sector investment growth in late 2003 and to a drop in 2004. Against a backdrop of strongly rising oil prices, Russian oil companies’ upstream capital expenditure in real terms fell sharply in 2004.⁸¹ There were also significant declines in both exploratory and production drilling during that period. Moreover, the investment slowdown was particularly pronounced among the two privately owned oil companies at the centre of the scandal – Yukos and Sibneft.⁸² These two had been raising output faster than any other major Russian company prior to the onset of the affair. Unsurprisingly, the slowdown in investment was therefore soon reflected in a growth slowdown of oil production and exports.

The output of Yuganskneftegaz and other Yukos production subsidiaries was in addition affected by the disruptions resulting from uncertainty with regard to their future, and Yuganskneftegaz (formerly Yukos’s most important oil production unit) suffered from the turbulence connected with the change of ownership after its ‘sale’ in end-2004. While Russian oil companies (excluding Yukos and its former subsidiary Yuganskneftegaz) increased oil output by slightly above 6 percent y-o-y in the first 8 months of 2005, total Russian oil production rose a very modest 3 percent. This was attributable to Yukos and its former subsidiary, Yuganskneftegaz; pro-forma Yukos oil production (including Yuganskneftegaz) was down a substantial 10.8 percent y-o-y.

While the onslaught against Yukos was the most visible case of arbitrary state action against private business, it was not by any means been the only one. Numerous Russian companies came under pressure from the tax service, the prosecutors and the courts, often in cases that clearly appeared to be motivated by private commercial or political motives. The Federal Tax Service was perhaps the most aggressive player of all: in the first nine months of 2004, it collected more than Rb470bn in tax claims for past years, as compared with Rb150bn for the

⁸¹ The aggregate increase in upstream capital expenditure (in nominal dollars) recorded in 2004 was largely the product of rising commitments to the two offshore Sakhalin PSA projects led by the international oil majors. In any case, due to a strong appreciation of the Rouble with respect to the dollar throughout 2004, total oil sector investment in real terms declined.

⁸² In the case of Yukos, of course, the company was largely *unable* to invest as a result of freezes on its accounts and asset seizures.

whole of 2003. This reflected a dramatic increase in the service's propensity to reopen tax cases from past years, often penalising taxpayers for practices that it had previously approved. As a result – while the state moved to tighten its grip anew on key “strategic” sectors, especially resource sectors – the general investment climate deteriorated significantly. Overall investment growth slowed all through 2004,⁸³ and capital flight rose sharply.

6. Conclusion

The economic results of the policy shifts in 2003/04 are not hard to see. While Russian GDP growth was an apparently respectable 7.2 percent in 2004, growth slowed across the year despite a significant fiscal stimulus and sharply rising prices for oil and other major export commodities.⁸⁴ Russia's 2004 growth performance must also be seen alongside that of other CIS countries, which averaged real GDP growth of around 10 percent. While 2005 has seen some pick-up after a particularly weak first quarter, Russia's growth performance remains disappointing in the context of an external environment that arguably has rarely been as benign for Russia as in 2004 and 2005. Several factors contributed to the deterioration in Russian economic performance in 2004-05, but it clearly owed much to the deterioration in the business climate and the slowdown in oil sector growth, both of which were largely policy-driven.

It is undoubtedly unfortunate that 2004 and the beginning of 2005 witnessed a deterioration in the business climate, largely stalled structural reform efforts, an increase in the state's role in key sectors, and a gradual fiscal loosening to compensate for the loss of economic momentum.

However, on a more positive note, 2005 also saw efforts by some political leaders to reverse some of these negative tendencies, in an effort to repair the damage done over the previous year. Moreover, even though Russian fiscal policy has been expansionary since the second half of 2004 and windfall oil revenues are increasingly being spent, Russia has so far still saved a much larger share of the oil windfall than most other oil producing countries. For example, the first 9 months of 2005 saw early repayments of USD 15bn of Russian public external debt. This relative fiscal discipline will serve Russia well if and when oil prices retreat from the highs witnessed in 2005, as the negative effect on the Russian economy is likely to be less severe than in a large number of other resource based economies.

⁸³ Investment growth came in two percentage points of GDP lower than in 2003.

⁸⁴ Fiscal policy in 2004 was characterised by both tax cuts and substantial increases in spending, and the all-commodity price index for Russian exports was up almost 20 percent year-on-year.

That said, with the economic policies of 2004-05, Russia is unlikely to be able to *sustain* the rapid growth it has declared it is aiming for in neutral – let alone adverse – circumstances.

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Chapter 6

Evidence on the Bank Lending Channel in Ukraine

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1. Introduction

For effective management of monetary policy in any country it is critical to understand how monetary policy is transmitted into the economy and the role that financial sector plays in the process. Studies on transmission of monetary policy in Ukrainian economy are extremely scarce. This chapter attempts to add some insights on the possibility of bank lending channel in Ukraine and measure the relative strength of its effect. Our key task is to estimate how supply of loans by commercial banks reacts to monetary policy shocks.

The first theoretical explanation of monetary policy transmission, the so called Keynesian traditional interest rate channel, suggests that monetary policy shock propagates through the economy in the following way. Expansionary monetary policy leads to a fall in the real interest rate thus lowering the cost of capital, reduced cost of capital causes an increase in investment spending, which increases aggregate demand, and, ultimately, output. Functioning of this channel (Keynesian theory) rests on the assumption that there are two assets in the economy – money and interest bearing bonds.

Modern literature questions the plausibility of the conventional interest rate channel. First, empirical evidence does not support the proposition that interest rates can effect investment through the cost of capital. Bernanke and Gertler (1995) provide an overview of studies showing that cost effects are very weak. Second, it is unclear how changes in the short-term interest rates (the rates that the central bank can control) can create changes in investment that should depend on the real long-term interest rates.

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These two shortfalls of traditional theory stimulated a lot of research on the alternative transmission mechanisms that would be able to explain how changes in the short-term interest rates can induce changes in the level of investment. Mishkin (1997) lists about nine such mechanisms that can be broadly divided into two categories: those operating through asset prices and those operating through credit markets. Bank lending channel is the one of the channels that operates through credit market.

The bank lending channel theorists assume that there are three assets available for businesses and households in an economy – money, bonds and deposits. Adding deposits creates the role for commercial banks in transmission of monetary policy. The bank lending channel operates as follows: a contraction in the money supply by the central bank decreases bank deposits and forces the commercial banks to cut on lending. The decrease on loans makes business and consumers, who depend on bank loans and cannot raise funds from other sources, reduce their purchases of durable goods and purchases of capital for investment so that real economic activity slows down.

Hence, the economic significance of bank lending channel depends on a) existence of bank dependent borrowers, b) quantitative impact of central bank's monetary policy on supply of bank loans. Since the first condition usually holds for most economies, recent empirical studies have concentrated on testing whether a central bank can control the supply of commercial bank loans. They typically study individual bank data and build on the theoretical conclusion (Peek and Rosengren, 1995) that strong and weak banks should respond differently to policy shocks. Lending responses, if they emanate from loan supply changes, should be disproportionately large for less creditworthy banks with weak balance sheets, which are more likely to have difficulties substituting lost deposits with external forms of finance.

We use the panel of annual balance sheet data (1998 to 2003) on 149 Ukrainian commercial banks and test whether lending responses to a change in monetary policy differ depending on the balance sheet strength of a bank. Our results suggest that undercapitalized banks are more affected by a monetary policy action than an average bank, which is consistent with bank lending channel hypothesis.

Chapter 6 first overviews theoretical work on operations of the bank lending channel and empirical studies testing the existence of the channel for other (mostly European) economies (Sections 2 and 3). Then we present theoretical model allowing to formulate testable empirical model and discuss institutional factors potentially related to functioning of the bank lending channel in Ukraine (Sections 4 - 6). The results of estimation are summarized and discussed in Section 7, followed by Conclusions.

2. Overview of the Recent Literature on Lending Channel

The recent academic debate on the bank lending channel is trying to accurately define the role of the banks in monetary transmission as well as to explain the behaviour of a bank as it reacts to a shock.

According to Mishkin (1996) the policy transmission through lending channel is the following. Contractionary policy lowers deposits in the banking system, which cause decline in bank loans. Declining bank loans lead to lower investment and consumer spending because banks play a special role in reducing asymmetric information between borrowers and lenders, who would not be able to obtain loans without bank intermediation. Reduction in bank deposits causes a reduction in bank loans because of imperfect substitutability between bank deposits and other sources of financing for banks. Mishkin (1996) stresses the role that asymmetric information between borrowers and lenders plays for the lending channel to have economic power. He doesn't state explicitly whether the bank lending channel is an independent sub-channel of the traditional interest rate channel.

Bernanke and Gertler (1995) argue that the bank lending channel component is not a truly independent mechanism, but rather a special amplifier of the conventional interest rate channel. They introduce the external finance premium, which is defined the difference in cost between funds raised externally (by issuing debt or equity) and funds generated internally (retained earnings). According to the authors a change in the monetary policy that raises or lowers open market interest rates usually changes external finance premium in the same direction. The size of this premium reflects the degree of imperfections in credit markets that determines the discrepancy between the expected return received by lenders and the costs faced by potential borrowers. According to their formulation of the credit view, "a change in monetary policy that raises or lowers open-market interest rates tends to change the external finance premium in the same direction". And because of this additional effect of monetary policy on external finance premium, the impact of monetary policy on borrowing cost and, therefore, on real activity is amplified.

A much more fundamental study of the bank lending channel is made by Kashyap and Stein (1993). They generally follow an earlier formulation by Bernanke and Blinder (1988), but strengthen their theoretical postulates and assumptions by outlining microeconomic foundations needed to generate bank lending channel. Importantly, Kashyap and Stein (1993) argue that information asymmetries in loan-making are irrelevant for the lending channel existence – the lending channel simply requires that the supply of loans to decrease, when the central bank implements contractionary policy and increase when expansionary policy is conducted. Kashyap and Stein (1993), unlike Bernanke and Gertler (1995), treat the bank lending channel as an independent one, contrasting it with the traditional interest rate view.

To analyze microeconomic foundations effecting the existence and power of

bank lending channel Kashyap and Stein rely on three conditions formulated earlier by Bernanke and Blinder (1988) for a distinct bank lending channel to exist:

1. Firms should not be able to completely compensate a reduced supply of commercial bank loans from other sources. If, for instance, firms experiencing shortage of bank loans can instead start borrowing money from the public via bonds, then the decrease in supply of loans does not affect the firms in any way.
2. The central bank must be able to affect the supply of loans – banks must not be able to offset the decrease in deposits caused by open market sales of the central bank or increased reserve requirements by raising funds from any other source. Otherwise the total supply of loans to the economy may not change.
3. There must be imperfection in the adjustment of the aggregate price level. The imperfect adjustment in prices is necessary, since monetary policy would have no effect if prices increased by 10% every time money supply increased by 10%. Only when an increase of 10% in money supply is accompanied by an increase of less than 10% in prices will monetary policy be effective.

The third condition is usually met in an economy, according to the authors. Thus, to test the existence of the lending channel one has to verify that conditions 1 and 2 are satisfied for an economy in question.

With respect to the first condition, Kashyap and Stein refer to other researchers (e.g. Diamond, 1984) and conclude that if contractionary monetary policy reduces the supply of loans, firms dependent on loans to finance their business activities will be affected adversely.

The second condition requires careful empirical examination for each particular economy. There are institutional arrangements that weaken the power of bank lending channel. Two most important ones are the existence of capital adequacy regulations and the participation of non-banking financial institutions in the loan supply. Capital adequacy regulation restricts the supply of loans that a bank can make by the amount of available capital and leaves less room for loan response to monetary policy. The central bank also cannot control loans issued by non-banking financial institutions, which implies a lower overall capacity to affect loans to the economy.

Kashyap and Stein consider also the behaviour of banks in response to policy change. If, for example, monetary tightening raises reserve requirements and reduces bank deposits, a bank can respond by selling some of its securities holdings (T-bills), can attempt to raise non-deposit financing (long term debt, CDs, equity, etc.) or can cut back on the amount of loans it makes. The authors conclude that the first two outcomes are not very likely. Banks usually hold some optimal amount of T-bills – the amount that is necessary to cushion against the risk of sudden deposit withdrawal. Holding more than that amount bears opportunity costs as T-bills usually pay lower return than loans. Raising non-deposit financing (i.e., non-reservable form of finance) is also problematic,

especially for small and/or modestly capitalized banks. Because of asymmetric information between debt issuing bank and investors, the marginal cost of external financing is an increasing function of the amount raised. So, the conclusion of Kashyap and Stein (1993) is that an average bank should respond by cutting back on loans, only strong and well-established banks can attempt to raise external finance and thus their lending may respond less to policy changes.

The majority of empirical studies on the bank lending channel have been trying to test the second condition that a central bank can affect the supply of commercial bank loans.

3. Empirical Literature

Studies of the US monetary policy provide evidence of credit channel and bank lending channel. The evidence for European Union as a whole is mixed (Atlunbus et al, 2002). The authors conclude that the bank-lending channel appears more prevalent for banks with low capitalization operating in smaller EMU countries. Westenlund (2003) finds that in Sweden small and undercapitalized banks are significantly affected by monetary policy, which supports the hypothesis of bank lending channel. Hernando (2001) tests the existence of bank lending channel in Spanish economy for the period 1991-1998 and find no evidence in favour of the channel. Farinha (2001) finds the existence of the bank lending channel in Portuguese economy. There is also evidence on the significant strength of bank lending channel in Chile (Alfaro, 2003). More recently, Engler et al. (2005) also find some signs that the bank lending channel is at work with an important role for capitalization in Austria.

Below we briefly overview the methodology of these empirical studies and discuss their conclusion in more detail.

Kishan and Opiela (Kishan and Opiela, 2000) use quarterly balance sheet data for 13, 042 US commercial banks. To analyze cross sectional differences in lending, banks are divided into six asset categories and within each category are further subdivided into three capital leverage ratio groups. Then, for each of the eighteen samples the authors estimate the effect of policy on total loans – the growth rate of loans is regressed on four lagged values of itself, four lagged values of the change in the federal funds rate (monetary policy indicator), current period growth in the large time deposits and current period growth in securities. Also included are three seasonal dummy variables and GDP growth.

Kishan and Opiela find the loan growth of small undercapitalized banks, small adequately capitalized, and small well capitalized banks is significantly affected by policy. Another conclusion they make is that categorizing banks by size and capital adequacy will highlight loan supply shifts given a change in monetary policy.

Atlunbus (Atlunbus et al, 2002) adopt an approach similar to Kashyap and Opiela (2000) and investigate evidence of the lending channel across the 11 euro

area countries and then investigate the same channel for the four largest banking systems – Germany, France, Italy, and Spain. They use annual data for the period 1991 to 1999. Using individual bank level data the growth of bank loans is regressed on the lagged value of itself, current period and lagged values of changes in the short-term money market rate, current and lagged growth in bank securities holdings, current and lagged growth in interbank deposits, current and lagged GDP growth.

The paper concludes that across the euro area, undercapitalized banks (of any size) tend to respond more to change in policy. Results for individual country estimates for France, Germany, Italy, and Spain suggest that only in the latter two cases there is evidence of bank lending channel.

Unlike Altunbus et al, Hernando's (2001) test for bank lending channel in Spanish economy finds no evidence in favour of the channel. He studies response of loans and deposits to monetary policy and the model is specified as

$$\Delta z_{it} = \sum_{j=1}^4 \rho_j \Delta z_{it-j} + \sum_{j=0}^4 \beta_{1j} \Delta x_{t-j} + \beta_2 c_{it-1} + \sum_{n=1}^N \sum_{j=0}^4 \beta_{3j}^n c_{it-1}^n \Delta x_{t-j} + \varepsilon_{it} \quad (1)$$

where z is the log of deposits or the logs of loans, x is a vector of macroeconomic variables (real GDP growth, inflation) and a monetary policy indicator, c is a vector of bank specific characteristics. Macroeconomic variables are included to control for demand effects and the cross product term should capture difference in policy response for different banks. The paper finds no evidence for the existence of an operative bank lending channel in the Spanish economy in the 1990s.

Similar study for Portugal by Farinha (2001) finds the existence of the bank lending channel in the Portuguese economy.

Westenlund (2003) studies monthly data on 12 Swedish banks. The loans' growth is modelled similarly to (1), but instead of macroeconomic variables, growth rates of real certificates of deposits and securities held by a bank are included to capture movements in demand for loans.

To address the bias problem created by the lagged values of loans in the right hand side, the author suggests using valid instruments for each of the six lagged values. He follows the suggestion made by Anderson and Hsiao (1982) and uses the twice-lagged levels as instruments.

Westenlund finds that in Sweden small and undercapitalized banks are significantly affected by monetary policy, which supports the hypothesis of a bank lending channel.

Engler et al. (2005), using confidential quarterly balance sheet data provided by the Austrian Central Bank (OeNB) covering all Austrian banks, they employed an unbalanced panel to test for the existence of a bank lending and a bank capital channel, under different degrees of capitalization. Using a traditional Arellano and Bond estimator, they estimate

$$\begin{aligned} \Delta \ln L_{it} = & \sum_{j=1}^8 \alpha_j \Delta \ln L_{it-j} + \sum_{j=0}^3 \beta_j \Delta MP_{t-j} + \sum_{j=0}^3 \varphi_j \Delta \ln REER_{t-j} + \sum_{j=0}^3 \delta_j \Delta \ln y_{t-j} + \lambda X_{it-1} + \\ & \phi \lambda \rho_t \Delta MB_{t-1} + \sum_{j=1}^3 \gamma_j X_{it-1} \Delta MP_{t-j} + \sum_{j=1}^3 \eta_j X_{it-1} \Delta \ln REER_{t-j} + \sum_{j=1}^3 \tau_j X_{it-1} \Delta \ln y_{t-j} + \\ & \sum_{j=1}^3 \sigma_j SD_j + \sum \kappa D + \vartheta \Psi_{it} + \varepsilon_{it} \end{aligned} \quad (2)$$

Where L_{it} is the loans of bank i in quarter t , MP_t is the monetary policy indicator, y_t is the real GDP, $REER_t$ is the real effective exchange rate, X_{it} is the measure of excess capital, ρ_{it} is the cost per unit of asset that a bank incurs due to a one percent increase in MP_t , D is a set of shift dummies that controls for jumps caused by mergers, SD are three seasonal dummies and Ψ_{it} is $\ln(\text{assets})$ as control variable.

While they find evidence of the bank-lending channel, they are unable to confirm the existence of a bank capital channel in Austria. A possible reason this could be attributed to the fact that until recently the OeNB merely collected five maturity classes for bank assets and liabilities instead of the thirteen classes suggested by the amendment of the Basel Accord to include market risk (1996). Another potential source of weakness could be the structure of maturity transformation in the Austrian system. An irregularity appears to exist whereby many Austrian banks show maturity transformation profits rather than transformation costs. A specific bank network structure is in place within Austria, which serves as a further possible explanation for this result, as the existence of networks have a powerful implication on the reaction of banks' to changes in monetary policy.

Relating to the measure commonly adopted as the indicator for monetary policy shocks, they make an interesting finding. When identifying the monetary policy shocks by the deviation of the rule followed by the central bank, i.e. the systematic part of the monetary policy, they observe that the estimated coefficients show both different signs as well as a different magnitude. The latter measure for monetary policy shocks has not been used frequently in the literature for Austria.

4. Theoretical Model

We consider a representative bank, whose behaviour can be described by the Peek and Rosengren (1996) model. The bank has three types of assets: required reserves (RR), securities (SEC), and loans (LN) and three types of liabilities: demand deposits (DD), large time deposits (TD) and capital (K). The balance sheet identity requires

$$RR + SEC + LN = DD + TD + K \quad (3)$$

Demand deposits are inversely related to a market interest rate (for example, the federal funds rate, r_{FF}). An increase in market interest rates increases opportunity cost of holding demand deposits, causing bank customers to reduce their holdings of demand deposits and shift into interest paying assets.

We assume also that banks have some market power in the TD market and can raise the TD by raising its rates (r_{TD}) above the market mean rate (\bar{r}_{TD}). Therefore,

$$DD = a_0 - a_1 r_{FF} \quad (4)$$

$$TD = b_0 + b_1 (r_{TD} - \bar{r}_{TD}) \quad (5)$$

Banks hold a fraction α of DD in required reserves (RR). Security holdings are assumed to compose a fixed proportion of DD (a “buffer stock” motive for holding securities). The market for bank credits is assumed to be imperfectly competitive – a bank can decrease (increase) its credits by setting its credit rates below (above) the mean market rate (\bar{r}_{LN}):

$$RR = \alpha DD \quad (6)$$

$$SEC = c_0 + c_1 DD - RR \quad (7)$$

$$LN = d_0 - d_1 (r_{LN} - \bar{r}_{LN}) \quad (8)$$

The mean market rates are assumed to be directly related to the federal funds rate with fixed spreads:

$$\bar{r}_{TD} = e_0 + \phi r_{FF} \quad (9)$$

$$\bar{r}_{SEC} = f_0 + \phi r_{FF} \quad (10)$$

$$\bar{r}_{LN} = g_0 + \phi r_{FF} \quad (11)$$

Bank profits are interest income on loans net of loan losses ($\Phi \cdot LN$) and the interest on securities, minus the interest paid on demand deposits and on time deposits:

$$\pi = (r_{LN} - \Phi)LN + r_{SEC}SEC - r_{DD}DD - r_{TD}TD \quad (12)$$

Profits are maximized with respect to TD after eliminating RR, DD, LN, SEC, and rDD and rLN and first order conditions are solved for TD. In a similar way we solve for LN and SEC.

We want to test the hypotheses that policy shocks should have different impact on strong and on weak banks. Small and undercapitalized banks should be more

sensitive to the policy than large banks.

To derive testable relationships take the derivatives of the LN, TD, and SEC equations with respect to r_{FF} :

$$\frac{\partial LN}{\partial r_{FF}} = -[a_1 d_1 (1 - c_1)] / [b_1 + d_1] < 0 \quad (13)$$

$$\frac{\partial TD}{\partial r_{FF}} = [a_1 d_1 (1 - c_1)] / [b_1 + d_1] > 0 \quad (14)$$

$$\frac{\partial SEC}{\partial r_{FF}} = -a_1 (c_1 - \alpha) \leq 0 \quad (15)$$

Increase in the r_{FF} increases TD, but LN will fall in response to contractionary policy. The response of SEC is indeterminate. Contractionary policy could induce well-capitalized banks to sell securities to continue providing loans. So, for banks with high capital and/or large securities portfolio (14) is likely to be negative. If TD are used to increase loans during monetary contraction, securities may increase to balance asset risk. This also depends on capitalization.

The model also assumes that the interest rate sensitivities of TD and LN are related to bank size and capital adequacy. Larger and better capitalized banks should be able to easier attract TD. Since large banks have a larger proportion of loans with large firms (Morgan 1998) and large firms have more alternative sources for borrowing, we hypothesize that the demand for bank loans of large firms is more elastic with respect to loan rates than that of smaller firms:

$$b_1 = \beta(A, K), \quad \text{where } \beta_1, \beta_2 > 0 \quad (16)$$

$$d_1 = \delta(a), \quad \text{where } \delta_1 > 0 \quad (17)$$

A- size of assets

(15), (16) \rightarrow (12), (13) and take the derivative with respect to assets and capital:

$$\partial \left(\frac{\partial LN}{\partial r_{FF}} \right) / \partial A \leq 0 \quad (18)$$

$$\partial \left(\frac{\partial LN}{\partial r_{FF}} \right) / \partial K > 0 \quad (19)$$

The net effect of asset size on sensitivity of LN and TD is indeterminate. Since large banks may find it easy to raise funds to offset the effects of contractionary policy, they can use these funds to grant loans. But as rates increase they can lose loans to substitute source of financing.

The effect of capital on the response of loans to the change in federal rates is positive. As bank becomes better capitalized the amount of loans it provides becomes less sensitive to the policy.

Equations (12) and (18) support the bank lending channel that policy affects loans and the strength of the effect depends on bank capital.

5. Empirical Model

We want to empirically test the hypotheses following from the Peek and Rosegren (1996) theoretical model that strong and weak bank react differently to a change in monetary policy. In particular, we want to test the effect of bank capital and bank asset on the response of loans to change in the policy. The theory predicts that better capitalized banks should be less sensitive to changes in policy and the impact of asset size is ambiguous.

Therefore, we are trying to explain the growth rate of bank loans, ΔLN , for bank $i=1, 2, \dots, N$ in time period $t=1, 2, \dots, T$.

The explanatory variable of primary interest is i_t - an exogenous indicator variable describing monetary policy shocks. The literature finds that the change in a short term interest rate under the control of the central bank (Bernanke and Blinder, 1992) is a good measure of monetary policy shocks. All available recent studies of European economies use a short-term interest rate under control of the central bank (Hernando and Martinez-Pages, 2001, Kakes and Sturm, 2002, Altunbas, Fazylov, and Molyneux, 2002, Farinha and Marques, 2001, Westerlund, 2003). We will use the Kyiv interbank offered rate as the policy indicator.

The effect of monetary policy on bank loans depends, as explained above, on the balance sheet strength of a bank. We include a second set of explanatory variables that is interaction between the change in i_t and a measure of balance sheet strength of a bank. As already mentioned, the theory suggests capital and asset size as measures of bank strength. Empirical papers typically use asset size (A_{it}), liquidity (LIQ_{it}), or capitalization (CA_{it}) as separating variables. We include all three of them into the original specification and then test down - i.e., test for their joint significance and drop the irrelevant variable(s).

We also have to isolate changes in total loans caused by movements in loan demand, since we are testing whether the Ukrainian central bank can affect the supply of loans. To account for loan demand movements variables like GDP or CPI have traditionally been added to the model. However, macroeconomic aggregates are common for all banks and fail to capture demand changes for an individual bank. To better control for cross-sectional differences in loan demand, measures like real certificates of deposits and bank securities holdings (Kashyap and Stein, 1995, Kishan and Opiela, 2000) were suggested.

We will use term deposits (TEDE) and interbank borrowings (IBLN) to proxy movements in demand for loans of a particular bank. For Ukrainian banks securities holdings is not likely to capture demand. First, as discussed in Section 4.5 securities is a negligible asset item for all Ukrainian banks (Tables 5.1 and 5.2).

Second, the Ukrainian central bank has restrictive regulations on bank operations with commercial securities. Besides, the Ukrainian stock market is in a rudimentary state of development, which makes transactions in securities very costly and also risky.

We also have to include lags of both dependent and explanatory variables to allow for dynamic effects

Therefore the model specification is as follows:

$$\Delta LN_{it} = \alpha_i + \gamma_i \Delta LN_{it}(-1) + \sum_{j=0}^1 \beta_j \Delta i_{t-j} + \sum_{j=0}^1 \delta_j \Delta i_{t-j} BS_{it-1} + \theta_j BS_{it-1} + \sum_{j=0}^1 \psi_j \Delta TEDE_{it-j} + \sum_{j=0}^1 \phi_j \Delta IBLN_{it-j} + u_{it} \quad (20)$$

where ΔLN it is growth rate of loans of bank i in year t . The data on loans and all other balance sheet items is taken “as is” from the balance sheet of banks.

Δi_t - change in annualized, average weighted, short-term (three month) Kyiv interbank offered rate.

BS_{it} – vector of the three separating variables capturing balance sheet strength of a bank – Asset size (A_{it}), Liquidity (LIQ_{it}) and capitalization (CA_{it}). Asset size is total assets (real terms), liquidity and capitalization are calculated ratios of bank liquid assets and capital to total assets, respectively.

$\Delta TEDE_{it}$ is growth rate of total term deposits and $\Delta IBLN_{it}$ is .growth rate of bank’s interbank borrowings.

Coefficients on the Δi_{t-j} determine the response to a monetary shock by an average bank. Coefficients on BS_{it} cross term describe how a response differs for weak and strong banks. For an operational lending channel to exist it is sufficient that all coefficients on Δi_{t-j} are negative and the coefficients on BS_{it} and Δi_{t-j} cross products are positive.

6. Stylized Facts on Ukrainian Monetary Policy and Banking System

Interest Rates and Monetary Policy

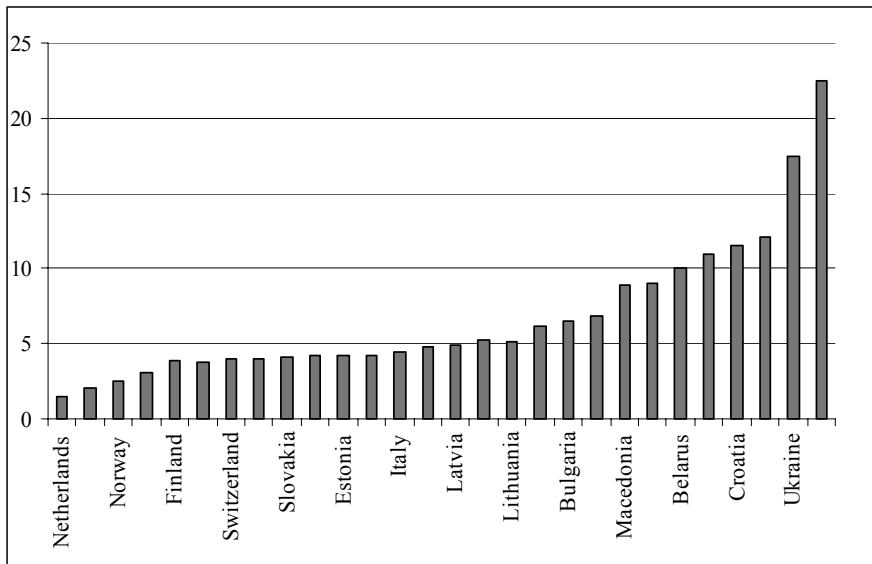
Ukraine has a large number of banks and non-banking financial institutions. However, most of these are very small by any standard; and many are extremely

inefficient. The overall costs of transacting through the Ukrainian banking system are quite high compared to that of developed, and even successful transition, economies. Figure 6.1 illustrates the spreads between interest rate on credits and interest rate on deposits for several countries. The spread, which is widely used to measure the degree of efficiency of a bank in acting as an intermediary between savers and borrowers, is very large in Ukraine.

This large transaction costs associated with Ukrainian banking reflects the overall riskiness of the economic environment, in particular high credit risks. High credit risks, in turn, are created by predatory institutions and unprofessional policies. To name just a few, Ukraine has extremely weak protection of creditor rights; the mechanism similar to credit history has been introduced only recently and is not fully operational yet; tax administration procedures are non-transparent and leave much discretion to tax inspectors, who can arrest enterprise's liquid assets without any court resolution and overnight turn a successful business into an insolvent one.

High credit risks are the core rationale behind the high real interest rates that have been prevailing in Ukraine since mid 90s – the real (ex post) interest rates on commercial bank loans were fluctuating between -1% and 18%. The real (ex post) interest rate on short-term interbank loans reveals two same features – it is high in level and has a lot of variability (0%-28%).

Figure 6.1 Spread between lending and borrowing interest rate, in percent, end 2002, selected countries.



Source: IMF.

The second most important factor explaining the behaviour of interest rates is the monetary policy conducted by the National Bank of Ukraine (NBU).

Ukraine had a period of hyperinflation in 1992-1995, when government financed budget deficit by printing money. Curbing inflation was difficult as by that time economic agents developed strong inflationary expectations. Many transactions were priced and accounted in US dollars. To preserve price stability the central bank began targeting the exchange rate (Ukrainian hryvnia to US dollar). To manage the exchange rate severe capital controls in foreign exchange market plus reserve requirements have been used extensively, which both influence the real interest rates.

The capital controls are implemented through active participation of the NBU on the interbank foreign currency exchange – it sells hard currency from its reserves or buys the excessive supply of currency to keep the exchange rate at the desired level. The interventions were successful up to mid-1998. In 1998 the government could not redeem its bonds, 60% of which were held by foreigners. The NBU was forced by the government to buy the majority of those bonds, which depleted foreign reserves plus created inflationary expectations forcing the central bank to devalue the domestic currency, which was finally triggered by Russian financial crisis of mid-1998. The Ukrainian hryvnia then lost about 50% of its nominal value. In post-crisis years nominal exchange rate has slowly decreased by another 50%, however real exchange rate has appreciated.

The crisis had another detrimental consequence – government bonds, before considered to bear low risk, could no longer be used for open market operations. The only operational monetary policy tools left were reserve requirements. Reserve requirements are applied to deposits collected by the banks. The rate of required reserves was moving between 17% and 10% between 1998 and 2000. In 2001 a differential rate was introduced – different rates are applied depending on the category of a deposit, demand deposits are subject to higher required reserve rate than term deposits.

Both reserve requirements and foreign exchange controls affect short-term interest rate by altering the banking system's supply of loanable funds.

Characteristics of Ukrainian Banks

Large banks There are seven very large banks, usually called system banks, which keep slightly more than 55% of total banking system assets (end of 2003 data). Among these banks two are state banks (Oshchadbank and UkrEximbank) and two former state banks (Prominvestbank and UkrSotsbank). Inherited close links with the government allow these banks to enjoy looser supervision and enforcement of prudential norms by the central bank. Often, the government grants them exclusive rights to service various government accounts and projects (servicing of budget accounts, state pension funds, etc), which explains their large asset size. They have low capitalization and a high proportion of the delinquent

loans (Table 6.2).

The other system banks and large banks with the assets above 75th percentile are successful and well-organized private banks with good lobbying power and strong governmental ties, but at the same time with strong managers and efficient management systems.

Medium banks (25-75 percentiles) compose about 30% of total banking sector assets. Many of these banks show almost the same level of management efficiency as successful large banks, however they are much more exposed to various risks because of a narrower client base. Usually they do not have powerful political or governmental support and privileged access to contracts to provide large-scale services to the government.

Small banks are highly dependent on a limited set of clients and face much more serious risks than large or medium banks. Some of them also do not meet the capital adequacy requirements. Figures in Table 6.2, though, show that average capitalization for these banks is very high, which is due to large dispersion in this group. Also, capital adequacy is based on risk weighted assets – many of these banks have to manage substantial risks and should maintain the capital at much higher than current level. Almost one third of the small banks are under pressure to merge with other banks or go out of business.

The data on the Ukrainian banks are briefly summarized in Tables 6.1 and 6.2. Comparison of the tables suggests that classifying banks by capitalization is more meaningful than classifying by asset size. We can see that well capitalized banks are less dependent on deposits as a source of funding than poorly capitalized banks. So, well-capitalized banks may also be less dependent on interest rate movements. Importantly, strong banks are also much less dependent on the demand deposits, and demand deposits are more affected by interest rate changes than term deposits are. This observation can possibly suggest that better capitalized banks should be less sensitive to changes in interest rates. Interbank borrowings, also highly sensitive to changes in the short-term rates, have higher importance for banks with low capitalization than for banks with strong capitalization. Classification by asset size does not allow to grasp any obvious pattern.

The liquidity of a bank seems to be negatively correlated with bank capitalization, while the relation with bank size is not obvious. Securities holdings are related to bank size, which seems intuitive – the larger bank the more likely it has informal relations with the government and keep its security in the portfolio (holdings of private securities is extremely scarce). Securities, however, are a very negligible part of banks' assets to play any part in monetary transmission

Table 6.1 **Characteristics of Ukrainian banks by capitalization, end 2003, cross-section average.**

	Capitalization (percentile)			
	<25%	25-50%	50-75%	>75%
Market share, %				
Total assets	96.01	2.98	0.64	0.37
Loans	95.28	3.94	0.44	0.34
Deposits	96.51	3.07	0.31	0.10
Asset Structure (average % total assets)				
Loans	41.49	44.23	26.39	33.98
Consumer loans, % total loans	12.30	9.65	12.97	15.16
Liquid assets	65.91	68.71	54.27	48.47
Securities	0.75	0.84	0.00	0.00
Fixed assets	4.06	5.86	11.95	10.15
Liability Structure (average % total liability)				
Deposits	38.38	40.36	28.06	21.66
Demand deposits, % total deposits	68.88	63.42	38.12	32.52
Interbank borrowings	11.29	7.32	6.38	2.38
Capitalization	10.22	26.10	40.94	63.95
Loan delinquency rate	2.74	2.25	1.46	1.95
Average capital size, USD mln	21.14	7.32	8.02	4.64
Average asset size, USD mln	339.06	31.24	19.44	8.25

Table 6.2 Characteristics of Ukrainian banks by asset size, end 2003, cross-section average

	Asset Size (percentile)				System banks
	<25%	25-50%	50-75%	>75%	
Market share, %					
Total assets	16.51	13.91	4.94	12.90	52.74
Loans	19.72	16.39	5.42	12.52	47.04
Deposits	16.49	14.02	5.57	9.82	55.32
Asset Structure (average % total assets)					
Loans	40.70	42.10	39.58	35.30	31.74
Consumer loans, % total loans	12.68	5.71	19.55	12.42	14.85
Liquid assets	64.71	69.37	63.02	53.59	44.44
Securities	0.30	0.74	0.15	3.05	4.24
Fixed assets	6.26	3.61	3.35	2.71	3.71
Liability Structure (average % total liability)					
Deposits	36.65	36.75	39.77	29.13	36.66
Demand deposits, % total deposits	40.34	37.32	27.29	30.65	44.59
Interbank borrowings	8.42	14.75	4.55	14.36	3.54
Capitalization	24.51	8.87	5.50	5.75	4.79
Loan delinquency rate	2.31	2.09	2.40	2.22	6.45
Average Capital size, mln USD	7.37	20.18	22.69	39.13	118.49
Average asset size, USD mln	47.35	233.37	414.35	721.34	2527.60

Can the Bank Lending Channel be a Powerful Transmission Mechanism in the Ukrainian Economy?

Kashyap and Stein (1993) sketch two factors that influence central bank's capacity to control lending. The factors are participation of non-banking financial institutions in the economy and existence of capital requirements.

Non-banking financial institutions can collect deposits and issue loans, but in many countries they don't face reserve requirements on their deposits. So, the larger the participation of non-banking financial institutions in loan supply, the weaker is the ability of a central bank to manage loan supply.

The rudimentary state of Ukrainian non-banking institutions (Table 6.3) can hardly imply any serious role in loan supply. We can safely conclude that this factor cannot undermine the economic power of bank lending channel.

Table 6.3 Assets of Non-Bank Financial Institutions, % GDP, June 2000.

Country	Investment Funds	Pension Funds	Insurance Companies	Mutual Funds	Total
Czech Republic	6	2	9	2	19
Estonia	3	0	3	2	8
Hungary	4	4	3	8	19
Kazakhstan	2	3	1	0	6
Latvia	2	0	1	3	6
Lithuania	4	0	0	2	6
Poland	6	2	5	2	15
Romania	8	0	0	0	8
Russia	1	1	1	1	4
Slovakia	4	0	4	2	10
Slovenia	2	0	4	3	9
Ukraine	0	0	1	0	1
Germany	22.7	13.0	31.9	4.6	72.2
Mexico		2.7	1.7	3.6	8.0
Portugal	21.2	11.2	9.6		45.6
South Korea	19.5	1.8	15.9		37.2
Turkey	0.5	0.8	0.6	1.9	3.8
United Kingdom	29.3	101.0	88.9	30.4	249.6
United States	55.2	89.9	43.1	73.6	261.8

The practice of capital adequacy enforcement can and, most likely, does diminish the strength of the bank lending channel. Ukrainian regulations on capital requirements determine both the size of statutory capital and overall capital adequacy. Banks have to maintain total equity capital at no less than 8 percent of total risk-weighted assets. Newly established banks should keep that ratio at 15 and 12 percent during their first and second financial years, respectively.

Capital adequacy ratio is calculated as total capital divided by total risk-weighted assets. According to Ukrainian banking regulation all categories of liquid assets are assigned a risk weight of zero. All types of loans (except loans to the government) are assigned a risk weight of 100%. Liquid assets and loans compose respectively about 52% and 40%⁸⁶ of total assets (for the banking system in total, end of 2003). Since liquid assets are riskless, the amount of available capital determines the maximum amount of loans a bank can provide. Roughly, the total amount of loans a Ukrainian bank can issue should not exceed its total

⁸⁶ Securities, accounts receivables are also assigned risk weights of 100%, but these are very small items on balance sheets of Ukrainian banks

capital divided by 0.08 (or 0.12/0.15 for the new banks). Therefore, there is an upper constraint on loan movements and the central bank cannot affect loans if banks are already crediting close to the maximum allowed level. This is an empirical question to be tested.

7. Data and Estimation Results

Data

We use annual data covering 1998-2003. Bank balance sheet on 149 Ukrainian banks are taken “as is” from statistical annual publications of the NBU. Therefore, with data on 149 banks and 6 years available, we have 894 panel data observations.

Total assets are defined as sum of all bank assets, liquid assets are calculated as cash plus balances with the NBU, plus balances with other commercial banks. Capital is bank equity. Term deposits include deposits of both households and businesses with maturity exceeding one year.

Estimation and Results

The original model specification includes all the variables, which the empirical literature finds important to explain the loan movements. Also included are all alternative measures of balance sheet strength and two indicators of loan demand movements. So, the original model specification is very general, and then we test down for the sets of coefficients equal to zero vector to simplify the general specification.

Since some banks grow quicker than others due to bank-specific and unobserved factors like corporate culture, qualification of bank managers, etc., we have to allow for fixed effects and estimate the model using fixed effects estimator. In our specific case employing the estimator is somewhat complicated due to presence of lagged dependent variable among repressors. Although including a lag of the dependent variable is trivial in time series models, the fixed effects estimator is severely biased. We will rely on the finding of Anderson and Hsiao (1982) and use twice lagged level of loans as an instrument for ΔLN (-1), which allows to get unbiased estimators.

Therefore, the specification estimated, again, is

$$\Delta LN_{it} = \alpha_i + \gamma_i \Delta LN_{it}(-1) + \beta_1 \Delta i_t + \beta_2 \Delta i_{t-1} + \sum_{j=0}^1 \delta_j \Delta i_{t-j} BS_{it-1} + \theta_j BS_{it-1} + \sum_{j=0}^1 \psi_j \Delta TEDE_{it-j} + \sum_{j=0}^1 \phi_j \Delta IBLN_{it-j} + u_{it} \quad (21)$$

The results that we receive suggest⁸⁷ that coefficients before A , CA , LIQ , $LN(-2)$, $\Delta IBLN(-1)$, $\Delta i * A(-1)$, $\Delta i(-1) * A(-1)$, $\Delta i * LIQ(-1)$, and $\Delta i(-1) * LIQ(-1)$ have high associated p-values and can be statistically insignificant. Wald test that the coefficients are jointly equal to zero (Ho) produces p-value of p-0.5920. We can confidently conclude that the data do not provide substantial evidence to reject the null and drop these variables from the model.

Estimation results for the simplified model are as follows:

$$\Delta LN_{it} = const - 1.051\Delta i + 0.001\Delta i(-1) + 0.083\Delta TEDE + 0.078\Delta TEDE(-1) + 0.006\Delta IBLN + 0.348\Delta iCA(-1) - 0.004\Delta i(-1)CA(-1) \quad (21)$$

All respective p-values are zero, except for coefficient on $\Delta i(-1)CA(-1)$, which has p-value of 0.043

Coefficient associated with capitalization cross term is positive and relatively large, which is consistent with empirical literature and our theoretical model – well-capitalized banks should be less sensitive to policy shocks than banks with modest capital base.

Our results suggest also that liquidity standing is not very important in explaining the lending response to monetary policy. The most appealing interpretation of this finding can be the following: liquid assets do not earn returns, therefore banks hold only as much liquidity as is needed to service liquidity requiring transactions, which should be roughly equal for small banks and large banks if they employ the same transaction technologies and manage their money flow rationally.

We are primarily interested to verify the existence of bank lending channel. In terms of our specification, this implies that all coefficients on Δi_{t-j} should be negative and the coefficients on BS_{it} and Δi_{t-j} cross products should be positive. In our case the coefficient on current value of the interest rate change is negative (coefficient on lagged value of interest rate change has low economic significance) and coefficient on capital cross term is positive (the other cross products are not statistically or economically significant). So, we conclude that bank lending channel has some economic power in Ukrainian economy.

The conclusion we are making is also valid, if we estimate the model for consumer loans rather than total loans. Consumer loans are more sensitive to changes in the short term interest rate. Again, better capitalization implies less vulnerability to policy changes. All other coefficients are generally consistent with those in the respective models for total loans.

To further verify the robustness of the result we also estimated the model using

⁸⁷ Detailed estimation results can be provided by the author upon request.

real ex-post rates, rather than nominal rates. That is, the monetary policy stance is measured by change in the real ex-post interest rate on short-term interbank loans. Real ex-post rate is calculated as the respective nominal interest rate minus inflation rate, and the inflation rate is measured as year-on-year change in CPI. All growth rates (total loans, term deposits, interbank loans) are also in real terms. The results suggest that an average Ukrainian bank cuts on lending in response to monetary tightening – coefficients on Δi and $\Delta i(-1)$ are statistically and economically significant. However, the magnitude of the response is weaker than in the models estimated in nominal terms. Again, we conclude that capitalization is a good indicator of balance sheet strength and that better capitalized banks are less sensitive to the change in monetary policy than are weaker banks.

Finally, we add into the model the real GDP growth rate and change in the real effective exchange rate (REER) - two variables that, along with growth in term deposits and interbank loans, can control for movements in demand for loans. Unlike term deposits or interbank loans dynamics, change in GDP and REER describe demand movements that are common for all banks and do not capture cross-sectional differences in demand for loans. For this reason many studies (see Westlund (2003), for instance) prefer bank-specific measures, like holdings of securities or certificates of deposits (CDs) to control for demand movements. For Ukraine, with its vast shadow economy, official GDP statistics is not very likely to adequately reflect changes in aggregate demand. Data on REER appears more accurate, but also can be problematic because official statistics on price level in Ukraine is distorted (in most cases for political reasons). We found that GDP growth (lagged) has statistical, but not practical significance, in the model for total loans. For consumer loans the effect of GDP growth is quite noticeable - the coefficient is 0.074 with zero associated p-value. Change in REER (lagged) has some explanatory power in both models. With this specification, we again are able to conclude, again, that an average bank decreases loans in response to monetary tightening and that response of well-established banks (as measured by cross terms including capitalization) is smaller than that of weaker banks.

8. Conclusions

The existence of the bank lending channel has important implications for the conduct of monetary policy by a central bank. The literature predicts that if the bank lending channel is present, banks should cut back on lending in response to monetary contraction and weak undercapitalized banks should show greater change in loans than well established banks. This happens because for the former it is more problematic to offset reduction in deposits with funds from other external sources.

Tests for the existence of bank lending channel usually use the approach of disaggregating banks according to some measure of balance sheet strength, like capitalization or asset size and then estimating lending responses to monetary

shock depending on bank strength. Our chapter uses capitalization, bank assets and liquidity as disaggregating variables.

We find that for Ukrainian banks the level of bank capitalization is the best measure of balance sheet strength. Our estimation results suggest that lending response of a Ukrainian bank depends on its capitalization – the higher the capitalization the less sensitive a bank is to changes in monetary policy. This result is consistent with theoretical predictions and implies that bank lending channel has some economic power in the Ukrainian economy.

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Chapter 7

Now So Near, and Yet Still So Far: Relations Between Ukraine and the European Union

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1. Introduction

After several months of political conflict, a new leadership was elected in Ukraine in late 2004. Viktor Yushchenko's Presidential Inauguration took place in Kyiv on January 23, 2005. This election followed months of high drama, domestic strife, and different degrees of external involvement, but is also perceived as a harbinger of change, after the 10-year-long government of Leonid Kuchma.

Since 1996, Ukraine repeatedly has stated its intention to become a member of the European Union (EU). Until late 2004, the EU had shown limited enthusiasm towards Ukraine's potential membership, while the Ukrainian government itself has shown a limited commitment to introduce the necessary reforms to achieve this goal.

With not only a new, more Western-oriented government in Kyiv, but with an enlarged European Union with 25 member states—several of them with a direct stake in a prosperous and stable Ukraine—and long direct borders with the former Soviet Union, the moment to reassess the relations between Ukraine and the EU has arrived. The aim of this chapter is to analyse such a possibility, as is our view that both sides are now facing an opportunity that should not be missed, neither by Kyiv nor by Brussels.

⁸⁸ We would like to thank Heliodoro Temprano for his insightful and comprehensive comments. The views expressed are exclusively those of the authors and do not necessarily represent those of any of the organizations to which the authors were or are currently linked to. All usual disclaimers apply.

2. Ukraine after Independence: A Brief Review

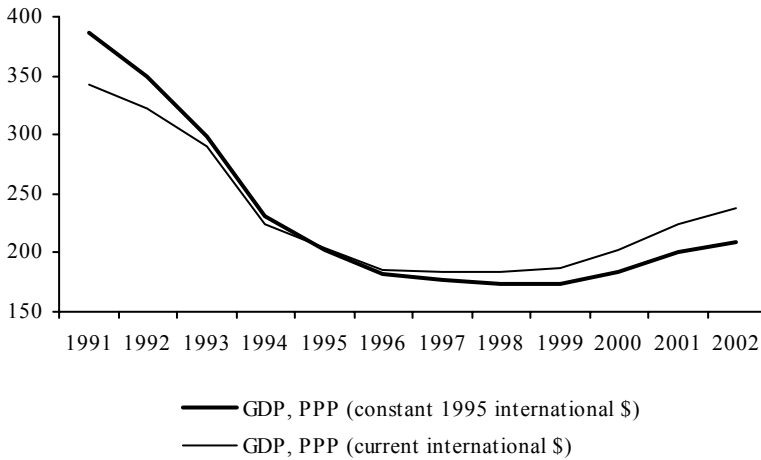
Ukraine only decided to opt for independence from the late Soviet Union after the August 1991 attempted coup by anti-reformists in Moscow: before that Ukraine had a very limited experience with national governance (the first national government in Ukraine was formed in 1917, but the country lost sovereignty several years later). One must remember that such a limited experience with nationhood, far from being unique to Ukraine, is mirrored by several of the new EU member states (for this group we will use the acronym NMS throughout the paper to indicate the nations that entered the Union in May 2004): the Czech Republic, Estonia, Latvia, Lithuania, Slovakia, and Slovenia either were only created as national entities during the 1990s, or had very limited previous nationhood experiences.

The Ukrainian independence movement was led by a member of the former Ukrainian Communist Party (UCP), Leonid Kravchuk, who became the first elected president of this new political entity. The early independence years were occupied by the creation of national institutions and by partial attempts to assure macro stabilization. The limited progress in this last front led to a call for change, and Mr. Kravchuk agreed to early parliamentary and presidential elections in 1994. Leonid Kuchma, who had served briefly as prime minister under Mr. Kravchuk, defeated the incumbent president in the July 1994 election. The first Kuchma term (1994–1998) was marked by a first serious attempt to macro stabilization and by a series of pro-Western overtures.⁸⁹ Inconsistent policies, plus the Russian 1998 crisis, led to a resurgence of instability during the early years of Mr. Kuchma's second term (1999–2004), which was accompanied by a sharp deterioration of its relationship with Western partners—amid several allegations of improper behaviour by Mr. Kuchma—resulting in some moves that were perceived as an overture towards the CIS and the Russian Federation as a political alternative to the West.⁹⁰

The strong return to growth after 1999 was followed by an increase in internal political conflict, which resulted in the change in government following the 2004 elections.

⁸⁹ Including the signing of a Partnership for Peace with NATO: the linkages of the Ukrainian military with its Western counterparts are considered to have been more consistent than the ones observed in other spheres. Ukraine holds a NATO training centre at its Yavoriv military base and has already participated in several NATO operations (most notably in Kosovo, with the joint Ukrainian-Polish Battalion (UKPOLBAT) of KFOR, and in Bosnia.

⁹⁰ Those moves included the election of Mr. Kuchma to chair the CIS Council of Heads of State in 2003. One must remember here that Ukraine is not a *de jure* member of the CIS, as it *never* ratified the 1993 CIS Charter.

Figure 7.1 Ukrainian GDP per Capita in PPP

Source: World Bank WDI.

3. Recent Macroeconomic Performance

The Initial Years of Transition, 1992–1994: Output Collapse and Hyperinflation

The first years of transition resulted in substantial adjustment costs for Ukraine. This was partly due to unfavourable initial conditions: Ukraine had one of the highest shares of large-scale intermediate goods industrial enterprises of the former Soviet Union, highly integrated and dependent on the rest of the USSR economy.

Not only this made Ukraine one of the potentially most vulnerable CIS countries⁹¹ during the beginning of “transition”, but this over-industrialization⁹² created a domestic industrial lobby that at first attempted to delay market-oriented reforms and later attempted to capture the state and block reforms that were perceived to be against its interests (Havrylyshyn, 2000).

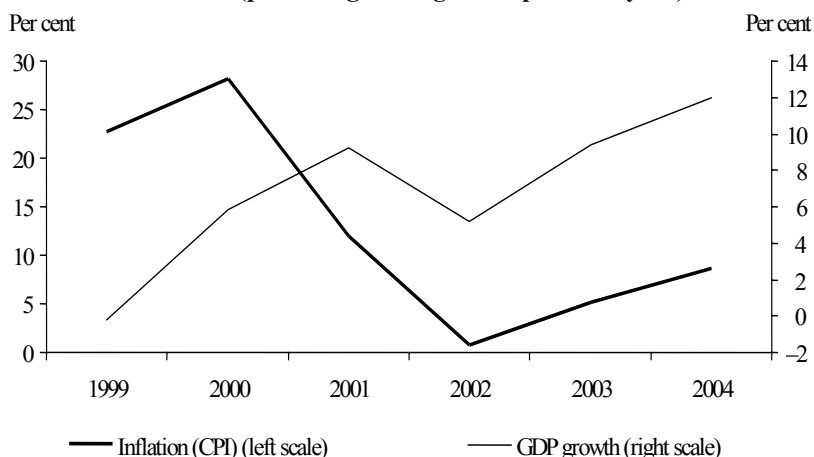
⁹¹ At par with Belarus; see Bakanova et al. (2004).

⁹² Planned economies were usually estimated to have a higher share of industry in GDP than other economies with a similar GDP per capita level: this phenomenon was called “over-industrialization”.

As a result of these elements, Ukraine suffered one of the largest cumulative declines in output among the transition countries (IMF 2004),⁹³ with manufacturing output declining by over 60 percent in the first five years of “transition” (Figure 7.1).

Monetary and fiscal policies were clearly on an unsustainable path during this period: budget deficits were close to 10 percent of GDP (a substantial part of which was linked to para-fiscal operations to support the energy sector, see IMF 2004). As these deficits were monetized to a large extent, they also resulted in inflation, which reached almost 5000 percent in 1993 (Kravchuk, 2002).

Figure 7.2 Ukrainian GDP and Inflation Yearly Average, 1999–2004 (percentage change over previous year)



Source: IMF/IFS and DataStream.

The First Stabilization Programme and the Russian Crisis

In 1994, during the first Kuchma Presidential term, an initial stabilization programme was finally attempted. Similarly to other adjustment programmes in Eastern Europe, it included price and import/export liberalization, the unification of the exchange rate, some limited fiscal consolidation, and in 1996 the introduction of a national currency, the hryvnia, which was linked to the US dollar via an exchange rate band of 1.7–1.9 hryvnia/USD. These measures were successful in bringing down inflation from 400 percent in 1994 to 10 percent in 1997.

⁹³ Note that “over-industrialization” and reliance on Russian markets was not always synonymous with large GDP losses, even in the absence of mineral endowments, as the case of Belarus shows (see Bakanova et al., 2004).

Nevertheless, the persistent fiscal deficits were incompatible with a fixed exchange rate regime. The situation came to a head with contagion from the Russian August 1998 crisis. Foreign exchange reserves fell to just over a week of imports, forcing the authorities to devalue the hryvnia (by more than 50 percent) and to introduce strict restrictions on foreign exchange transactions. Inflation briefly increased, but returned to a downward trend by the early 2000s (Figure 7.2).

The Second Stabilization Programme

In December 1999, Viktor Yushchenko, who in his role as a former NBU Governor had built a reformist reputation during and after the 1998 crisis, was appointed Prime Minister. He moved fast to introduce reforms during his brief period in power (he was voted out of office in April 2001 by a coalition of “oligarchs”⁹⁴ and Communist parties, after only 16 months in power).

The recent strong growth resumption in Ukraine is considered by some analysts to be linked to the fiscal and tax reforms initiated during this period, and to the resumption of growth in major CIS markets, the very so-called “dead cat” bounce of the Ukrainian economy⁹⁵, to price increases in commodities exported by Ukraine (like steel) and to the devaluations of the hryvnia in 1998–99 and its posterior linking to the USD⁹⁶ (given that a large share of Ukraine’s external markets are in the euro area, the link to a weakening USD implied that the hryvnia continued to depreciate in real effective terms: see Figure 7.3).

During subsequent years the government continued its efforts towards hardening budget constraints and making the tax system more transparent (the general government debt ratio was more than halved between 1998 and 2004, to 25 percent of GDP⁹⁷). As of January 1, 2004, the corporate tax rate was reduced from 30 to 25 percent, and a 13 percent flat tax on personal income was introduced. Previously, the tax base had been broadened through a significant reduction in tax exemptions.

In 2000, a nominally free-floating exchange rate regime was introduced (de facto the hryvnia has been kept at an almost constant rate with respect to the US dollar, by means of foreign exchange market interventions by the central bank). Since 2000, the trade and current accounts have shown surpluses, leading to an in-

⁹⁴ “Oligarch” is a traditional term used for the entrepreneurs that acquired large formerly state-owned assets in the CIS countries.

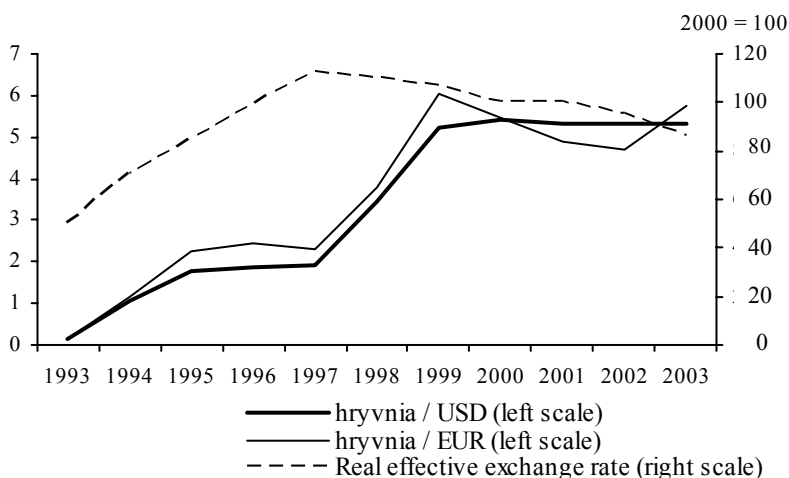
⁹⁵ In other terms, that the downward GDP adjustment had reached its natural limits, so up was the only way left.

⁹⁶ 40 percent of Ukraine’s growth during 1999–2002 is linked to trade (World Bank, 2004).

⁹⁷ As of the first half of 2005, the general government debt ratio was further reduced to 21.2%.

crease in the money supply, as often the monetary authorities refrained from sterilizing these inflows. The main reason behind the lack of effective sterilization was the lack of sterilization instruments and ineffectiveness of NBU rates as a monetary policy tool (Bilan, 2004). Also, due to the success of the stabilization policy, the demand for financial assets increased. Together, those factors led to high growth rates of money supply and a credit boom (IMF 2005). To pre-empt potential financial stability problems, the NBU increased the minimum capital adequacy ratio from 8 to 10 percent.

Figure 7.3 Exchange Rates of the Hryvnia (USD, EUR, REER)



Source: IMF/IFS and DataStream.

The 2004 political cycle in Ukraine led to a significant relaxation of fiscal policy as the presidential elections drew closer. While policy makers in Ukraine managed to prevent a full outbreak of financial turmoil in the run-up to the 2004 Presidential elections – by using part of the relatively large foreign exchange reserves – there has been since a considerable deterioration in the general economic situation, with a reduction of the over 12 percent of growth observed in 2004 (a clearly unsustainable performance) to a estimated 4 percent growth in 2005. The uncertainties regarding the resolution of the ensuing political crisis constituted a shock to investor confidence, affecting the financial markets. Additionally, the somewhat inconsistent policies of the post “Orange Revolution” government in 2005, plus the beginning of another electoral cycle already in 2006, increased uncertainty concerning economic policy. Also, the gas price increases observed in early 2006 might affect too short-term macroeconomic developments.

4. How Far Is Ukraine from Brussels?

The Current Framework for Relations between Ukraine and the EU

Institutional relations between the EU and Ukraine were somewhat limited till 2004, albeit the EU is not only the largest external donor (since 1991 total EU assistance has amounted to more than 1 billion euros) but also the biggest economic partner of Ukraine (see next section).

The current relations are based on the Partnership and Co-operation Agreement (PCA), which was concluded in 1994 but entered into force only in 1998, for an initial period of ten years,⁹⁸ on the EU's Common Strategy of 1999 and on the European Neighbourhood Policy (ENP) "Action Plan" for Ukraine, approved in December 2004. Beyond those, a number of specific agreements in particular policy areas such as trade,⁹⁹ science and technology, and nuclear energy are also in place. Technical assistance has been provided since the early 1990s in support of the transition process towards democracy and market economy, through the TACIS (Technical Assistance to the Commonwealth of Independent States and Mongolia) Program.

Although the PCA is wide-ranging (covering political dialogue, trade in goods and services, and economic, environmental, scientific, cultural, and legal matters) and a potentially powerful instrument in bringing Ukraine's domestic legislation into line with the legal framework of the EU's Single Market and of the WTO system, as it contains a number of "evolutionary clauses" that also include the prospect of establishing a free trade area (FTA) with the EU, it is also an inherently limited framework for EU-Ukraine relations. It does not equal an "Association Agreement" that has EU membership as its final aim.¹⁰⁰

This "non-membership" feature is also present in the new EU framework for external relations with countries without currently recognized Accession prospects, the ENP, which is applied also to Ukraine. Between March and July

⁹⁸ The PCA actually upgraded a previous agreement existing since 1990 between the EU and the late Soviet Union. By now most of its successor states have signed PCAs with the EU.

⁹⁹ Trade in textiles between the EU and Ukraine is regulated by a separate agreement, signed in December 2000. It covers an alignment of applicable import tariffs and double-checking arrangements aimed at preventing fraud. This agreement expired at the end of 2004, but was prolonged till December 2006. Specific arrangements for bilateral trade in steel also exist: following the expiry of the bilateral agreement on trade in steel products that was in place until the end of 2001, a system of autonomous import quotas to the EU applies. A new bilateral agreement on steel was signed in August 2005.

¹⁰⁰ There are types of "Association Agreements" that do not have EU membership as its final aim, like the ones signed with Mediterranean countries in the framework of the Barcelona process.

2003, the European Commission (EC) issued a communication to the European Council and the European Parliament on “Wider Europe–Neighbourhood: A New Framework for Relations with Our Eastern and Southern Neighbours”. The EC further elaborated the ENP in a “Strategy Paper” published in May 2004, and, for the main countries included in the ENP, individual “Country Reports” were also published at this time, including a “Country Report” on Ukraine (which preceded the Ukraine’s Action Plan).

The ENP is supposed to cover the CIS, North African and the Middle Eastern countries, but not the South Eastern European (SEE) countries (the main instrument to regulate EU relations with these is the Stability Pact for South Eastern Europe, SPSEE¹⁰¹). Here, one may note that, according to Article 49 of the EU Treaty, *any* European state may apply to become a EU member (which was demonstrated by the acceptance of Turkey as a candidate country in late 2004).

Copenhagen Criteria: Broad Institutional Performance

Sustained progress in building market-based institutions is a *sine qua non* condition for entry into the EU. The process of EU enlargement is tightly bound to the concept of convergence. Membership to the EU demands the fulfilment of a series of political, legal, and economic criteria (Foders et al., 2002). The candidate countries must demonstrate political stability as a guarantee for a democratic and lawful order, including maintaining human rights standards and ensuring the protection of minorities (political criteria). Furthermore, potential members must fully implement the “*Acquis Communautaire*” (the entire body of EU law) into national legislation, and adopt the goals of the political, economic, and monetary union (legal criteria). Finally, the candidates must have a fully functioning market economy with the ability to maintain competitiveness in the internal market (economic criteria). These so-called Copenhagen criteria for EU membership insure a certain level of institutional development. This implies that institutional development will be extremely important for potential accession candidates in order to increase their chances for joining the EU.

Accession candidates, like other emerging market economies, will also benefit directly from institutional development (Schweickert and Thiele, 2004). Empirical studies suggest that institutions are an important explanatory variable for

¹⁰¹ The SPSEE is a political declaration of commitment and a framework agreement on international co-operation to develop a shared strategy among all partners—including the representatives of the SEE—for stability and growth in South Eastern Europe. In the founding document of the Stability Pact, the EU undertakes to draw South Eastern Europe “closer to the perspective of full integration into its structures”, including the explicit possibility of full EU membership. This was reaffirmed at the EU–Western Balkans Summit in Thessalonica, June 2003.

differences in economic performance (Edison 2003, Rodrik, 2003, Havrylyshyn and van Rooden, 2003). Some authors even state that institutional weaknesses are the *only* fundamental reason for development failures, i.e., that long-run differences in income levels are solely determined by differences in institutional quality (Rodrik et al., 2002). The link between institution building and economic development is reinforced by an increase in social capital and the convergence of values.¹⁰²

It is rational for the EU to demand institutional convergence in order to make the EU more homogeneous both economically and politically and, thereby, to decrease the decision-making costs. Any delay in the catch-up process runs the risk of conflicting assessments of political and economic problems, thus undermining the integration process. Any delay in the catch-up process will also put great stress on the EU budget in the form of transfer payments and agricultural subsidies.

Institutional development can be measured by resorting to the World Bank Governance Indicators (WBI). In a comprehensive project (Kaufmann et al., 1999), the World Bank compiled data for a large country sample from many different sources (e.g., the Global Competitiveness Report of the World Economic Forum and the country reports of the Economist Intelligence Unit) and came up with an assessment of six indicators, which can be aggregated to three dimensions of institutional quality: *Legislative Institutions* (Political stability and absence of violence, Voice and accountability), *Executive Institutions* (Government effectiveness, Quality of regulations), and *Legal Institutions* (Rule of law, Control of corruption).

Notwithstanding technical and conceptual deficits,¹⁰³ institutions as defined by the WBI have been proven to explain economic development. Additionally, the monitoring of the EU according to the Copenhagen criteria looks at institutions which also figure prominently in the WBI: human rights, participation, rule of law, effectiveness of government, and control of corruption. Therefore, the WBI provide a good basis to analyse from a bird eyes view the institutional development in Ukraine and the countries in the EU immediate neighbourhood

¹⁰² Economic development shifts the values of a society from “survival” to “self expression” which, in turn, fosters the process of institution building, especially the demand for democratic structures. See Inglehart et al. (2001).

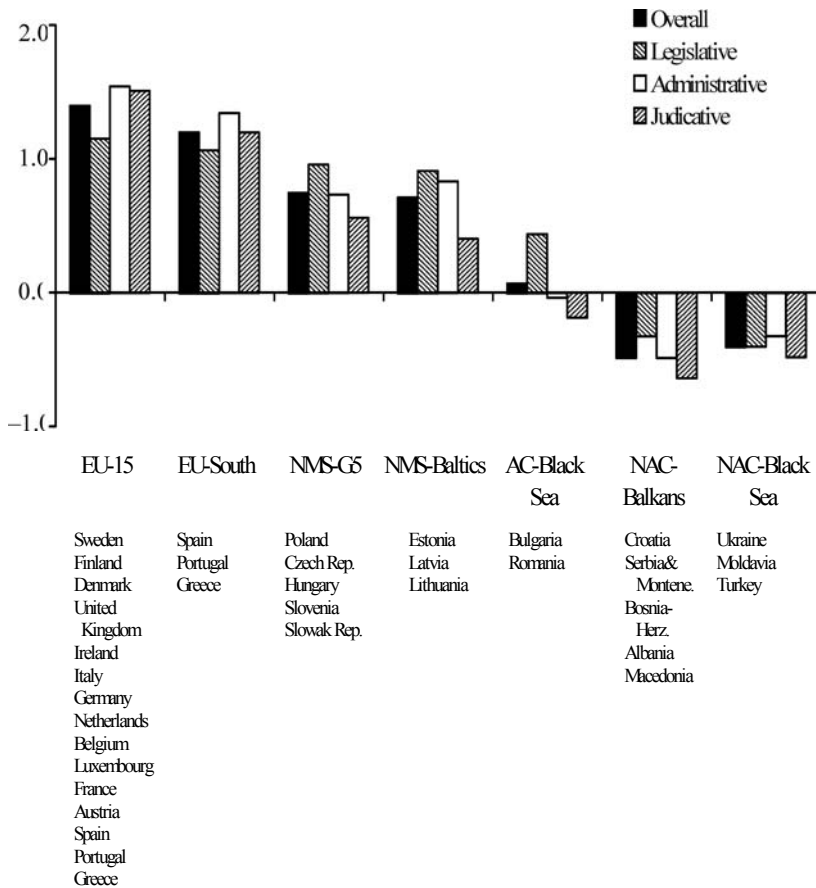
¹⁰³ On the technical level, one has to keep in mind that the data are based on interviews with local experts and thus include a strong subjective element. On the conceptual level, the problem is that despite a general consensus on the institutions that have to be analysed, a number of questions about details—e.g. finding the right balance between competition and regulation—do not have a unique answer. Stiglitz (1998) even argued that with respect to competition policy a consensus is neither possible nor desirable, because economic research will not be able to identify a competition policy that is optimal for all countries at all times.

(used as a comparator set) and measure their progress with the standards set by the old and new members of the EU.

Figure 7.4 shows the quality of overall, legislative, executive, and legal institutions calculated as simple averages of the six basic WBGI on institutional development. The country groups show groups of old and new member countries as well as the remaining accession countries and other Balkan and Black Sea countries. The country groups are ordered according to the average per capita income.

As predicted by the empirical literature, Figure 7.4 reveals a strong positive relationship between institutional and economic development. At the same time, it is evident that the current enlargement has *already* made the EU significantly more heterogeneous, not to speak of future enlargement rounds ahead:

Figure 7.4 Institutional Development in the EU, Balkan, and Black Sea Europe, 2002 (population-weighted averages)



Source: WBGI; authors' calculations.

- While the southern European countries that joined the EU in the 1980s closed the institutional gap to the EU-15 considerably, the NMS reveal a significant institutional gap. This gap applies to all dimensions of institutions measured by the WBGI.
- For the remaining accession countries (AC), Bulgaria and Romania, institutional development is somewhat away from EU standards.
- Institutional development in the non-accession countries (NAC) in the Black Sea, which includes Ukraine and Balkan regions is comparatively worse. Especially the Balkan countries, still suffering from disintegration and violent conflicts of the recent past and just beginning their nation building, urgently need institutional development.

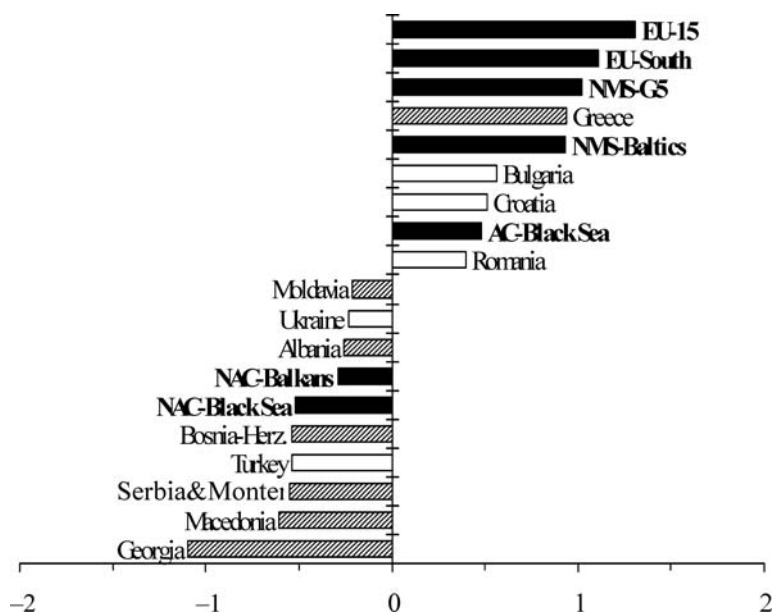
Figure 7.4 also shows a clear pattern of institutional development. In contrast with the old member states of the EU, the development of legislative institutions is far more advanced than executive and legal institutions.¹⁰⁴ To some extent this seems to be quite natural given the rather fast transformation from socialism to democracy and the integration into a community with internationally high democratic and economic standards. The formal introduction of laws has still to be backed up by their implementation.

Comparing the results for Ukraine and the four countries that are next in the queue for EU Accession, Bulgaria, Romania, Croatia,¹⁰⁵ and Turkey, reveals that these countries are significantly less developed institutionally when measured by EU standards. Additionally, there are pronounced differences between these five countries. With respect to legislative institutions Bulgaria, Romania, and Croatia perform far better than Ukraine and Turkey (Figure 7.5).

This result is interesting for two reasons. First, Croatia, notwithstanding its initial difficulties, almost matches Bulgaria, which shows that progress with institutional reforms is possible even in a short time period. Secondly, by contrast, an accepted candidate country, Turkey, ranges below Ukraine.

¹⁰⁴ With the exception of administrative institutions in non-accession countries in the Black Sea region.

¹⁰⁵ In March 2003 Croatia submitted an application for EU membership, which was accepted on 18 June 2004.

Figure 7.5 Legislative Institutions in Europe, 2002

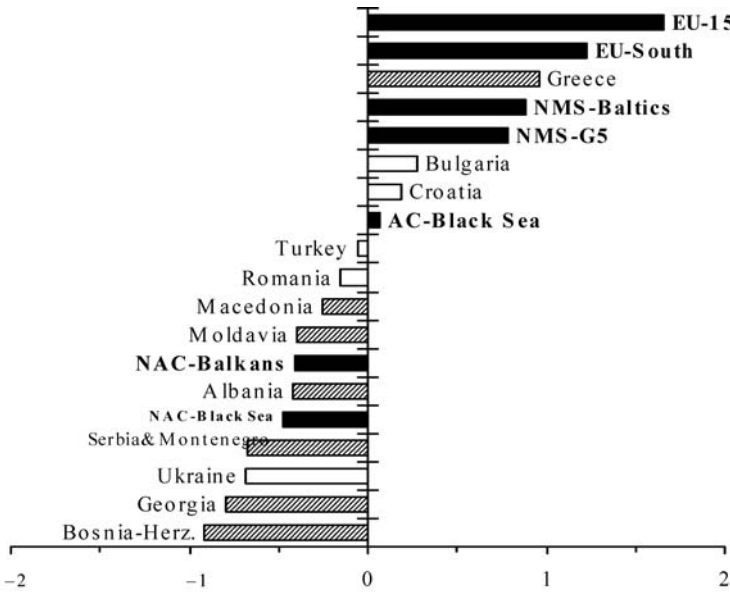
Source: WBGI; authors' calculations.

A different picture is given by the indicator on administrative institutions (Figure 7.6). As was to be expected on the basis of the comparison of country groups, the development of administrative institutions lags behind the development of legislative ones in Bulgaria, Romania, Croatia, and Ukraine. Turkey is an exception because administrative institutions clearly perform better than legislative ones. Although the difference from the EU standards is significant in all cases, Turkey together with Bulgaria, Croatia, and Romania form a group of countries that comes closest. Ukraine is here clearly still far behind, albeit, of course, the data relate to the situation in 2002.

Finally, the indicator on legal institutions (Figure 7.7) reveals that Croatia outperforms the other countries that, again, perform worse with respect to the other institutional indicators. One more time, Ukraine still has a long way to go, with legal institutions behind Turkey.

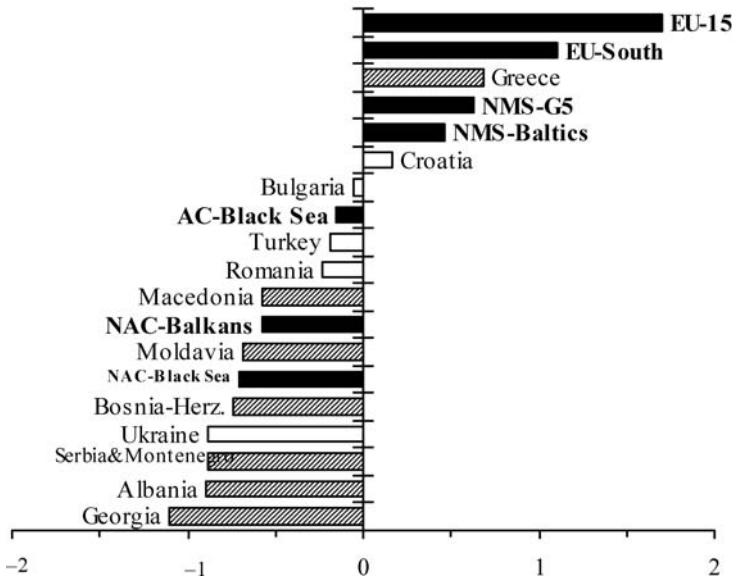
Overall, benchmarking the institutional development in EU neighbouring countries reveals the need for continued assistance from the EU for institution building. This is an urgent requirement should Ukraine go for accession negotiations and for the medium-term goal of joining Turkey in this process. However, Croatia shows that it can be done in a comparatively fast manner.

Figure 7.6 Administrative Institutions in Europe, 2002

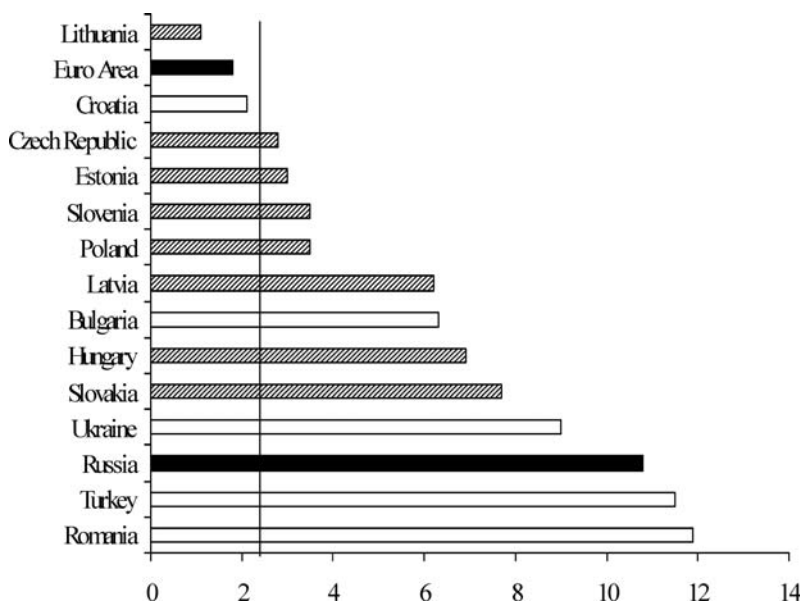


Source: WBGI; authors' calculations.

Figure 7.7 Judicial Institutions in Europe, 2002



Source: WBGI; authors' calculations.

Figure 7.8 CPI Inflation Rate (2004 estimate)^a

^aVertical line shows Maastricht criteria.

Source: DekaBank, DCRI January 2005. Frankfurt/Main.

Maastricht Criteria: Macro/Nominal Convergence

From a post-Accession perspective, macroeconomic stability, as measured by the Maastricht indicators, is also a EU requirement. Comparing inflation rates, budget balance, and public debt, the following figures again display the relative performance of Ukraine against the standards currently set by EU members. Different to the figures on institutions, the old members are represented by the euro area. Additionally, the performance of Russia is included because the EU and Russia are the two poles between which macroeconomic management in Ukraine takes place.

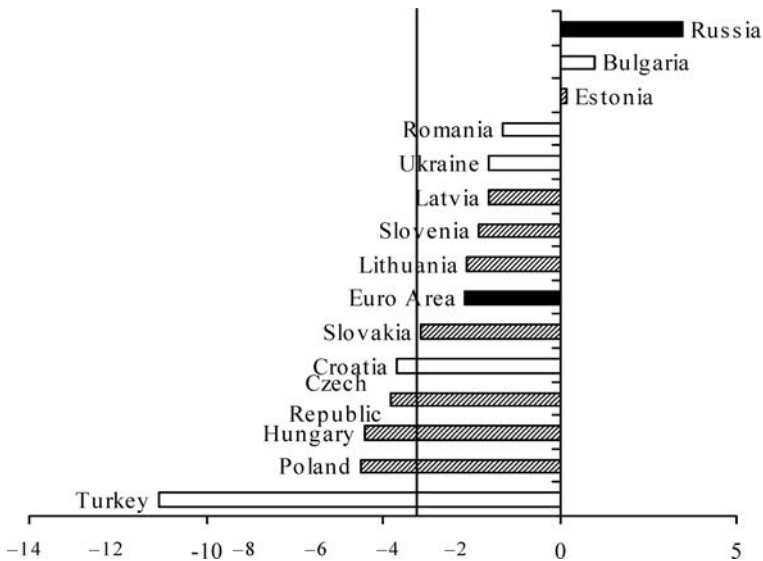
Figure 7.8 on inflation rates shows that among the five non-member countries only Croatia already meets the inflation criterion. As can also be seen, *all* NMS except Lithuania fail to meet this criterion. Ukraine is close to Russia, only slightly better than Turkey and Romania.¹⁰⁶

¹⁰⁶ Albeit the results would vary greatly with the year chosen as a benchmark: for instance, Ukraine experienced a yearly average inflation rate of +0.8 percent in 2002, which would have made it comfortably respect the inflation criterion.

Ukraine's performance with respect to fiscal data is much better. As revealed by Figure 7.9, the fiscal deficit is lower than the 3 percent criterion. Together with Russia, the Baltic countries and Bulgaria, Romania, and Slovenia, Ukraine even outperforms the euro area. Again, Turkey shows up at the end of the scale, with a fiscal deficit more than double that of Poland, the NMS with the highest fiscal deficit.

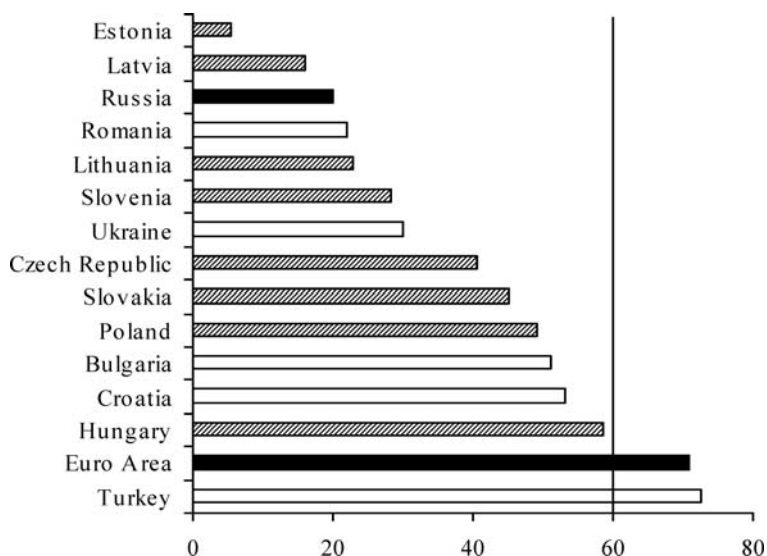
A similar picture is shown in Figure 7.10 with respect to public debt. Here, Turkey is the only country that shows a higher indebtedness, together with the euro area, which currently does not meet its own standards. Except for Bulgaria, which started with a very high level of indebtedness, the same group as before—among them Russia—shows the best fiscal performance. All in all, the macro picture on the basis of inflation and fiscal data reveals that Ukraine still needs to undergo some additional nominal convergence. This is only in absolute terms, as in relative terms Ukraine and other non-member countries perform quite well when compared to the NMS. The exception is Turkey: this is the only country in the sample that fails to meet any of the three criteria discussed here. Hence, according to the Maastricht criteria, Ukraine is considerably “closer to Brussels” than Turkey is.

Figure 7.9 Budget Balance as GDP Percentage (2004 estimate)^a



^aVertical line shows Maastricht criteria.

Source: DekaBank, DCRI January 2005. Frankfurt/Main.

Figure 7.10 Public Debt as GDP Percentage (2004 estimate)^a

^aVertical line shows Maastricht criteria.

Source: DekaBank, DCRI January 2005. Frankfurt/Main.

Macroeconomic stability is not only limited the Maastricht criteria but also imply a sustainable external position. Therefore, Table 7.1 shows some external position indicators. The following stylized facts can be summarized:

- The average external debt figures are generally most favourable in the accession group. However, a lot of heterogeneity is hidden behind these average figures. While Ukraine shows the lowest debt and short-term debt ratios of the total sample, Croatia (together with Estonia) has the highest ratio of external debt, and debt service is the highest for Turkey. Generally, Ukraine performs very well in this respect, both compared to all countries in the sample, but especially when compared to Turkey and Croatia.
- A similar picture is revealed with respect to the current account deficits adjusted for FDI inflows and to the reserve ratio. Again, the two non-accession countries outperform the other groups; with Ukraine benefiting from a high current account surplus, while FDI inflows are rather moderate.
- The situation with respect to exchange rate stability is different. Here, all countries show either stable or appreciating currencies. Ukraine is the only country where the real exchange rate depreciated strongly. This fits the high monetary

expansion and increasing inflation rates in recent years. It also explains the high current account surplus.

Table 7.1 External Balances in the NMS, Accession Countries, Croatia and Ukraine (2004 estimates)

	External debt over GDP	Short-term debt over exports	Debt service over exports	Current account over GDP	FDI over GDP	(CA+FDI) over GDP	Reserves over M2	Change in REER
Czech Republic	35.5	21.8	6.2	-4.6	4.6	-0.0	36.8	-0.2
Estonia	80.3	36.6	13.5	-14.5	5.5	-9.0	34.8	0.9
Hungary	57.2	14.2	24.5	-9.1	2.3	-6.8	27.6	3.8
Lithuania	46.0	29.9	14.4	-8.5	3.0	-5.5	53.3	-0.9
Latria	74.4	112.5	14.8	-10.9	3.8	-7.1	34.4	-0.4
Poland	41.7	20.0	16.0	-1.4	1.7	0.2	36.8	-2.1
Slovenia	45.5	0.8	14.7	-0.3	-0.5	-0.8	44.6	0.0
Slovakia	46.1	20.5	8.0	-3.6	3.9	0.3	52.4	9.0
NMS-8	53.3	32.0	14.0	-6.6	3.0	-3.6	40.1	1.3
Bulgaria	61.9	23.1	12.4	-7.0	9.7	2.7	60.0	3.0
Romania	35.5	6.0	14.4	-6.0	5.5	-0.4	71.5	2.2
Turkey	51.1	32.0	36.9	-3.6	0.7	-3.0	24.7	-0.1
AC-3	32.5	9.7	8.9	-4.3	5.1	0.8	43.8	1.7
Croatia	78.9	3.3	20.4	-5.3	2.4	-2.9	37.5	-0.4
Ukraine	27.3	1.2	12.9	10.2	2.3	12.5	38.7	-7.5
NAC-2	53.1	2.3	16.7	2.4	2.3	4.8	38.1	-4.0

Source: DekaBank, DCRI January 2005. Frankfurt/Main.

Summarizing the evidence for the relative performance of Ukraine when compared to Croatia and Turkey, only the real exchange rate instability is on the negative side, while especially the figures on external debt are favourable for external stability. For the other two countries, a high external debt ratio in the case of Croatia and a high debt service ratio as well as a low reserve ratio in the case of Turkey may endanger external stability.

Based on the relative indicators analysed in this chapter, Ukraine performs quite well when compared to the other countries in the queue for entry into the EU. Especially the fiscal and external debt figures are better than in other countries. On the negative side, there is a considerable backlog with respect to the development of administrative and judicial institutional capacities, and a *potential* for macroeconomic instability due to monetary expansion, rising inflation rates, and real exchange rate instability. While strong real depreciation was favourable for the current account, real exchange rate instability as well as the institutional problems may be the main reasons why FDI inflows have remained moderate.

This leads to the conclusion that Ukraine urgently needs to develop its institutions and stabilize its inflation and exchange rates in order to improve its European perspective and to move closer to Brussels.

5. The Current Status of Reforms in Ukraine

The Macroeconomic Framework

A robust macroeconomic framework is indeed necessary for a successful EU membership process. Since 1998, great strides have been made in terms of the macro stabilization framework in Ukraine.¹⁰⁷ The budgetary procedure is much more consolidated—albeit further progress is necessary—the inflation rate has decreased, economic growth is not only positive, but high, and the current account is in surplus. Most notably, the NBU has, since 1998, proved itself as a credible and independent monetary authority, eliminating the monetary financing of budget deficits.

From a budgetary perspective, the full development of a formal medium-term budgetary framework would be of great assistance for the government in assessing its medium-term commitments and resources, given the need of eventual increases of expenditure in areas that imply multiyear programmes in Ukraine (for instance, in investment on the improvement of infrastructure or in the—implicit and explicit—pension and retirement commitments: see IMF 2005). From an EU integration perspective, these would also be useful, as they would enable a medium-term evaluation of accession-related expenditures and revenues. Additionally, from an even longer-run perspective, they would be consistent with the Stability and Growth Pact (SGP)¹⁰⁸ and its medium-term framework for fiscal policies, the national multi-year “Programs for Stability and Growth”.

Nevertheless, from a macro framework perspective, the most pressing issue is likely to be the USD exchange rate targeting policy, in an environment of strong external surpluses. In the absence of sterilization policies, this led to double-digit increases in money supply, with, so far, rather limited inflationary effects, due to a re-monetization process common to most transition economies and to the substantial reduction of “barter” payment procedures.

¹⁰⁷ As just one example of this, the quasi-fiscal deficit of the energy sector in Ukraine dropped from 4 percent of GDP in 2000 to 0.2 percent in 2004 (IMF, 2005), brought about by a combination of increased tax collection and reduction of barter arrangements.

¹⁰⁸ The SGP aims to assure the continuous compliance with the fiscal criteria of the Maastricht Treaty, and to assure medium-term budgetary positions in surplus or close to balance for the euro area member states. The SGP also aims to create a medium-term framework for fiscal policies, through the national multi-year “Programs for Stability and Growth”.

It is advisable that Ukraine gradually moves towards more exchange rate flexibility, in order to gain greater control over monetary aggregates, to avoid the build-up of financial vulnerabilities and any loss of external competitiveness. Unfortunately, whereas there is a broad agreement on the need of such a change, there is much less agreement on the best alternatives (Yushchenko, 2000), given the practical difficulties that remain in implementing monetary policy in the Ukraine (as they do in other CIS countries; see Esanov, Merkl and Vinhas de Souza, 2005): to mention but two, the monetary transmission mechanism is still unstable (Bilan, 2004, Leheyda, 2004, and Golodniuk, here in Chapter 6), and there is a potential—and growing—“fear of floating” problem, when one looks at the level of dollarisation of liabilities in the financial system (IMF, 2005).

Among the alternative frameworks available to Ukraine, continuing with the current exchange rate anchor is one, as it can be made more flexible by the relatively simple targeting of a basket made of the USD and the EUR: this could reduce depreciation pressures, inflows, and the need to sterilize those. Such exchange rate anchor frameworks also provide a clear indication to the public about monetary policy and act to discipline fiscal policy, beyond being relatively easy to manage. Additionally, a clearer link to the euro may be useful for a greater economic integration with the EU.

Other potential alternatives are monetary or inflation targeting, coupled with a floating exchange rate, but it is not clear if Ukraine has the stable structural relationships or the deep financial markets that will enable their successful implementation in the short run (van Aarle et al. 2004).

The Microeconomic Framework

It is necessary to recognize that progress in terms of microeconomic reforms necessary for membership has been limited so far in Ukraine, albeit its degree is relatively high when compared with other CIS and SEE countries (see previous section).

We use “microeconomic framework” here as meaning the regulatory framework necessary for long-run growth, once macro stabilization has been achieved. Many aspects of it need to be dealt with by Ukraine, from wholesale improvement of the enforcement of legislation to judiciary reform, in what will necessarily be an effort of many years. In this section we will only briefly deal with two specific questions, tax and regulatory/competition reform, that we consider to be essential not only for a successful EU integration, but, much more importantly, for a sustained increase in the Ukrainian population’s welfare (Blue Ribbon Commission for Ukraine 2004).

Tax Reforms

Since independence (the State Tax Administration was created only in 1996), Ukraine’s tax system has developed by stages and somewhat inconsistently. As a

result, Ukraine does not yet have a unified tax code. Additionally, Ukraine shares a similar feature with the Central European NMS: the tax ratio to GDP is higher (at roughly 40 percent, including payroll taxes) than in countries with comparable GDP per capita levels.

Ukraine's tax revenues basically rely on four taxes (value-added tax, tax on corporate profits, personal income tax, and excise duties), which together accounted for 84 percent of all revenues in 2004. The system is unstable and complex, with continuous legal changes since independence and persistent discriminatory tax exemptions to certain sectors (mostly state-owned and energy-related or energy-intensive enterprises). A possible solution would be an effort to simplify and unify the code, while reducing overall taxation (by, for instance, reducing the tax on corporate profits—as was done by other NMS like Estonia and Slovakia—and the VAT, but without running into conflict with EU's minimum VAT levels, and reducing tax exemptions). A key step towards removal of tax exemptions was done in the first half of 2005, when the Parliament voted for an abolishment of most special economic zones and territories of priority development, as well as for termination of most tax privileges for armoured cars, shipbuilding, space, and aircraft industries.

Privatisation and Regulatory Reform

Ukraine's private sector is now reasonably developed, as an early mass privatisation ensured the development and predominance of the non-state sector of the economy. However, the transformation of the state production sector remains far from complete. About 15,000 enterprises, 350 controlling interests of the largest production joint-stock companies and holdings, and 1,500 blocks of minority shareholdings remain in state hands, at the State Property Fund. The state continues to control the most capital-intensive enterprises: two-thirds of the capital assets of the real sector remain in state ownership. Thus far, privatisation has been rather limited in the following sectors:

- Energy industry (including electric power generation and distribution);
- Transport industry (including pipelines);
- Post and communication: telecommunications (infrastructure, maintenance, and services);
- Public utilities;
- Military-industrial sectors (defence, space, aviation, and shipbuilding).

Given the systemic nature of these industries, with complex questions related to competition, their privatisation should probably avoid the “mass privatisation” process and instead opt for IPOs (Initial Public Offers), probably with the pre-selection of strategic partners or consortiums that include foreign members.

In addition to completing privatisation, a more robust and consistent competition policy should be developed. Competition policy is crucial for a functioning market economy and for sustainable economic growth.

The Ukrainian institutional framework for competition policy is currently made up of an Anti-Monopoly Committee (AMC), created in 1994, and some industry regulatory bodies (like the National Electricity Regulatory Commission (NERC) and the National Communication Regulatory Commission (NCRC)). Further reforms are needed to improve competition and the enforcement of competition legislation. Extensive state subsidies and regulatory capture by business groups result in unequal treatment of market participants and distort the allocation of resources. Inefficient regulation and delays in bankrupting insolvent firms prevent enterprise restructuring and preserve outdated industrial structures. Among the necessary reforms are the institutional and technical reforms (for instance, tariff setting by the regulatory bodies sometimes does not follow a clear economic logic), the strengthening of the AMC and the industry regulatory bodies, plus the effective separation of them from government. Also, some industries still lack independent regulatory bodies, for instance such as public utilities (water supply, sewerage, and heating) and transportation; before privatizing such industries, regulatory bodies will have to be created. The legal framework for providing state aid also needs to be improved significantly. The linkages and consistency between these components can be seen in practical terms in the way that they enabled greater FDI inflows in the NMS, and, consequently, reform of productive structures and a greater degree of international integration.

The financial sector of the NMS provides an example. It has some features that make them distinct both from advanced industrial economies and “transition” economies (Vinhas de Souza, 2004). The main characteristics are the generally low (compared with advanced economies) level of financial intermediation, strong dominance of the banking sector within financial intermediation, *very* high degree of foreign (mostly EU) involvement in the newly privatized banking sector—foreign companies now hold the majority of the assets of the banking system in virtually all of the NMS bar Slovenia.¹⁰⁹ The overall health in the financial systems in the NMS, regardless of their “starting conditions”, seem to be very robust, with good capitalization levels and a continuous decrease of non-performing loans (Reininger et al., 2002), which is especially important in an environment of fast financial deepening, with double-digit rates of real growth of private credit.

¹⁰⁹ In Bulgaria, around 80 percent of the assets of the banking system are foreign-owned, 95 percent in the Czech Republic, 63 percent in Hungary, 70 percent in Poland, 55 percent in Romania, and 83 percent in Slovakia. In the Baltic republics, around 98 percent of assets in Estonia, 68 percent in Latvia, and 87 percent in Lithuania are foreign-owned. Slovenia is the “laggard”, with 25.3 percent of its banking system still state-owned (Romania has the highest share of state ownership, with 42 percent), and only 28 percent foreign-owned—which, nevertheless, was almost a doubling of the share, just between 2001 and 2002 (Vinhas de Souza 2004).

Ukraine shares some similarities with the NMS, but also some dissimilarities, mainly linked to the sheer fact that it is, in spite of its much-improved macroeconomic situation since the 1998 financial crisis, still in a *substantially lower liberalization and reform level than those countries*. For instance, of the 162 banks (June 2005 data) in Ukraine (Ukraine has a bank-centred financial system; a rather marginal share of financial assets is held by non-banking institutions), only 9 are wholly foreign-owned, and with a marginal share of assets. Following the NMS, building the necessary legal/institutional framework and allowing EU financial institutions to service the domestic market would generate substantial benefits for Ukraine, especially in the current environment of strong credit growth.

6. “Sandwiched” between Russia and the EU: Costs and Benefits for Ukraine

Trade is very important for Ukraine (the openness index for it—as measured by the sum of exports and imports over GDP—exceeds 100 percent) and, as indicated in Section 1, it has been one of the main recent drivers of growth. As some of the recent very impressive increase in trade flows is linked to temporary factors¹¹⁰ (the devaluations of the hryvnia and increase in world ferrous metal prices), it is necessary to consider elements that will enable Ukraine to sustain such a trend growth in the long run. Among those elements are the entry into the World Trade Organization (WTO) and a possible free trade agreement (FTA) with the EU.

Regional Peculiarities of Ukraine’s Trade Regime: The Institutional Aspect

Ukraine–Russia

Regarding institutional arrangements with Russia one can say that Ukraine’s trade regime is determined by both CIS-wide arrangements and bilateral agreements. Numerous CIS-wide agreements (like the CIS Economic Union, CIS Free Trade Zone, CIS Common Agricultural Market, etc.) have failed so far to be implemented in full.

In this respect we should mention one agreement, which generated many discussions in Ukraine and outside. In September 2003, the Presidents of Belarus, Kazakhstan, Russia, and Ukraine signed an Agreement on the establishment of a Single Economic Space (SES) and the Concept (Guidelines) for Single Economic Space formation among the four countries. Both documents defined the SES as “an area consisting of the customs territories of the participants, where the mechanisms of economic regulation are intended to ensure the free movement of goods, services, capital, and labour; where a common foreign-trade policy is

¹¹⁰ Others are “structural”, like the lower costs of Ukrainian labour.

carried out, and fiscal, monetary, and foreign-exchange policies are coordinated to the extent needed in securing fair competition and macroeconomic stability”.

The main intentions of the SES were to establish a FTA between the four countries, to implement common policies for trade, competition, regulation, and standardization, to ensure the free movement of production factors, and to harmonize macroeconomic policy and network regulation. These ambitious objectives were to be implemented gradually, with each country determining its speed of integration independently (so-called ‘multi-level and multi-speed integration’). Eventually, a single commission in which each member state will have a voting weight proportional to its economic size would govern all policies.¹¹¹ Hence, the concept of the SES foresees the immediate implementation of an FTA with the intention of eventually creating a customs union that may even include some elements of higher integration levels.

Moreover, according to the Guidelines, the first step is the creation of a free trade zone without exceptions or limitations. It seeks to establish a unified policy on tariff and non-tariff regulations, unified rules for competition, the use of subsidies, and other forms of state support, while eliminating anti-dumping, compensatory, and other special defensive measures in mutual trade. In other words, already at this first stage the creation of a customs union was envisaged, that is, a form of union requiring a unified customs policy.

In one essential aspect, these agreements are distinct from other agreements signed by Ukraine: they anticipate the coordination of national positions in negotiating membership in the WTO. The Guidelines, in particular, specifies that, if one member enters the WTO before others, it will promote the earliest entry into the WTO of other SES members and, once WTO negotiations are underway, it will refrain from putting forward demands of their own. Thus, for the first time, a kind of “non-aggression principle” in negotiations with the WTO would have been officially set.

At the moment it seems that the feasibility of this project is rather low and probably any activities related to it will be limited to an attempt to create an FTA among the partners. The creation of any such deep regional arrangements would effectively mean a rejection of the EU membership intentions for Ukraine.

Bilateral trade relations between Ukraine and Russia are regulated by a free trade agreement signed in June 24, 1993. This agreement covers all goods except sugar, tobacco goods, certain spirits, chocolate, and candies. Ukraine–Russia steel trade is regulated by a special agreement envisaging quotas on Ukraine’s steel products exported to Russia.

¹¹¹ Assuming that economic weight of a country is determined by its GDP, Russia would get a dominant position in the commission governing the SES, as in the old Soviet Union.

Ukraine–EU

As far as Ukraine's economic relations with EU are concerned, they are based upon the following agreements:

- Agreement between Ukraine and European Community on Trade in Textile Products (signed in 1993, new Agreement signed in 2000);
- Agreement between the Commission of the European Communities and the Government of Ukraine setting up a Contact Group on Coal and Steel (signed in 1994);
- Partnership and Cooperation Agreement between the European Communities and their member states, and Ukraine (signed in 1994);
- Agreement between the Government of Ukraine and the European Coal and Steel Community on Trade in Certain Steel Products (signed in 1997);
- Agreement for Cooperation between the European Atomic Energy Community and the Cabinet of Ministers of Ukraine in the Field of Controlled Nuclear Fusion (signed in 1999).

It should also be mentioned that in March 2003 Ukraine and the EU signed a bilateral protocol for market access in goods and services in the framework of Ukraine's WTO accession.

Since 1 January 1993, Ukraine has become a beneficiary of the Generalized Scheme of Preferences (GSP).¹¹² These preferences are differentiated between two product categories: non-sensitive and sensitive products. Tariff duties on non-sensitive products continue to be suspended, while duties on sensitive products enjoy a tariff reduction. One must note that EU GSP benefits are not granted to the commodities accounting for a considerable part of Ukrainian exports (iron and steel, fertilizers, fishery products, grain, seeds, fruits, and plants). Still, the GSP should be considered as a tool for facilitating the access of Ukrainian goods to the EU market. Trade regulation in the steel and textiles sectors should be mentioned specifically:

Concerning steel the Partnership and Cooperation Agreement between the EU and Ukraine, its Article 22(1) states that trade in some steel products is to be the subject of a special agreement. The previous bilateral agreement between the European Coal and Steel Community (ECSC) and the Government of Ukraine on trade for certain steel products expired on 31 December 2001. The European Community has taken over the international obligations of the ECSC since the

¹¹² The last time the Council Regulation No 2501/2001 of 10 December 2001 extended the application of the scheme of generalized tariff preferences was for the period from 1 January 2002 to 31 December 2004 (COUNCIL REGULATION (EC) No 2501/2001 of 10 December 2001; *Official Journal of the European Union*, L 346, 31.12. 2001, pp. 1–59).

expiry of the ECSC Treaty, and measures relating to trade in steel products with third countries now fall under the competence of the Community in the field of trade policy. The Parties agreed to conclude a new agreement. Pending the signature and the entry into force of the new agreement, quantitative limits for the year 2004 were determined. Given that the tax of 30 euros/tonne on exports of ferrous scrap Ukraine applied as of 1 January 2003 has not been lifted nor diminished, the EU found it appropriate to set the quantitative limits for the year 2004 at the same level as for the year 2003. Subsequently, on November 22, 2004 the Agreement between the Government of Ukraine and the European Community on trade in certain steel products for 2004 was signed envisaging a certain increase in steel quotas. At that time the Parties have also proclaimed their readiness to start the negotiations on a new steel agreement to regulate their steel trade starting from 2005–2006. This new agreement was signed in August 2005. The new agreement envisages a further increase in steel quota for Ukraine in 2005–2006 assuming that the tax of 30 euros/tonne on exports of ferrous scrap remains unchanged. The reduction of tax will lead to a proportional increase in quota up to 43% if the tax is terminated.

Concerning textiles, trade in textiles between the EU and Ukraine is regulated by a separate agreement, signed in December 2000 (replacing a previous agreement dating back to 1993), aimed at reciprocal liberalization of trade in textiles and clothing. The Parties agreed to refrain from adopting any non-tariff measures that could hinder trade in textile and clothing products if certain conditions are met by the Ukrainian side. Ukraine's commitments under this agreement were:

- First, to bound tariff rates applicable to EU textile imports from Ukraine to the level of tariffs as of July 2000, and
- Second, reduce them to the level not exceeding the rate EU has bound in WTO.¹¹³

One of the problems plaguing EU–Ukraine relations is granting Ukraine the market economy status, linked to anti-dumping investigations against Ukraine.¹¹⁴ Anti-dumping measures are applied particularly frequently against steel and

¹¹³ Agreement in the form of an exchange of letters between the European Community and Ukraine concerning the extension and amendment of the Agreement between the European Economic Community and Ukraine on trade in textile products initiated on 5 May 1993, amended by the Agreement in the form of an Exchange of Letters initiated on 15 October 1999 (*Official Journal of the European Communities*, L 16, 18.1. 2001, pp. 3–34), amended by the Agreement in the form of an Exchange of Letters initiated on 22 December 2004.

¹¹⁴ The EU granted “market economy” status to Russia, an economy with a liberalization level similar to Ukraine, in 2002. The same status was granted to Ukraine in December 2005.

chemicals, two categories that comprise nearly half of Ukraine's total exports. According to the WTO, Ukraine ranked 13th in the world as a target of anti-dumping measures between January 1995 and June 2004, with 51 anti-dumping measures concluded by various countries (a share of anti-dumping measures about *ten times greater* than Ukraine's share of world trade). From those, 8 originated from the EU-25.

In October 2000, the EU Council of Ministers passed a decision allowing a "market economy enterprise" status for particular Ukrainian firms that can substantiate that they operate under market economy conditions.¹¹⁵ At the same time, the European Commission informed Ukraine that there are two unresolved issues, which are significant in the context of trade-defence investigations:

- Bankruptcy legislation: the EU Commission believes that current legislation prevents certain state-owned enterprises from going bankrupt under circumstances which are not sufficiently defined. There are also concerns that proper enforcement of bankruptcy law may not be ensured vis-à-vis "city-forming enterprises", which may have potential capacity to export whilst technically bankrupt;
- State interventions in price setting mechanism: the EU Commission believes that distorting state interference in the pricing of goods continues and appears to be on the increase in certain sectors, in particular fertilizers and metals, which are of key importance in the context of trade-defence measures.

Nevertheless, some of the main limitations in trade and thus in the FTA seem to be domestic (World Bank 2004), related to legislation, inadequate compatibility of standards, inefficiency of customs, and related tax procedures. An FTA with the EU that did explicitly incorporate the transposition of EU legislation (EU company legislation, EU rules on standardization and certification, EU competition rules, EU customs procedures, etc.) would not only help eliminate those internal limiting factors but would also strongly support the EU integration process.

An assumption present in some studies is that the process of WTO membership—Ukraine announced its intention to join the WTO as early as 1993—can be a stepping-stone for EU membership, given that some of the requirements are similar for both processes (Blue Ribbon Commission for Ukraine 2004, World Bank 2004) and that it should, therefore, precede it. Albeit true, in the sense that no country has ever entered the Union without having first entered the WTO, the connection between these two "options" is not so strong. As the experience of the last enlargement round shows, most of the applications for EU

¹¹⁵ Council Regulation (EC) No 2238/2000 amending Regulation (EC) No 384/96 on protection against dumped imports from countries not members of the European Community; *Official Journal of the European Communities*, L 257, 11.10. 2000.

membership preceded WTO membership, and frequently by several years.¹¹⁶ The Baltic countries, whose economies most resemble the sort of problems faced by Ukraine, only entered the WTO as late as 1999. For most of the former EU candidate countries, the causality was actually the *reverse*: the fulfilment of WTO membership conditions arose as a *by-product* of the EU accession process.

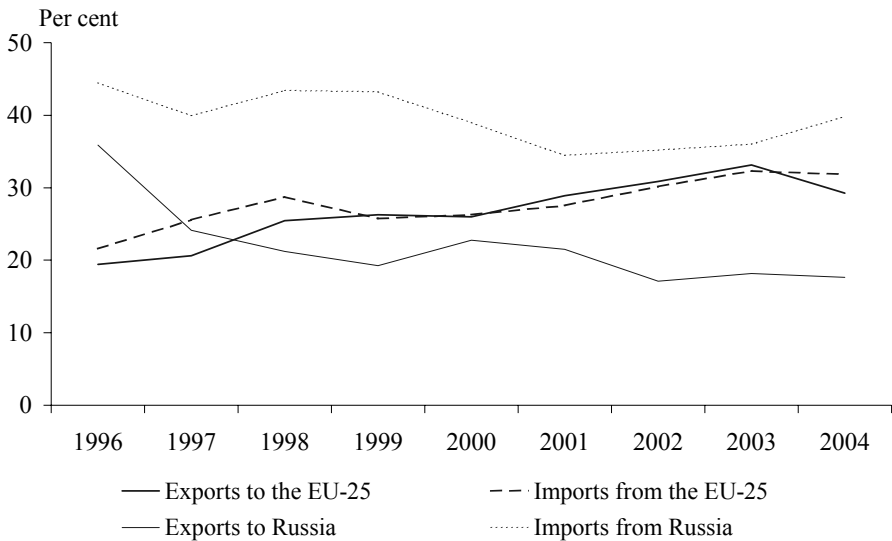
Additionally, the assumption that the WTO is an effective framework provider that will enhance *domestic* reforms—especially on the scale necessary for EU accession—may overestimate the “minimum common denominator” negotiation process that actually leads to WTO membership (which, among other things, is responsible for the usually disappointing trade increases after WTO accession).¹¹⁷ Also, EU membership, by its very nature, is clearly more effective in exporting a more robust and comprehensive regulatory framework than the WTO. Also, the EU integration process includes all the necessary reforms for WTO entry. This is especially true within the framework of a pre-accession FTA, as was the case with the last enlargement wave.

The Level of Economic Integration with the EU

After its enlargement of May 2004, the EU became the largest trade partner of Ukraine. Trade with the EU-25 is estimated to account for approximately one-third for merchandise exports and imports in 2004, with total trade turnover at almost 15 billion euros. In spite of this fact, it is still substantially below the share from the eight new EU member states from Eastern Europe several years before their EU accession (one must also note that the only EU’s ENP countries *without* free trade agreements with the EU are Moldova, Belarus, Russia, Ukraine and the Caucasus countries).

¹¹⁶ *The same does not apply to achieving some sort of FTA with the EU*: FTAs with the EU usually preceded both WTO entry and the official EU application membership by several years.

¹¹⁷ Rose (2003) estimated that WTO accession has non-significant trade-creating effects, contrary to regional FTAs, which have strong significantly positive trade-creating effects, possibly due to the “lowest common denominator” constraints of the WTO accession negotiation process, while regional/bilateral FTAs usually go much deeper towards liberalization amongst its members (like, for instance, the EU itself). This conclusion is also backed for Ukraine by Eremenko et al. (2004).

Figure 7.11 Merchandise Trade Shares with the EU-25 vs. Russia

Source: National Bank of Ukraine

The role of Russia—although it is still the largest single country trade partner for Ukraine—has gradually and substantially diminished. The most significant decline is registered for Ukraine’s exports to Russia, which halved their share in total Ukraine’s exports from 36 percent in 1996 to 17 percent in 2004 (Figure 7.11). Export flows were redirected towards both the EU-25 and to the rest of the world, in particular Asia.

As regards imports, the decrease in trade with Russia was far less significant, primarily because of its importance as a source of energy products for Ukraine. While during the last nine years the share of imports from Russia declined by almost 5 percentage points to approximately 40 percent in 2004, in nominal value terms imports have even increased.

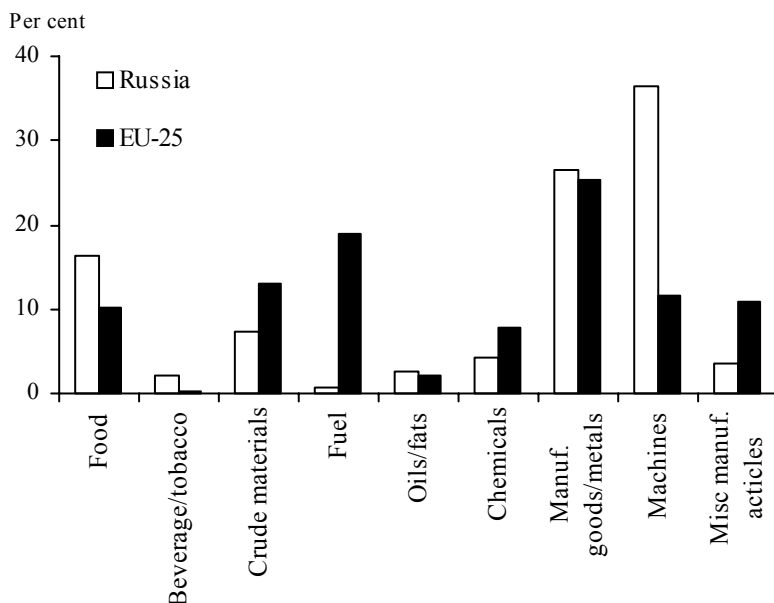
The structure of Ukraine’s trade with the EU-25 and with Russia differs quite significantly. In the most simplified terms, Ukrainian trade flows include westward movement of raw materials and semi-processed goods, and the eastward (opposite) movement of final products, primarily investment goods. These counter-movements characterize both Ukraine–EU and Ukraine–Russia trade relations.

Table 7.2 Structure of Ukraine's Exports by the Level of Processing in 1996 and 2002 (percent)^a

	EU-25		EU-15		NMS		Russia	
	1996	2002	1996	2002	1996	2002	1996	2002
Raw materials	29	20	20	16	41	26	4	3
Semi-processed products	32	31	32	29	32	35	45	31
Final goods	33	45	39	49	27	38	52	66

^aThe applied methodology does not allow classifying all traded items, thus the sum of proposed categories does not always sum up to 100 percent.

Source: UN ComTrade; authors' calculations on the basis of Multilateral Trade Negotiations categories (WTO).

Figure 7.12 Structure of Ukrainian Exports, 2002

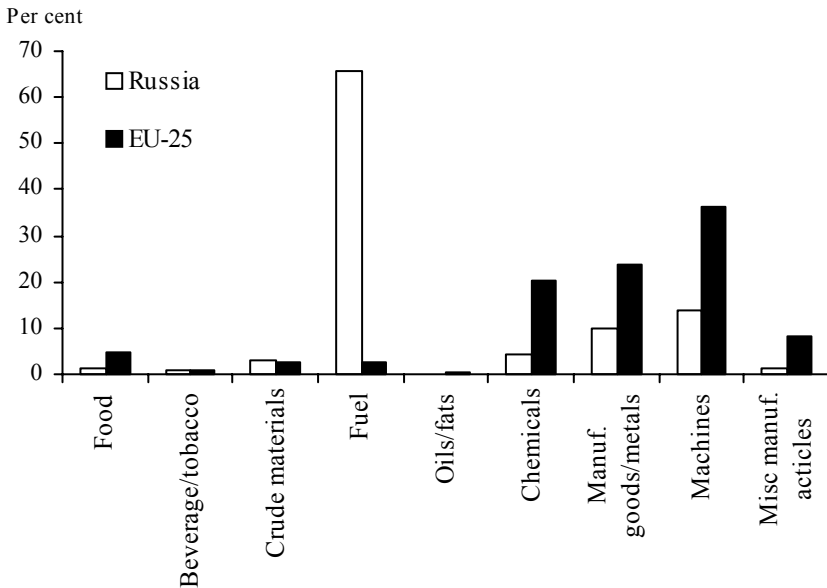
Source: UN ComTrade; authors' calculations.

Ukraine exports to the EU-25 metals (including ores), fuel,¹¹⁸ crude materials, and agro-food products. Around 20 percent of these products are raw materials, 30 percent are semi-processed goods, and the rest are final products (Table 7.2 and

¹¹⁸ Exports of fuel have recently intensified, linked to Russia's investments in Ukraine's petroleum refinery plants that were built in the Soviet Union time for processing Russian oil.

Figure 7.12). Although the structure of Ukraine's exports to the EU approximately corresponds to the general structure of the country's exports, Ukraine still supplies to the EU-25 relatively more fuels and relatively less metals (manufactured products), when compared to its overall trade. The latter could be explained by the structure of the EU protectionism, especially in relation to trade of metals. Although Ukraine is a beneficiary under the EU's General System of Preferences (GSP), iron and steel are excluded from this scheme, thus are subject to the MFN tariff rate. Moreover, quotas established by the EU further restrict the supply of Ukraine's metal products. However, despite the high protection of the EU market of agro-food products reflected in the limited GSP preferences, the exemption of selected products from the GSP for Ukraine, as well as in the introduction of quotas in grain trade, the share of Ukraine's exports of these products to the EU market is quite similar to the share of agro-food products in its total trade.

Figure 7.13 Structure of Ukrainian Imports, 2002



Source: UN ComTrade; authors' calculations.

Table 7.3 Structure of Ukraine's Imports by the Level of Processing in 1996 and 2002 (percent)^a

	EU-25		EU-15		NMS		Russia	
	1996	2002	1996	2002	1996	2002	1996	2002
Raw materials	11	4	5	4	21	7	66	66
Semi-processed products	17	23	17	22	17	24	10	11
Final goods	69	69	73	70	61	69	25	23

^aApplied methodology does not allow classifying all traded items, thus the sum of proposed categories does not always sum up to 100 percent.

Source: UN ComTrade; authors' calculations on the basis of Multilateral Trade Negotiations categories (WTO).

Machinery and equipment, in particular railway tank cars and gas turbines, occupy the largest share of Ukraine's exports to Russia, followed by metals and food products. Thus, the level of aggregated value of Ukraine's eastward exports is higher: the share of raw materials is only 3 percent, while the share of final products is 66 percent. Still, this structure of trade exists to a large extent not because of competitive advantage of Ukraine's machinery, but because of the preservation of Soviet Union links. Russia purchases in Ukraine machines and equipment serving as spare parts for capacities that were installed in the country during the Soviet Union period.

The structure of Ukraine's imports from the EU-25 and Russia to a certain extent mirrors the structure of exports (Figure 7.13). Imports from Russia are dominated by oil and gas, that is, raw materials, while imports from the EU-25 are mostly final goods, first and foremost machinery and equipment (Table 7.3).

The structure of trade by factor intensity, as shown in Tables 7.4 and 7.5, supports the previous story. Indeed, Ukraine exports to the EU-25 raw material-intensive products (mainly fuel and agro-food products), while one-third of its exports to Russia are of capital goods. In imports the situation is just the opposite: Ukraine imports capital-intensive goods from the EU-25, and raw material-intensive goods from Russia.

The study of Ukraine's competitive position in world trade on the basis of the revealed comparative advantage index (RCA)¹¹⁹ shows that Ukraine has a comparative advantage in metals, agro-food products, including vegetable and animal oils and fats, and inedible crude materials (Table 7.6). Ukraine has still a small comparative advantage in chemical products. Exports of these products face more trade restrictions in the case of the EU market (anti-dumping cases against metal and chemical products, limitations of the GSP scheme, etc.) than in the case of Russia's markets. Although Ukraine also meets these anti-dumping and

¹¹⁹ Calculated as a ratio of sector shares in Ukraine's and world exports.

safeguard measures against Ukraine's metals and other products, the existing free trade agreement and similar trade regulations inherited from the past and still partially functioning make Russia's markets more open than the EU's markets.¹²⁰

By factor intensity, Ukraine has a comparative advantage in exports of capital-, labour- and raw material-intensive goods, while no advantage in research-oriented goods (Table 7.7).

Summarizing the above discussion, Ukraine depends on Russia's fuels and the EU-25 machinery and equipment. The former is a heritage of the Soviet Union, and the extremely inefficient structure of energy consumption in the country makes Ukraine—a net importer of energy products—the most energy-consuming economy in the region. The introduction of energy-saving technologies as well as the diversification of energy suppliers and types of energy used is expected to reduce Ukraine's dependence upon Russia.

In terms of exports, the EU markets seem potentially much more attractive, being the largest neighbour market both in terms of population and GDP. Moreover, they are more demanding, thus increasing export shares in these markets will mean meeting very high demand standards, allowing entering other world markets with a considerable mark-up for quality. However, Russia's markets are still relevant for Ukraine. As the trade regime of the EU towards Russia is rather liberal, there is no contradiction between the aim of preserving the access to Russian markets and EU accession.

Another indicator of regional integration is capital movements between the regions concerned and, in particular, flows of foreign direct investment (FDI). Despite all the benefits FDI may bring to a transition economy, Ukraine failed to attract a significant amount of capital from abroad. The comparison of FDI volumes per capita across "transition" economies reported in Figure 7.14 shows that Ukraine is at the end of the list, surpassing only four countries. Although the country has managed to reach a relatively high level of economic development without substantial FDI, much of current economic growth is caused by an extremely favourable situation in world markets for the main Ukrainian export items. Thus, without new driving forces, growth will slow down as soon as the world and domestic market conjunctures worsen (as indeed happened in 2005). Numerous benefits for economic development brought by FDI, such as technological upgrade, management improvement, know-how, and others may help sustaining current economic growth and promote regional integration.

Considering the origin of foreign investors present in Ukraine, we can distinguish four groups of countries. The EU is by far the largest investor, with more than one-third of total FDI inflow (just for the EU-15, so the actual number is

¹²⁰ Even so, of the two bilateral trades, Ukraine derives surpluses on its trade with the EU, but not on its trade with Russia.

higher).¹²¹ It is followed by the United States, a set of so-called “offshore zones” (Cyprus, an EU-25 member, and the Virgin Island, a British dependency), and CIS countries, mainly Russia (Figure 7.15). Altogether these four groups account for three-quarters of total FDI inflows.

Table 7.4 Structure of Ukraine’s Exports by Factor Intensity in 1996 and 2002 (percent)^a

	EU-25		EU-15		NMS		Russia	
	1996	2002	1996	2002	1996	2002	1996	2002
Capital goods	36	34	33	32	42	40	55	55
Labour-intensive goods	12	18	18	20	5	14	7	12
Raw material-intensive goods	43	40	38	40	50	40	29	25

^A The applied methodology does not allow classifying all traded items, thus the sum of proposed categories does not always sum up to 100 percent.

Source: UN ComTrade; classification from Yilmaz and Ergun (2003); authors’ calculations.

Table 7.5 Structure of Ukraine’s Imports by Factor Intensity in 1996 and 2002 (percent)^a

	EU-25		EU-15		NMS		Russia	
	1996	2002	1996	2002	1996	2002	1996	2002
Capital Goods	46	58	52	60	35	47	22	24
Labour-intensive goods	21	25	20	23	24	29	4	5
Raw material-intensive goods	22	9	15	6	36	17	72	69

^aThe applied methodology does not allow classifying all traded items, thus the sum of proposed categories does not always sum up to 100 percent.

Source: UN ComTrade; classification from Yilmaz and Ergun (2003); authors’ calculations.

¹²¹ The figure of FDI flows from the EU-25 is not reported, since the enlarged Europe includes one very large offshore zone, Cyprus, which accounts for a substantial part of FDI into Ukraine. It is difficult to identify the true origin of capital coming from offshore zones. Potentially, investors of all countries (including Ukrainian) may use these regions for tax optimization schemes.

Table 7.6 Revealed Comparative Advantage Index (RCA) for Ukraine, 1996–2002^a

	1996	1997	1998	1999	2000	2001	2002
0 Food and live animals	2.1	1.3	1.1	1.5	1.0	1.4	1.8
1 Beverages and tobacco	1.1	0.6	0.5	0.6	0.8	0.6	0.6
2 Crude materials, inedible, except fuels	2.5	3.2	4.0	3.8	4.1	3.0	2.7
3 Fuels, lubricants, etc.	0.6	0.7	0.7	0.9	0.6	0.8	1.1
4 Animal, veg. oils, fats, wax	2.7	1.7	2.0	2.2	5.3	4.4	4.7
5 Chemicals, related products	1.4	1.1	0.9	0.9	1.0	0.9	0.7
6 Manufactured goods	2.4	2.9	2.9	3.0	3.3	3.2	3.0
7 Machines, transport equipment	0.4	0.3	0.3	0.3	0.3	0.3	0.3
8 Misc. manufactured articles	0.3	0.3	0.4	0.4	0.4	0.4	0.4
9 Goods not classified by kind	0.4	0.8	0.9	1.4	0.9	0.8	0.5

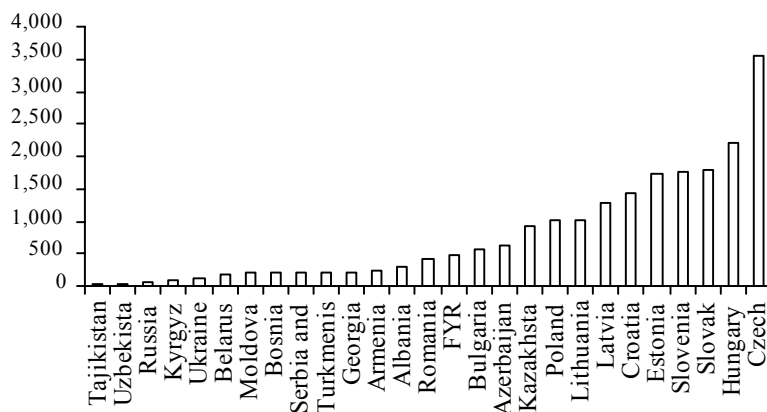
^AThe RCA index ranges from 0 to infinity with 1 denoting the neutral position.

Source: UN ComTrade; authors' calculations.

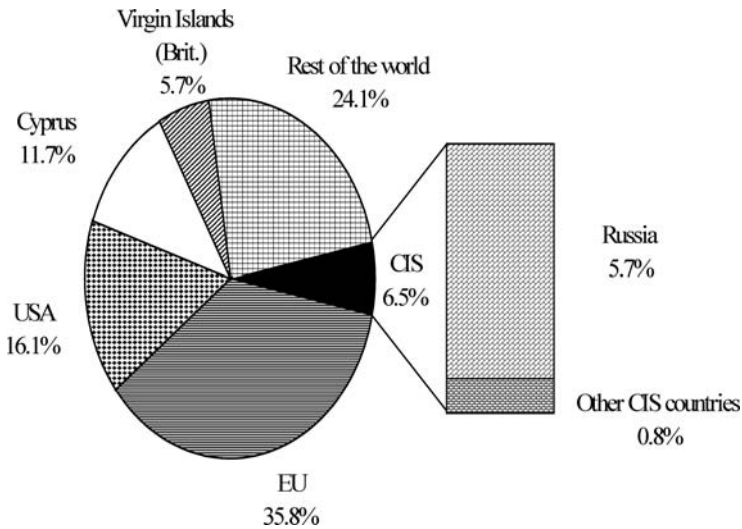
Table 7.7 Revealed Comparative Advantage Index (RCA) for Ukraine by Factor Intensity, 1996–2002

	1996	1997	1998	1999	2000	2001	2002
Capital-intensive goods	3.2	3.3	3.1	3.2	3.5	3.1	2.7
Labour-intensive goods	1.4	1.7	1.7	1.7	1.9	1.8	1.7
Raw material-intensive goods	1.6	1.5	1.6	1.7	1.4	1.4	1.7

Source: UN ComTrade; classification from Yilmaz and Ergun (2003); authors' calculations.

Figure 7.14 Cumulative FDI Inflows, 1992–2002 (USD per capita)

Source: EBRD (1999, 2003); authors' calculations.

Figure 7.15 Origins of FDI Inflows to Ukraine, 2003

Source: State Statistics Committee of Ukraine.

Capital coming to Ukraine from the west and from the east differs not only by volume, but also by investment motives and distribution of funds across industries. According to the survey results, conducted by Flemings/SARS Consortium, the main motive for western companies operating in Ukraine was the possibility to access a large domestic market (International Centre for Policy Studies 2000). Indeed, with its 48 million inhabitants, Ukraine represents one of the biggest markets in Europe, which, in addition, has a good potential for growth in terms of purchasing power. Relatively low labour costs are also reported as one of the motives for investment; however, this advantage is diminished by low productivity. On the other hand, investors from Russia and CIS came to Ukraine to regain lost markets and re-establish production links that had been formed during the Soviet era (Mankovska, 2001).

FDI originated from different regions goes into different industries. As shown in Table 7.8, recipients of funds from Europe are mostly companies operating in food, chemical, and machine building industries. The wholesale and retail trade sectors have also received a significant part of the funds from the EU. At the same time, Russian capital is concentrated in the fuel and energy sector. To take a practical example, Russian oil companies have acquired almost all Ukrainian oil refineries, which in Soviet Union times were constructed specifically for processing Russian oil. Another object of interest for investors from the “northern neighbour” where healthcare complexes in the region of Crimea.

Table 7.8 Sectoral Distribution of FDI from EU-15 and Russia, 2003

	EU-15		Russia	
	USD m	%	USD m	%
All sectors	2,383.4	100.0	377.7	100.0
Agriculture	61.6	2.6	5.9	1.6
Industry (A+B+C)	1,340.2	56.2	159.4	42.2
(A)Mining	32.7	1.4	1.1	0.3
(B)Manufacturing	1,297.0	54.4	158.3	41.9
Food industry	581.0	24.4	10.6	2.8
Light industry	55.0	2.3	0.1	0.0
Wood-processing	45.2	1.9	0.5	0.1
Publishing	73.0	3.1	0.8	0.2
Coke and refined oil products	10.2	0.4	103.7	27.5
Chemical industry	141.1	5.9	0.6	0.2
Other non-metallic mineral products	109.4	4.6	2.3	0.6
Metallurgy and metal processing	46.0	1.9	20.0	5.3
Machine building	205.0	8.6	8.5	2.3
Other	29.5	1.2	11.1	2.9
(C)Production and distribution of electricity, gas and water supply	10.1	0.4	0.0	0.0
Construction	50.3	2.1	14.7	3.9
Wholesale & retail trade	373.3	15.7	26.9	7.1
Hotels and restaurants	24.9	1.0	6.3	1.7
Transport and telecommunications	174.9	7.3	39.4	10.4
Finance	186.1	7.8	28.5	7.5
Real estate	108.1	4.5	17.3	4.6
Education	1.2	0.1	0.0	0.0
Healthcare	5.2	0.2	77.9	20.6
Other community, social, and personal service	57.6	2.4	1.4	0.4

Source: State Statistics Committee of Ukraine.

Stronger production links between Ukrainian and Russian enterprises in certain sectors would be beneficial for both countries. However, capital from the more advanced economies of the EU can bring benefits that are more relevant for the long-run growth and development of the Ukrainian economy. Factors such as new production, management and marketing technologies, better labour skills and improvements in risk management are linked to EU's FDI and make firms more competitive and productive. Another important factor is that western companies tend to better comply with international standards of environmental protection.

Thus, it would be advisable for the Ukrainian government to make efforts towards attracting more capital from the west.

After the 2004 elections, Ukraine has found itself in an extremely favourable position to attract foreign investors from advanced economies, as they are interested in an economy that has a large domestic market, low labour costs, and a potential to make considerable progress in market reforms. While the old member states of the EU are expected to be the main source of foreign capital flows into Ukraine, some funds may come from the NMS as well, as they are gradually losing their low labour cost comparative advantage as a result of economic convergence. Thus, increasing wages are likely to push investment further to the east (Economist Corporate Network 2002).

Despite its increasing attractiveness, Ukraine is not likely to be able to obtain more investment from abroad and, accordingly, promote its regional integration, unless the recently initiated re-privatisation process is finished¹²² and the numerous statements about Ukrainian economic potential are supported by the practical implementation of reforms, specifically of those intended to eliminate major impediments that foreign firms face there. As indicated in the previous section, among them are instability of regulation, ambiguity of the legal system, discriminatory regulation, corruption, and the high tax burden (International Centre for Policy Studies 2000), unpredictability of the tax system, poor protection of rights of minority shareholders, ineffective bankruptcy procedure, and other impediments (European Business Association 2004).

7. The Road Ahead: Initial Perspectives under Yushchenko's Government

The development of the EU–Ukraine relationship can be split into two stages. The first stage, under the Kuchma governments, was characterized by a multiplicity of official documents declaring Ukraine's desire to move towards the EU, but little practical steps in this direction. There were many complaints from the Ukrainian side that “the EU does not want to give a positive political signal by ac-

¹²² In June 2005 the largest Ukrainian metallurgical enterprise “Kryvorizhstal”, privatised in 2004, was returned to state ownership following a decision of the Commercial Appeals Court. The Government ordered to start preparing new tender for a privatisation of this enterprise, which was completed by its sale to Mittal Steel, the world's biggest steel company in October 2005, for a record amount of 4.8 billion USD, the biggest FDI in Ukraine's history. The decision to initiate a re-privatisation process was motivated by the overly restrictive conditions of previous privatisation tender that deterred most of bidders from participation in the tender. It is possible that other privatised enterprises may be returned to state property by court decisions, if violations in the privatisation process are proved.

knowledging the possibility of Ukraine's membership in the EU and readiness to start talks on this subject" as well as fears that the EU enlargement would result in negative consequences for Ukraine (fears so far disproved by the facts). In addition, actions like the agreement on Single Economic Space (SES) have raised doubts on Ukraine's degree of commitment to the EU. It should be acknowledged, however, that during Kuchma's Presidency a more or less coherent background for EU-Ukraine relations was at least formally established.

The 2004 Presidential elections can be considered as a turning point in Ukraine-EU relationships and the beginning of the second development stage. On February 4, 2005, Ukraine's Parliament voted for the new Programme of the Cabinet of Ministers that formulates the main strategic goals and directions of the government's activities, including its foreign policies' priorities.¹²³ While in many aspects the relevant programme provisions are very close to the intentions declared during the Kuchma period (Box 1), it contains one important element, an explicit intention "to develop together with the EU a new strategy of Ukraine-EU relationship that would envisage prospects of Ukraine's membership in the EU; to work in order to extend separate elements of pre-accession EU strategy to Ukraine". In addition, in the new government the special position of a Vice Prime Minister on European Integration was created, who is supposed to be responsible for the implementation of the "European course" of Ukraine. However, the scope of his responsibilities as well as the political role in the process of Ukraine's regional integration has remained unclear so far.

Any eventual Ukraine's EU membership is likely to be a long-run process, though the new Ukrainian leadership is very optimistic regarding the timing of accession.¹²⁴ Definitely Ukraine needs to elaborate a pragmatic approach to its relations with the EU in the post-enlargement period, in terms of expectations and possibilities, but also eliminate the impression that it is wavering undecided between the EU and the CIS. At the current stage the "ideal European strategy" for Ukraine would incorporate the following elements:

- Reconsidering the numerous programmes and other documents inherited from the Kuchma governance in order to identify real priorities;

¹²³ http://www.kmu.gov.ua/control/uk/publish/article?art_id=11639687&cat_id=60142 (in Ukrainian).

¹²⁴ According to Boris Tarasyuk, minister of foreign relations of Ukraine, in the case Ukraine successfully completes reforms envisaged in Ukraine-EU Action Plan, in 2007 Ukraine will be able to sign a "new-level" agreement with the EU that allows the country to look for a full EU membership in approximately 7 years (i.e., by 2014). Ideally, according to Mr. Tarasyuk, a new bilateral document between Ukraine and the EU should be in the form of a "Europe Agreement or Association Agreement".

- Harmonizing Ukraine's legislation with EU law;

If implemented effectively, the process of legal approximation will result in a substantial improvement of Ukraine's legal business environment and will contribute to integrate Ukraine into the European legal space. There are also grounds to believe that EU will put more emphasis on the issue of legal harmonization.

Box 7.1 Ukraine's Movement towards EU: Basic Official Documents

(I) The European choice: Annual Presidential Address to the Parliament "On the Internal and External State of Ukraine", May 31, 2002

According to the Address, Ukraine's gaining membership with the EU is a prospective foreign policy goal. Strategy for achieving this goal is the following:

2003–2004: Ukraine is to sign an associated membership agreement with the EU and conduct talks on a free trade zone;

2004–2007: Ukraine is to follow all necessary procedures needed to implement the associated membership agreement and become an associated member of the EU;

2005–2007: Ukraine is to set up a customs union with the EU;

2007–2011: Ukraine is to meet all the requirements for EU membership.

(II) Law "On National Program of Ukraine's Legislation Approximation to that of the EU", March 18, 2004.

According to the law, the adaptation of legislation is defined as the "process of bringing Ukrainian laws and other regulatory acts into compliance with the '*acquis communautaire*' ". Chapter III of the Law explicitly states: "the state policy regarding adaptation of the legislation shall be formulated as a component of law reform in Ukraine". The Law also states "that draft Laws of Ukraine and drafts of legislative acts, relating to the fields of legal relations regulated by the law of the EU, are subject to mandatory expertise to determine whether this draft comply with the "*acquis*".

The Law confirms that the priority fields of legal approximation are those defined by the Article 51 of the PCA. This shows that if implemented efficiently the process of legal approximation will result in substantial improvement of Ukraine's legal business environment and will contribute to integration of Ukraine into European legal space.

(III) Statement of the Ukrainian Party in Connection with Signing of the Protocol On accession of the New EU Member States to the PCA, April 29, 2004.

Ukraine expects that the dialogue with EU concerning enlargement issues will continue after May 1, 2004 and will concentrate on the following important issues of Ukraine–EU relations: granting Ukraine a full market economy status in the framework of the EU antidumping legislation; increase of the Ukrainian steel exports to the enlarged EU taking into account traditional steel exports to the 10 New Member States; granting Ukraine "social" preferences in the framework of the EU GSP; reaching settlement on the modalities of access of Ukrainian agricultural products to the EU market; ensuring significant simplification of the visa regime between Ukraine and the EU.^a

^aStatement of the Ukrainian Party in Connection with Signing the Protocol On Accession of the New EU Member States to the PCA, April 29, 2004.

- Undertaking steps to get a market economy status from the EU;

As noted in a previous section, the granting of market economy status by the EU to Ukraine is hampered by such domestic policy problems as inefficient bankruptcy legislation and state interventions in the price setting mechanism. The new government announced its intentions to overcome all obstacles, aiming to receive a market economy status in the short-run.

- Joining the WTO;

After more than a decade of negotiations upon Ukraine's WTO membership, it seems that the country is approaching the conclusion of the talks. As of August 2005, Ukraine has signed 34 bilateral protocols on access to markets of goods and services, including protocols with such key partners as the EU, Canada, Turkey, Japan, and Norway. According to the Ministry of Economy and European Integration, Ukraine has agreed upon 95 percent of all tariff lines, excluding tariffs on sensitive Ukrainian products (first of all, in agriculture). Also, talks on access to service markets is completed for 98 percent of all service categories as defined by the WTO classification. Ukraine continues negotiations concerning access to financial and audiovisual services markets.

However, for the successful completion of the negotiation process in the near future, Ukraine has to fulfil several tasks. First, Ukraine has to sign bilateral protocols with the USA, China, Australia, and several other countries. It is expected that a successful conclusion of negotiations with the USA (as Ukraine and the EU have already signed a bilateral protocol for market access in goods and services in the framework of Ukraine's WTO accession) will intensify the overall process of signing bilateral agreements. Second, Ukraine has to complete multilateral talks and to finalize a Working Party Report. For this, Ukraine has to harmonize national legislations in accordance with the WTO requirements. In July Ukraine made considerable progress on its way towards WTO accession. Parliament managed to vote several key laws necessary for bringing Ukrainian legislation in line with WTO requirements. Among others, it adopted a law, strongly advocated by the USA, introducing criminal responsibility for producing pirated CDs; laws removing discrimination from the insurance and auditing markets; laws on reducing agricultural tariffs. Unsettled questions still include harmonization of technical regulation; simplification of certification procedure; harmonization of sanitary, phytosanitary and veterinary measures; custom valuation; export tariffs; quotas on exports and imports of sugar; the estimation of agricultural domestic support.

Some Ukrainian officials hoped that Ukraine's increased coordination of activities between the Government and the Parliament would have allowed the completing harmonization of national legislation and bilateral talks in the first half of 2005, enabling Ukraine to become a WTO member already in December 2005 during the Hong Kong Ministerial Conference, but this did not happen.

- Preparing an agreement concerning the establishment of an FTA with the EU;

Although the PCA envisages the prospect of establishing a free trade area (FTA) with the EU as an “evolutionary” clause, so far no clear agenda for the fulfilment of this clause has been determined. The main requirement by the EU is that Ukraine becomes a WTO member before establishing an FTA with the EU. Thus, while for most of the NMS the fulfilment of WTO membership conditions was a by-product of the EU accession process, for Ukraine the WTO membership is a step towards EU integration.

It is worthwhile noting that the programme of government’s activities entitled “Towards People” explicitly declares Ukraine’s intention “to launch jointly with the EU work aimed at establishing a free trade area”. Such negotiations, if seriously taken by both sides, could become an external anchor for internal institutional reforms.

Finally, it should not be overlooked that Russia and other CIS countries remain important economic partners for Ukraine. Therefore, it would be advisable for the country to preserve relationships with its eastern neighbours. Generally speaking, future cooperation between Ukraine and the CIS countries will be determined by the following factors:

- The political and economic agendas of the EU. In case Ukraine and the EU fail to find an appropriate “post-enlargement” scheme of bilateral relations, Ukraine may be forced to reconsider its European choice and come closer to Russia. At the same time, developments will depend to a large degree upon how the EU will assess the integration prospects of Ukraine;
- The speed and scale of the continued trade reorientation away from the CIS space to third, mainly EU markets;
- The increase in FDI inflows from the enlarged EU;
- Ukrainian attempts to secure its positions on the CIS markets.

In sum, from Ukraine’s perspective the way ahead in relations with the EU has two dimensions: economic, political and institutional. Success in the economic dimension will depend upon Ukraine’s ability to penetrate more deeply into EU markets, to receive a greater share of EU FDI, and to compete successfully with EU companies. This ability will be determined, to the largest extent, by a domestic policy that should ensure the establishment of a viable market economy. Further developments in the institutional dimension will depend upon improving the framework of cooperation and removing obstacles in mutual economic relations.

This will also depend upon a clear decision from the Ukrainian side concerning its remaining relations with the CIS and prospective initiatives like the

SES¹²⁵. A commitment towards the EU will necessarily imply a choice towards it, with all its rules and obligations. Relations with the CIS will not be severed, but Ukraine must realize that it will not be able to remain a member of this organization or of other sorts of regional groupings if those contradict the conditions for EU membership.¹²⁶

Ukraine's EU choice was underlined in a series of high level bilateral EU–Ukraine meetings held during early 2005: starting with the visit by EU External Relations Commissioner Ferrero-Waldner to Kyiv during 16–18 February and followed by the 8th meeting of the EU–Ukraine Cooperation Council, held in Brussels on 21 February 2005, when the EU welcomed the appointment of a new government and expressed support for its programme of political and economic reforms. At this meeting, the EU formally acknowledged Ukraine's European ambitions and made it clear that a new commitment to democracy and reforms opened new prospects for EU–Ukraine relations, and presented additional measures agreed by the European Council in order to strengthen the Action Plan, some of which are listed below (one must note that they do incorporate many of the elements described above as the “ideal European strategy for Ukraine”):

- To initiate early consultations on an enhanced agreement between the EU and Ukraine, to replace the PCA at the end of its initial ten-year period;
- To explore possibilities for closer co-operation in the area of foreign and security policy, including European Security Defence Policy. Ukraine should be invited, on a case-by-case basis, to align itself with EU positions on regional and international issues;
- To deepen trade and economic relations between the EU and Ukraine. Work on agreements for steel and textile products for 2005 will be intensified. The review of the existing feasibility study on establishing an FTA between Ukraine and the EU will be accelerated with a view to enable an early start of negotiations once Ukraine has joined the WTO;
- To lend further support to Ukraine's WTO accession and to offer Ukraine continued assistance in meeting the necessary requirements;
- To step up support to the process of legislative approximation, including technical assistance and twinning to meet EU norms and standards and targeted advice and support legislative approximation through a mechanism such as the Technical Assistance and Information Exchange (TAIEX) unit of the Enlargement

¹²⁵ Ukraine's decision to withdraw from a prospective multilateral SES free-trade framework in August 2005, opting instead for bilateral agreements with other CIS countries, seem to indicate again the clarity of the current Ukraine's EU choices.

¹²⁶ One must stress here that, in spite of some proposals, the EU is *not* a “pick and choose” structure, and that there is no such halfway house towards membership. One is either inside the EU or not.

DG of the European Commission. Further efforts will be made to conclude bilateral agreements on the co-ordination of social security;

- To maximize access to funding from the European Investment Bank (EIB). After final endorsement of the ENP Action Plan, up to 250 million euros of EIB lending could be made available to Ukraine;
- To provide increased assistance to Ukraine through the relevant instruments in order to help Ukraine to pursue the reform process.

The culmination of those meetings happened on February 23, 2005, when the new Ukrainian President made a speech entitled “Ukraine’s Future is in the EU” at the European Parliament, in which a clear vision for EU membership was expressed, with his statement that “We hope that at the end of the Action Plan, in 2007, we will be in a position to begin EU membership negotiations. Ukraine is already a part of an integrated Europe. We are able to make an application under Article 49 and will aim to meet the Copenhagen criteria”, received with a standing ovation by the Parliament. In the same speech, he also stressed the non-exclusive nature of Ukraine’s EU links, by saying that “Moving closer to Europe does not prevent closer cooperation with Russia. Ukraine’s membership of the EU and NATO is not against Russian interests—on the contrary, a stable Ukraine could help bring Russia closer to Europe”. This happened one day after a visit to the NATO headquarters in Brussels, to stress the already existing links between this organization and Ukraine, and also opening the doors for a future NATO membership for Ukraine.

8. Conclusions

Under the new government elected in late 2004, Ukraine has an opportunity to engage in a series of reforms, including concerning its relations with the EU. Ukraine has experienced a remarkable macroeconomic stabilization and growth resumption in the last few years. Using relative institutional and economic indicators, the remaining deficits are obvious when compared to other countries in the queue for EU membership, but the case of other applicant countries, e.g., Croatia, has shown that institutional reforms can be quite fast, when supported by a clear EU entry perspective. Given the current economic links with the EU, Ukraine’s largest partner, the potential gains for Ukraine from membership are very substantial.

Ukraine should keep on pressing for fast reforms, and at some point may open negotiations for EU membership, by submitting a formal application. This may, among other things, help to prevent a state capture by vested interest groups and the blocking of reforms. Nevertheless, EU membership is a long-term effort, and the Ukraine government should be aware of that.

The EU, from its part, should weigh Ukraine’s application on its merits, not taking into consideration the concerns of non-EU countries. To assure the

successful achievement of an eventual Ukrainian membership, the EU should actively support the continuation of the reform process in the country, especially with respect to institution building, making full use of the frameworks available in the ENP.

Finally, one must stress that the EU itself shall gain from this eventual future enlargement, as it has gained from *all* the previous ones.

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Chapter 8

Modeling the Demand for Money and Inflation in Belarus

Igor Pelipas¹²⁷

1. Introduction

A stable money demand function is an important prerequisite for conducting an effective monetary policy, and therefore for sustainable, balanced growth. Consequently, it is not surprising that many theoretical and empirical studies are devoted to the problems of money demand.¹²⁸ Many of the empirical studies provide evidence that a stable money demand function exists both in advanced economies and in some developing countries. In such studies modern techniques of econometric analysis are used. They enable the analysis of both the long-run and short-run aspects of economic dynamics. A wide usage of cointegration analysis and equilibrium correction models is characteristic of the research of money demand.¹²⁹

Until recently the implementation of comprehensive econometric tools for the analysis of money demand in transition economies was practically impossible, due to absence of necessary statistical data and/or too short time series. However, in new publications such tools, including cointegration analysis, are used.¹³⁰ Obviously, as the length of the available time series expands, the number of such works will increase too.

¹²⁷ We would like to thank Lúcio Vinhas de Souza, Yulia Vymyatnina and all participants of the 2nd. Meeting of the UACES Study Group on Monetary Policy in Selected CIS Countries (Helsinki, February 10-11, 2005) for useful comments and discussions. The usual disclaimers apply.

¹²⁸ See Sriram (1999a) for a comprehensive survey of the literature on theoretical and empirical aspects of money demand.

¹²⁹ Among numerous publications on the subject one can note the special issue of *Empirical Economics* (1998) devoted to empirical analysis of money demand in the EU and also several recent research papers of the IMF, especially Jonsson (1999), Sriram (1999b), Egoume-Bossogo (2000), Adedeji and Lui (2000), Nachega (2001).

¹³⁰ See, for instance, Choudhry (1998), Korhonen (1998), Kalra (1998), Babic (2000), Bahmani and Barry (2000), Rother (2000), Yang (2001).

We believe that the topicality of the research on money demand in Belarus is determined by the following. Although the elements of a market economy in the country appeared in the first half of 1990s, subsequent economic policy has turned Belarus into one of the outliers amongst transition economies. Pervasive and intensive government intervention in economic activity substantially blocks market mechanisms and hampers private sector development. Macroeconomic stability and high inflation remain a problem for the Belarusian economy. In such conditions, the analysis of the money demand function allows, on the one hand, to clarify how the demand of monetary balances is formed in a economy with a high degree of state regulation, and how this influences inflation. On the other hand, such analysis provides useful empirical information for effective monetary policy and anti-inflation measures.

The main aim of this chapter is to get answers on the following three questions:

1. Does money demand function exist in Belarus over the period 1992-2004 and what are its main determinants are?
2. Is money demand function stable in the long run and short run?
3. Is there empirical evidence of monetary nature of inflation in Belarus?

Money demand in this chapter is investigated by means of cointegration analysis and equilibrium correction models. The results of the research should be considered definitely as preliminary and it will be a subject of further analysis, as a longer time series will be available. Nevertheless, we believe that our research will stimulate further studies of the money demand in Belarus.

The structure of the chapter is the following. In the second section, we present the theoretical background for the money demand function. In the third section the data used in our analysis are described and their order of integration is determined. In the fourth section the long run money demand functions are investigated both for nominal and real balances. The fifth section presents constancy analysis of cointegration relations reflecting money demand. In the sixth section, the short run equilibrium correction money demand function is estimated. Monetary factors of inflation are analysed in the seventh section. The final section summaries the results of our research and provides conclusions.

2. Demand for Money: Theoretical Background

As it is usually mentioned in the literature, the demand for money is determined by two main reasons. First, monetary balances are necessary as an inventory for smoothing differences between incomes and expenditures; secondly, they can be used as one of the assets in the portfolio framework (see Ericsson (1988)). This leads to the following specification of money demand function in the long-run:

$$M^d = f(P, I, \mathbf{R}), \quad (1)$$

where M^d is nominal money balances; P is the price level; I is a scale variable (real income); \mathbf{R} is a vector of returns of different assets alternative to money balances. The function $f()$ is increasing in P and I , decreasing in elements of \mathbf{R} which associated with assets excluded from money balances, M and increasing in elements of \mathbf{R} which associated with assets included from money balances, M .

Usually, demand for money is treated as a demand for real money balances. Then function (1) can be written as following:

$$M^d/P = f(I, \mathbf{R}). \quad (2)$$

However, the transfer from a nominal money demand function to a real money demand function supposes price homogeneity. This hypothesis has to be empirically tested. Nonetheless, very often the price homogeneity hypothesis is not tested and the demand for money directly investigated as a demand for real balances. Such an approach, in our view, seems problematic. Thus, in our research we start with expression (1), and then, after confirmation of the price homogeneity hypothesis (i.e., the absence of monetary illusion), we use function (2).

It is obvious that in Belarusian economy the specification of a money demand function will differ from specifications relevant for developed market economies. This caused by the several reasons: the high degree of government intervention into economy, undeveloped financial markets, the scarcity of the necessary statistics, the formation of interest rate in non-market conditions and its negative real values under the high inflation. Taking into account these considerations, we use the following indicators while analyzing money demand and inflation in Belarus: monetary aggregate, M1, consumer price index, P, real industrial production as a proxy for real income, RIP, nominal market exchange rate, ER_M and refinance rate as a proxy for interest rate, REF.

In empirical research, functions (1) and (2) are usually presented in logarithmic form. Thus, the money demand function for nominal and real balances can be expressed as following:

$$m1^d = \phi_0 + \phi_1 p + \phi_2 rip + \phi_3 er_m + \phi_4 ref, \quad (3)$$

$$m1^d - p = \gamma_0 + \gamma_1 rip + \gamma_2 er + \gamma_3 ref, \quad (4)$$

where $\phi_0, \phi_1, \phi_2, \phi_3, \gamma_0, \gamma_1, \gamma_2, \gamma_3$ are coefficients and $m1^d = \ln M1$, $p = \ln P$, $rip = \ln RIP$, $er_m = \ln ER_M$, $ref = \ln REF$ $m1^d - p = \ln(M1/P)$, where \ln is natural logarithm.

The coefficients of the log-linear functions (3) and (4) are elasticities. In accordance with theoretical considerations, the anticipated signs of coefficients in

(3) are the following: $\phi_1 > 0, \phi_2 > 0, \phi_3 < 0, \phi_4 < 0$. If $\phi_1 = 1$, then the hypothesis of price homogeneity is confirmed and one can correctly transfer to money demand function for real balances (4). According to theory the anticipated signs of coefficients in this case will be the following: $\gamma_1 > 0, \gamma_2 < 0, \gamma_3 < 0$. In the framework of quantity theory $\gamma_1 = 1$, while $\gamma_1 = 0.5$, in a Baumol-Tobin model. All these hypotheses are testable and different empirical research show that real income elasticity often appears to be greater than unit (see Golinelli and Pastorello, 2001).

3. Data and Unit Root Test

To analyse money demand and inflation in Belarus we have used the following data:

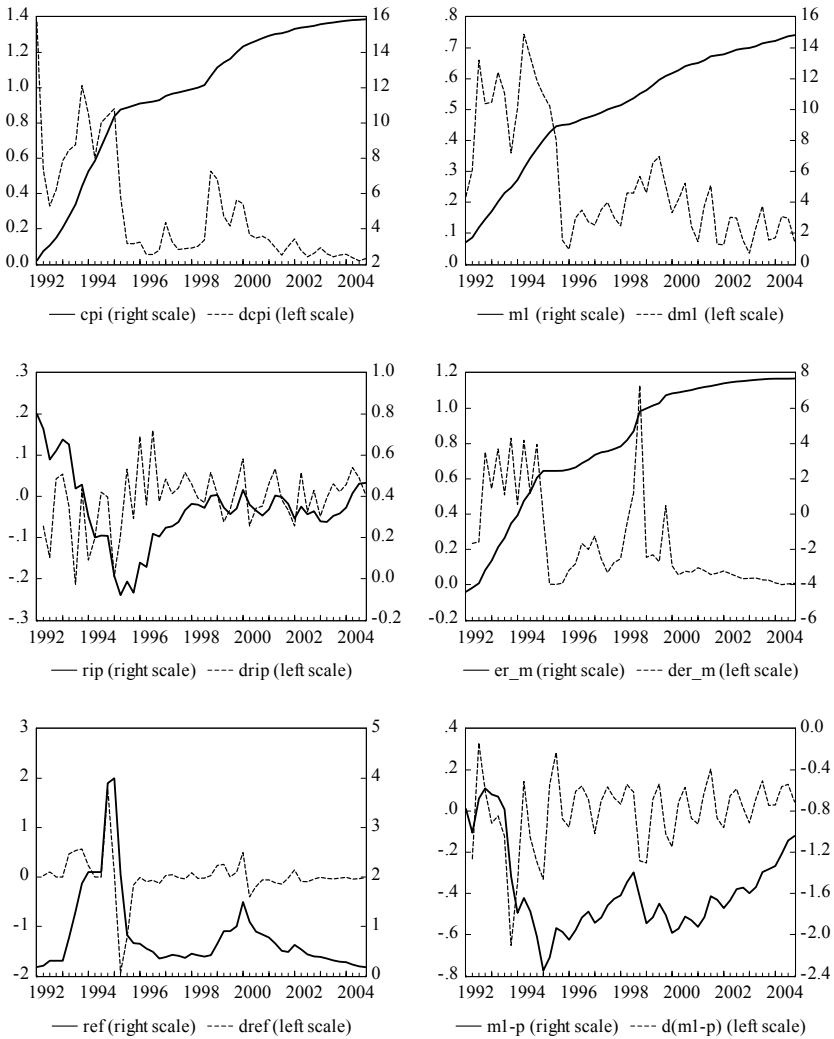
- consumer price index (CPI);
- monetary aggregate M1;
- real industrial production (RIP = NIP/PPI, where NIP – nominal industrial production; PPI – producer price index), as a proxy of real income;
- market exchange rate (Belarusian roubles per US dollar – EX_M);
- refinance rate (REF), as a proxy for interest rate.
- real money balances (M1/CPI).

We used seasonally unadjusted data and included seasonal dummies in the appropriate regressions. All data, excluding refinance rate, were transformed into logs: $cpi = \ln CPI$, $m1 = \ln M1$, $m1-p = \ln M1 - \ln CPI$, $rip = \ln RIP$, $ex_m = \ln EX_M$. The first differences are approximations of growth rates of the variables. Quarterly data for the period 1992:1-2004:4 have been used (52 observations). Since our sample is rather short for cointegration analysis it is necessary to note the following. First, such a problem is typical of all transition economies. Nevertheless, there are many studies, where comprehensive econometric tools, including cointegration analysis have been successfully implemented in comparably short time series. For example, see Choudhry (1998), Korhonen (1998), Kalra (1998), Bahmani and Barry (2000), Babic (2000), Rother (2000), Yang (2001). Secondly, Campos and Ericsson (1999) have shown that even time series with small amount of observations may be rather informative.¹³¹ The information content of such data highly depends on per-observation data variance. Such situation can be observed in developing countries and transition economies, where time series are short but information content of each observation is relatively substantial. This consideration is necessary for implementing modern

¹³¹ Campos and Ericsson (1999) showed that a mere 16 yearly observations for Venezuela, because of high variation in the analyzed variables, are more informative than the same quarterly data for the USA over the 40 years.

econometric tools while analysing transitions economies with rather short time series. Thirdly, in transition economies, the 'duration' of the long run can be much shorter than in advanced economies. One can consider long run here as a time necessary to restore equilibrium after shocks. If the time of this adjustment is much smaller in comparison with the entire sample, probably we can analyse to some extent this process in terms of long-run and short-run. All above-mentioned points argue in favour of carrying out a long-run analysis even with relatively short time series.

Figure 8.1 Time series used (log scale, d is difference operator Δ)



The time series used are presented on figure 8.1. As one can see, some time series have clear structural breaks. It is necessary to take them into account while testing for unit root. We started using a ADF_{GLS} test, which is a more powerful version of the standard Dickey-Fuller unit root test (see Elliot, Rothenberg, and Stock, 1996). Its results are reported in table 8.1. All series in levels are nonstationary (for ref the null hypothesis is rejected in specification with constant only at the 5% significance level). The first differences are stationary for all variables, except Δcpi and $\Delta m1$ where ADF_{GLS} test does not allow to reject the

null hypotheses of a unit root (for $\Delta(m1-cpi)$ the null hypothesis is not rejected in specification with constant only at the 5% significance level, but it is rejected at the 10% significance level with $p = 0.066$).

Table 8.1 Dickey-Fuller GLS unit root test

Variables	t -ADF _{GLS}	
	constant and trend	constant
<i>cpi</i>	-1.609(1)	-0.438(1)
<i>m1</i>	-2.050(3)	-0.465(3)
<i>m1-cpi</i>	-1.761(3)	-1.486(3)
<i>Rip</i>	-1.390(0)	-1.109(0)
<i>Ex_m</i>	-1.676(2)	-0.543(2)
<i>Ref</i>	-2.567(3)	-2.157(3)*
Δcpi	-2.601(0)	-1.566(0)
$\Delta m1$	-1.828(2)	-1.228(2)
$\Delta(m1-cpi)$	-3.418(2)*	-1.876(2)
Δrip	-7.139(0)**	-5.858(0)**
Δex_m	-4.396(0)**	-3.380(0)**
Δref	-6.502(1)**	-6.418(1)**

Notes: * and ** denote rejection of the null hypothesis of a unit root at the 5% and 1% significance level, respectively. Numbers in parentheses are optimal lag length chosen by Swartz information criteria. Maximal lag length is four quarters. ADF_{GLS} tests and appropriate critical values are calculated using Eviews 5.1.

Table 8.2 Unit root test with a changing mean

Variables	T_b	t -ADF	AR 1-4 (p -value)
Δcpi	1994:4	-6.461(1)**	0.0968
$\Delta m1$	1995:2	-5.865(0)**	0.0737

Notes: ** denotes the rejection of the null hypothesis of a unit root at the 1% significance level. Critical values are from Perron (1992) and equal -5.51 and -4.76 at 5% and 1% significance levels, respectively. T_b is the point of the structural break. The numbers in parentheses are the optimal lag length, which was chosen to yield uncorrelated residuals in the appropriate unit root tests. AR 1-4 is the F -test for serial correlation of residuals of 1- n -order, H_0 : serial correlation is not present (Hendry, Doornik, 2001). The following regression is used in testing for a unit root with a changing mean (Perron, 1992):

$$\Delta\Delta y_t = \mu + \gamma DU_t + \varphi D(TB)_t + \alpha \Delta y_{t-1} + \sum_{i=1}^k c_i \Delta\Delta y_{t-i} + \varepsilon_t,$$

where $\Delta\Delta y_t = \Delta y_t - \Delta y_{t-1}$; $\Delta y_t = y_t - y_{t-1}$; $\mu, \gamma, \varphi, \alpha, c_i$ are the parameters of the regression; $DU_t = 1(t > T_b)$ and $D(TB)_t = 1(t = T_b + 1)$ are the dummies; k is the number of lags in regression; T_b is the point of structural break which was chosen endogenously minimizing t -statistics of the coefficient on DU_t ; ε_t is an error term.

As structural breaks are present in time series, a more careful analysis is needed. We used a modified unit root test allowing for changing mean in time

series (Perron, 1992), which is the case in Δcpi and $\Delta m1$. Table 8.2 presents the results and the null hypotheses of a unit root in Δcpi and $\Delta m1$ is strongly rejected. Consequently, one can conclude that Δcpi and $\Delta m1$ are stationary variables with a changing means. Therefore, all variables in levels are $I(1)$ and can be the subject of cointegration analysis.

4. The empirical Cointegrated VAR: Nominal and Real Money Balances

Our initial empirical model consists of five variables: monetary aggregates, $m1$, consumer price index, cpi , real industrial production, rip , the market exchange rate, er_m , and refinance rate, ref .¹³² All series are quarterly data expressed in natural logs. To correct for seasonality, centred dummies are included in the models. In contrast to many studies, the restriction of price homogeneity is not imposed. First, a model with nominal money balances is used. Then, the hypothesis of price homogeneity is tested. This approach allows us to model correctly the money demand for real balances, if the hypothesis of price homogeneity is not rejected.

The appropriate vector model with equilibrium correction mechanism can be written as follows:

$$\Delta X_t = \Phi D_t + \sum_{i=1}^{k-1} \Gamma_i \Delta X_{t-i} + \alpha \beta' X_{t-1} + \varepsilon_t, \quad t = 1, \dots, T, \quad (5)$$

where X_t is a vector of endogenous variables; D_t is a deterministic vector (constant, trend, seasonable dummies and etc.); Φ is a matrix of coefficients D_t ; Δ is a difference operator; Γ_i is a matrix of coefficient characterizing the long-run dynamics of variables; ε_t is a vector of serially uncorrelated stochastic errors. The number of cointegration vectors is equal to the rank of matrix $\alpha \beta'$, where β' is the matrix of cointegration vectors characterizing the long-term relationship between variables, α is the matrix of the feedback coefficients characterizing the speed of the equilibrium adjustment of the system. The rank of the matrix, and respectively the number of cointegration vectors is determined by using trace statistics $LR(trace) = -T \sum_{i=r+1}^k \ln(1 - \lambda_i)$, where λ_i are the eigenvalues ($\lambda_1 \geq \dots \geq \lambda_k$), T is the number of observations. The null hypothesis H_0 is that there are r cointegration vectors against the alternative $H_1: \geq r + 1$ that there are $r + 1$ cointegration vectors. If $LR(trace)$ is statistically significant, then the null hypothesis is rejected.

¹³² Data from the Ministry of Statistics and Analysis of the Republic of Belarus and the National Bank of the Republic of Belarus have been used. The original time series are available in the database of the Research Center of the Institute for Privatisation and Management, at <http://research.by>.

The lag length of the VAR was chosen according to the LM-type test (it equals two). The trend is restricted in the cointegration space. The model is also checked for serial correlation, normality and ARCH effect. Multivariate tests of serially uncorrelated residuals indicate that the null cannot be rejected against the alternative hypothesis of first order correlation and correlation at the fourth lag, respectively. Thus, two lags seem to be sufficient for describing the dynamics of the system. We also have not found any signs of conditional heteroskedasticity, while the normality of the residuals is rejected. Following Bruggeman, Donati, and Warne (2003), we use a Bartlett correction for the trace test and bootstrap p -values, since Johansen test for cointegration can to be over-sized in small samples (our sample includes only 48 quarters). The results of cointegration analysis for the system of five variables with nominal money balances are presented in table 8.3 and 8.4.

Based on the Bartlett corrected trace test and appropriate bootstrap p -values it is reasonable to conclude that there exists one cointegration vector in the system of five variables. One can consider such a vector as a money demand function for nominal balances. A set of appropriate tests has been carried out (both related to long-run parameter and loading coefficients). As a result, we found out that hypothesis of long-run unit price homogeneity is not rejected. Moreover, the hypothesis of long-run unit real income homogeneity is also not rejected.

Table 8.3 Cointegration test and unrestricted cointegration vector: nominal money balances

1. Cointegration test						
Eigenvalue	0.751	0.637	0.337	0.244	0.127	
Null hypothesis, H_0	$r = 0$	$r \leq 1$	$r \leq 2$	$r \leq 3$	$r \leq 4$	
LR_{trace}	161.54	91.99	41.30	20.77	6.79	
Asymptotic p -value	0.000	0.000	0.071	0.192	0.377	
Bootstrap p -value	0.001	0.020	0.485	0.570	0.685	
LR_{trace} (Bartlett correction)	99.30	62.59	28.98	13.49	4.70	
Asymptotic p -value	0.007	0.064	0.563	0.700	0.640	
Bootstrap p -value	0.004	0.072	0.590	0.584	0.610	
2. Standardized cointegration vector (β) and α -coefficients						
Variables	<i>m1</i>	<i>cpi</i>	<i>rip</i>	<i>ex_m</i>	<i>ref</i>	<i>trend</i>
Cointegration vector, β'	1.000	-0.869	-0.645	0.120	0.078	-0.055
α -coefficients	-0.451	0.229	0.083	-0.016	-0.153	
3. Test for significance of a given variable in β' and weak exogeneity test						
Variables	<i>m1</i>	<i>cpi</i>	<i>rip</i>	<i>ex_m</i>	<i>ref</i>	<i>trend</i>
Significance of a given variable in β' , $\chi^2(1)$	18.723	14.234	7.4622	1.5647	0.65997	17.535
	[0.000]	[0.000]	[0.006]	[0.211]	[0.417]	[0.000]
Weak exogeneity, $\chi^2(1)$	17.291	3.740	1.162	0.004	0.045	
	[0.000]	[0.053]	[0.281]	[0.953]	[0.831]	

Notes: The computations have been carried out in PcGive 10.4 (Doornik, Hendry (2001)). Bootstrap p -values and trace test with Bartlett correction have been calculated using Structural VAR, version 0.34, which can be downloaded from

<http://texlips.hypermart.net/svar/index.html>. In square brackets are the p -values for the appropriate tests.

Table 8.4 Structural hypotheses and restricted cointegration vector: nominal money balances

1. Structural hypotheses						
1) $\beta' = (1 \ -1 \ * \ * \ * \ *)$	$\chi^2(1) = 1.1794 [0.2775]$					
2) $\beta' = (1 \ -1 \ -1 \ * \ * \ *)$	$\chi^2(2) = 2.1022 [0.3496]$					
3) $\alpha_{rip} = 0 \cap \alpha_{erm} = 0 \cap \alpha_{ref} = 0$	$\chi^2(3) = 1.4632 [0.6908]$					
4) $\beta' = (1 \ -1 \ -1 \ * \ * \ *) \cap \alpha_{rip} = 0, \alpha_{erm} = 0, \alpha_{ref} = 0$	$\chi^2(5) = 4.5374 [0.4749]$					
2. Restricted cointegration vector according to hypothesis 4						
Variables	<i>m1</i>	<i>cpi</i>	<i>rip</i>	<i>ex_m</i>	<i>ref</i>	<i>trend</i>
Cointegration vector, β'	1.000	-1.000	-1.000	0.229	0.088	-0.050
Standard errors of β	-	-	-	0.013	0.029	0.003
α -coefficients	-0.422	0.258	-	-	-	-
Standard errors of α	0.047	0.070	-	-	-	-

Notes: The computations have been carried out in PcGive 10.4 (Doomik, Hendry (2001)). In square brackets are p -values for appropriate tests.

Weak exogeneity tests show that real industrial production, exchange rate and refinance rate are weakly exogenous variables. Nominal money and prices are endogenous variables and interact with each other. The adjustment mechanism is as follows: when nominal money balances are above their equilibrium value, then they should be decreased and at the same time prices will increase (and vice versa). It means that, at least in the long-run, nominal money (monetary gap) influences prices.

Long-run price homogeneity permits to model correctly the money demand function for real balances. As in the first case, we used a VAR with two lags and a trend restricted in cointegration space. The model includes centred seasonal dummies. The set of the variables is the same and the nominal to real transformation leads to $m1-p$. The results of cointegration analysis for real money balances are presented in tables 8.5 and 8.6. We clearly find one cointegration vector, taken into consideration the small sample Bartlett correction and bootstrap p -values. According to the weak exogeneity test, all variables in the system are weakly exogenous, except real money balances, $m1-p$. This permits to model the long-run and short run aspects of the money demand function within a single regression with an equilibrium correction mechanism.

Table 8.5 Cointegration test and unrestricted cointegration vector: real money balances

1. Cointegration test					
Eigenvalue	0.6555	0.3403	0.2969	0.0844	
Null hypothesis, H_0	$r = 0$	$r \leq 1$	$r \leq 2$	$r \leq 3$	
LR_{trace}	96.11	42.82	22.02	4.41	
Asymptotic p -value	0.0000	0.0511	0.1400	0.6027	
Bootstrap p -value	0.0025	0.2591	0.4007	0.8559	
LR_{trace} (Bartlett corrected)	75.34	33.91	13.69	3.06	
Asymptotic p -value	0.0040	0.2927	0.6835	0.8699	
Bootstrap p -value	0.0020	0.2781	0.5128	0.8589	
2. Standardized cointegration vector (β) and α -coefficients					
Variables	$m1-p$	rip	ex_m	ref	$trend$
Cointegration vector, β'	1.0000	-1.1092	0.2318	0.0175	-0.0487
α -coefficients	-0.6754	0.1465	-0.0048	0.3970	
3. Test for significance of a given variable in β' and weak exogeneity test					
Variables	$m1-p$	rip	ex_m	ref	$trend$
Significance of a given variable in β' , $\chi^2(1)$	24.661 [0.000]	30.712 [0.000]	24.642 [0.000]	0.262 [0.609]	21.403 [0.000]
Weak exogeneity, $\chi^2(1)$	30.110 [0.000]	3.175 [0.075]	0.000 [0.986]	0.545 [0.461]	

Notes: The computations have been carried out in PcGive 10.4 (Doornik, Hendry (2001)). Bootstrap p -values and trace test with Bartlett correction have been calculated using Structural VAR, version 0.34. In square brackets are p -values for appropriate tests.

Table 8.6 Structural hypotheses and restricted cointegration vector: real money balances

1. Structural hypotheses					
1) $\beta' = (1 \ -1 \ * \ * \ *)$	$\chi^2(1) = 0.5290$ [0.4670]				
2) $\alpha_{rip} = 0 \cap \alpha_{erm} = 0 \cap \alpha_{ref} = 0$	$\chi^2(3) = 3.4302$ [0.3299]				
3) $\beta' = (1 \ -1 \ * \ * \ *) \cap \alpha_{rip} = 0, \alpha_{erm} = 0, \alpha_{ref} = 0$	$\chi^2(4) = 3.4303$ [0.4886]				
2. Restricted cointegration vector according to hypothesis 3					
Variables	$m1-p$	rip	ex_m	ref	$trend$
Cointegration vector, β'	1.0000	-1.0000	0.2318	0.0455	-0.0492
Standard errors of β	-	-	0.0135	0.0230	0.0034
α -coefficients	-0.6940	-	-	-	-
Standard errors of α	0.0808	-	-	-	-

Notes: The computations have been carried out in PcGive 10.4 (Doornik, Hendry (2001)). In square brackets are p -values for appropriate tests.

5. Constancy Analysis of the Cointegrated VAR

Following Bruggeman, Donati and Warne (2003), we carried out formal tests to investigate the parameter constancy of the cointegrated VAR. Usually, recursive estimates over a limited time period and the sheer visual inspection of recursive Chow forecast, break-point, or predictive failure tests have been used to examine this problem. Such diagnostics are useful for preliminary analyses but any inferences drawn from them neglects a large fraction of the sample period and do not takes into account that such tests are formal tests only for a single point in time.

In this section the parameter constancy of three sets of parameters in equation (5) is examined. First, we analyze non-zero eigenvalues used in the cointegration rank analysis. The main tool here is the fluctuation test suggested by Hansen and Johansen (1999). Second, we examine the constancy of β using the Nyblom (1989) tests studied by Hansen and Johansen (1999). Third, we take a look at the constancy of the Φ , Γ_1 , and α parameters using the fluctuation test due to Ploberger, Krämer, and Kontrus (1989). All the formal tests do not require the trimming of the sample but for computational reasons, however, we will use 40 percent of the sample as a base period and examine constancy over the remainder. In bootstrap analysis the number of pseudo-samples is restricted to 2000. The first two tests are computed in two variants: for the fixed parameters Φ and Γ_1 in (5), and for recursive re-estimation of these parameters (for details see: Bruggeman, Donati, and Warne, 2003).

The results of constancy analysis are presented in table 8.7. In addition to asymptotic p -values, bootstrap p -values were used, as this helps to make more reliable inferences in our relatively small sample. As one can see from the different constancy tests, both cointegrated VAR with nominal money balances and with real money balances do not show any non-constancy in terms of fluctuation test, different types of tests concerning long-run parameters and test relevant to short-run part of the system and adjustment coefficients as well. Thus we can conclude that the results of the cointegration analysis are constant over the whole sample.

Table 8.7 Constancy analysis of cointegrated VAR

1. Hansen-Johansen fluctuation test of the constancy of the non-zero eigenvalues						
Model	Conditional on $\Phi^{(T)}$ and $\Gamma_1^{(T)}$			Updating of $\Phi^{(t)}$ and $\Gamma_1^{(t)}$		
(eigenvalue, λ)	$\sup_{t \in T} \tau_{t|T}(\lambda_t)$	Asymptotic p -value	Bootstrap p -value	$\sup_{t \in T} \tau_{t|T}(\lambda_t)$	Asymptotic p -value	Bootstrap p -value
Nominal money, λ_1	0.3881	0.9985	0.2711	0.5525	0.9204	0.3347
Real money, λ_1	0.3893	0.9985	0.4432	0.4879	0.9716	0.6998
2a. Nublom supremum test of the constancy of parameters of long-run relationship (β)						
Model	Conditional on $\Phi^{(T)}$ and $\Gamma_1^{(T)}$			Updating of $\Phi^{(t)}$ and $\Gamma_1^{(t)}$		
	$\sup_{t \in T} Q_T^t(i)$	Asymptotic p -value	Bootstrap p -value	$\sup_{t \in T} Q_T^t(i)$	Asymptotic p -value	Bootstrap p -value
Nominal money	1.8492	0.3990	0.1611	2.8817	0.0832	0.0750
Real money	1.9453	0.2528	0.0805	2.6646	0.0774	0.0505
2b. Nublom mean test of the constancy of parameters of long-run relationship (β)						
Model	$\text{mean}_{t \in T} Q_T^t(i)$	Asymptotic p -value	Bootstrap p -value	$\text{mean}_{t \in T} Q_T^t(i)$	Asymptotic p -value	Bootstrap p -value
Nominal money	0.5738	0.4524	0.3597	0.5857	0.4374	0.5228
Real money	0.6141	0.2867	0.1926	0.8330	0.1337	0.1436
3. Ploberger-Kramer-Kontrus fluctuation test of the constancy of parameters Φ , Γ_1 and α						
Model	Equation	S(10), S(9)	Asymptotic p -value	Bootstrap p -value		
Nominal money	<i>m1</i>	1.3931	0.3438	0.6398		
	<i>cpi</i>	1.5243	0.1716	0.5453		
	<i>rip</i>	1.0229	0.9411	0.9300		
	<i>er_m</i>	1.4850	0.2181	0.5708		
	<i>ref</i>	0.8773	0.9963	0.9860		
	<i>m1-p</i>	0.9723	0.9606	0.9105		
Real money	<i>rip</i>	1.1552	0.7388	0.7349		
	<i>er_m</i>	1.3065	0.4581	0.5533		
	<i>ref</i>	0.8822	0.9924	0.9655		

Notes: All computations have been carried out in Structural VAR, version 0.34.

6. Conditional Equilibrium Correction Model for Real Money Balances

Table 8.8 reports the results of modeling the dynamics of real money balances. In line with the cointegrated VAR, this model initially includes the same variables with one lag, seasonal dummies and equilibrium correction mechanism, taken from cointegration analysis (*EqCM1r*). The diagnostics of this initial regression, showed in panel A of the table 8.8, is fairly good. No serious problems were detected with residuals and structural breaks. Then this model was reduced using general to specific approach (Hendry, Krolzig (2001)). The final 'specific' model is presented in second part of the table (panel B). This model is also performs well, except for some problems with heteroskedasticity at the 5% level.

The conditional equilibrium correction model for real money balances has three explanatory variables and seasonal dummies. The model demonstrates a strong equilibrium correction mechanism: it takes about 1.3 quarters to restore equilibrium after a shock. All coefficients have the theoretically expected signs. As figure 8.2 shows, the model fits reasonably well and out-of-sample forecast is also adequate, and within the 95% confidence interval. Thus, our obtained results show that it is possible to build a money demand function for the Belarusian economy on the basis of quarterly data over the period 1992:1-2004:4. This money demand function is consistent with theoretical considerations on the long-run and fits well in the short-run. Moreover, the parameters of long-run and short-run relationships are rather stable over the sample.

Table 8.8 Conditional equilibrium correction model for real money balances (dependent variable $\Delta m1-p$)**A. General model**

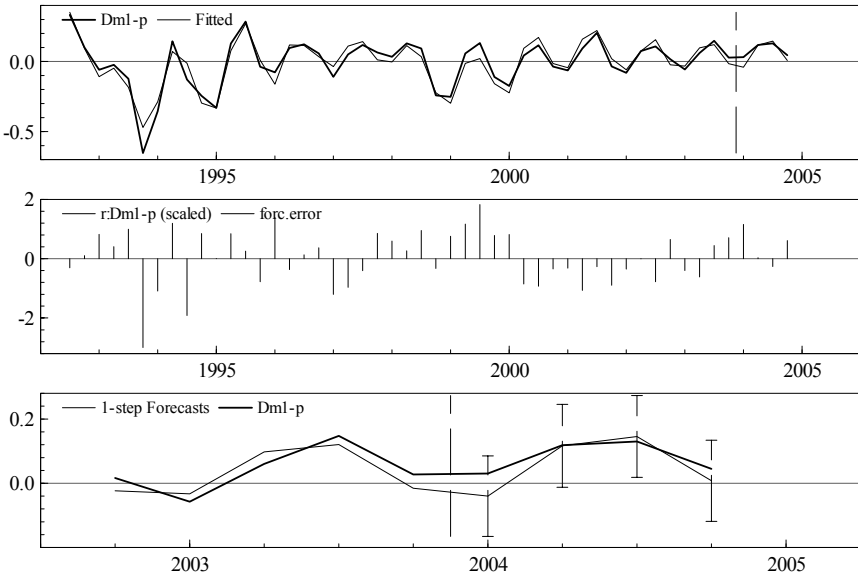
Variables	Coefficient	Std Error	t-value	t-prob
Constant	-1.6160	0.1966	-8.218	0.000
$\Delta m1-p_{t-1}$	0.3554	0.0913	3.894	0.000
Δrip_t	0.0360	0.1577	0.228	0.821
Δrip_{t-1}	0.0651	0.1503	0.434	0.667
Δer_m	-0.0007	0.0540	-0.013	0.990
$\Delta er_{m_{t-1}}$	-0.0021	0.0614	-0.035	0.973
Δref	-0.0698	0.0264	-2.641	0.012
Δref_{t-1}	-0.0671	0.0256	-2.623	0.013
Seasonal	0.0121	0.0320	0.379	0.707
Seasonal 1	0.1240	0.0338	3.665	0.001
Seasonal 2	0.1179	0.0279	4.231	0.000
EqCM1 r_{t-1}	-0.6940	0.0861	-8.062	0.000
	value	prob		
AR 1-4	0.7837	0.5437		
ARCH 1-4	0.8259	0.5192		
Normality	2.3944	0.3020		
Hetero	2.9301	0.0134		
Chow(1998:4)	0.4462	0.9603		
Chow(2003:4)	0.3372	0.8509		

B. Specific model

Variables	Coefficient	Std Error	t-value	t-prob
Constant	-1.6353	0.1416	-11.551	0.000
$\Delta m1-p_{t-1}$	0.3576	0.0606	5.898	0.000
Δref	-0.0677	0.0208	-3.254	0.002
Δref_{t-1}	-0.0693	0.0226	-3.065	0.004
Seasonal_1	0.1172	0.0243	4.824	0.000
Seasonal_2	0.1095	0.0217	5.045	0.000
EqCM1 r_{t-1}	-0.7050	0.0644	-10.942	0.000
	value	prob		
AR 1-4	0.8254	0.5170		
ARCH 1-4	0.7636	0.5561		
Normality	4.4263	0.1094		
Hetero	2.8026	0.0130		
Chow(1998:4)	0.5233	0.9327		
Chow(2003:4)	0.4065	0.8028		

Notes: AR denotes test for residual autocorrelation of 1-n orders, H_0 : denotes the absence of residual autocorrelation; ARCH denotes test for ARCH-effect, H_0 : ARCH-effect is absent; Normality is a test for normality of the residuals, H_0 : denotes that residuals are normally distributed; Hetero is a test for heteroskedasticity, H_0 : heteroskedasticity is absent, Chow () denotes Chow breakpoint test (breakpoint date is in parentheses). The liberal strategy (minimizing of non-selection probability) was used under estimations.

Figure 8.2 Conditional equilibrium correction model for real money balances: actual and fitted values, residuals, and 1-step forecast with 95% confidence bars



7. Conditional Equilibrium Correction Model for Inflation

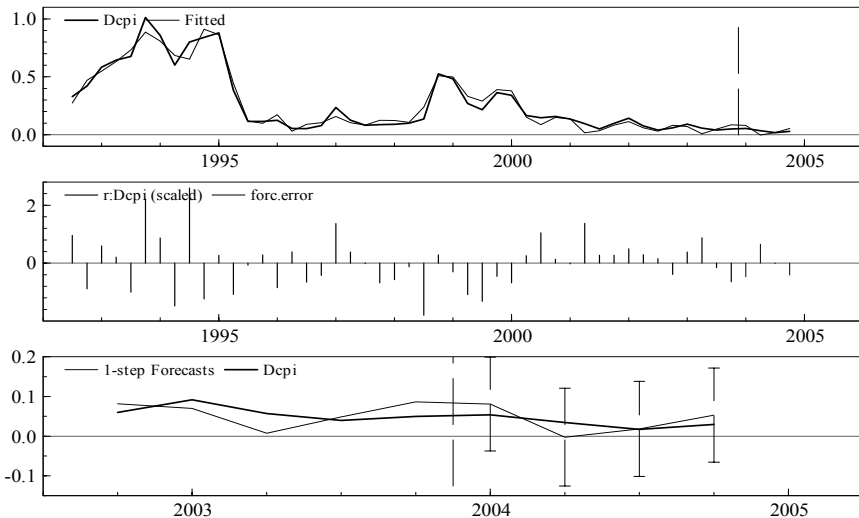
Using the results from our analysis of money demand function, it is of clear interest to examine the role of monetary factors in the inflation process in Belarus over the period 1992-2004. One can consider two aspects of the monetary impact on inflation. On the one hand, the short run dynamics of monetary aggregates, say $m1$, on the other hand, the long run influence through “monetary gap”. Since the “monetary gap” is the difference between money supply and money demand, the equilibrium correction mechanism from long-run analysis of real money demand can be used to test the appropriate hypotheses.

Aiming to build a general model of inflation, we include all potentially relevant variables: inflation (with a lag, reflecting inflation inertia), the growth of the monetary aggregate $m1$, real industrial production, exchange rate and refinancing rate. The disequilibrium on the monetary market is reflected through an equilibrium correction mechanism ($EqCM1r$), taken with one lag. The model also includes seasonal dummies and an impulse dummy, for the financial crisis in Russia in 1998. Table 8.9 shows the regression results. The general model has no serious problems with residuals and structural changes. Thus, it is a good basis for further simplification, by the exclusion of insignificant variables. As it was stated earlier, using a ‘general to specific’ approach, we reach a final model with

acceptable characteristics.

This model shows that all monetary variables ($m1$, ex_m , ref) influence inflation in the short-run. Almost all these variables have the expected sign and are significant. One exception is the refinance rate, which has a ‘wrong’ positive sign in the inflation regression. Such a result is not unusual for transition economies. For example, Rother (2002) observed such effect, analyzing inflation in Albania. In our case, this can be explained as following: the refinance rate is determined by monetary authorities in accordance with dynamics of inflation and perhaps some kind of simultaneity bias can be observed here. If a longer lag length than the one we use in our analysis would be taken, one can see the ‘right’ positive effect of refinance rate, as a proxy of the interest rate in the inflation equation. The monetary gap has a significant impact on inflation in the long run. It is important to note that money matters both in short-run and long-run. Figure 8.3 shows the forecast performance of the model. As one can see, an equilibrium correction model of inflation fits data reasonably well and also performs quite well in terms of out-of-sample forecast. Thus, money contains useful information concerning price dynamics in Belarus, at least during the period of our research.

Figure 8.3 Equilibrium correction model for inflation: actual and fitted values, residuals, and 1-step forecast with 95% confidence bars.



**Table 8.9 Conditional equilibrium correction model for inflation
(dependent variable Δcpi)**

A. General model

Variables	Coefficient	Std Error	t-value	t-prob
Constant	0.8473	0.3264	2.597	0.014
Δcpi_{t-1}	0.4544	0.0965	4.708	0.000
$\Delta m1$	0.2386	0.2490	0.958	0.345
$\Delta m1_{t-1}$	0.0163	0.1825	0.089	0.929
Δrip	-0.0470	0.1606	-0.293	0.771
Δrip_{t-1}	-0.1650	0.1608	-1.026	0.312
Δer_m	0.1734	0.0769	2.256	0.030
$\Delta\text{er}_{m,t-1}$	0.0913	0.0700	1.304	0.201
Δref	0.0670	0.0245	2.733	0.010
Δref_{t-1}	0.0577	0.0244	2.365	0.024
D984	0.0027	0.0211	0.127	0.900
Seasonal	0.0089	0.0321	0.276	0.785
Seasonal_1	-0.0616	0.0378	-1.627	0.113
Seasonal_2	-0.0432	0.0365	-1.185	0.244
EqCM1r _{t-1}	0.3647	0.1362	2.678	0.011
	value	prob		
AR 1-4	2.7255	0.0471		
ARCH 1-4	1.1265	0.3648		
Normality	3.6422	0.1619		
Hetero	1.6545	0.2053		
Chow(1998:4)	0.3486	0.9851		
Chow(2003:4)	0.1698	0.9522		

B. Specific model

Variables	Coefficient	Std Error	t-value	t-prob
Constant	0.9751	0.1629	5.985	0.000
Δcpi_{t-1}	0.5228	0.0755	6.923	0.000
$\Delta m1$	0.2743	0.1353	2.027	0.049
Δer_m	0.1832	0.0579	3.161	0.003
Δref	0.0588	0.0211	2.793	0.008
Δref_{t-1}	0.0712	0.0205	3.472	0.001
Seasonal_1	-0.0762	0.0221	-3.441	0.001
Seasonal_2	-0.0450	0.0251	-1.790	0.080
EqCM1 r_{t-1}	0.4195	0.0731	5.743	0.0000
	value	prob		
AR 1-4	2.4426	0.0637		
ARCH 1-4	2.1655	0.0947		
Normality	3.6600	0.1604		
Hetero	1.8811	0.0793		
Chow(1998:4)	0.2967	0.9967		
Chow(2003:4)	0.1870	0.9437		

Notes: The liberal strategy (minimize non-selection probability) was used under estimations. AR denotes test for residual autocorrelation of 1-n orders, H_0 : denotes the absence of residual autocorrelation; ARCH denotes test for ARCH-effect, H_0 : ARCH-effect is absent; Normality is a test for normality of the residuals, H_0 : denotes that residuals are normally distributed; Hetero is a test for heteroskedasticity, H_0 : heteroskedasticity is absent, Chow () denotes Chow breakpoint test (breakpoint date is in parentheses).

8. Concluding Remarks

Using a cointegrated VAR and an equilibrium correction model for studying money demand and inflation in Belarus the following results have been obtained.

All data used in analysis (nominal money M1, real money, consumer prices, real industrial production, exchange rate and refinancing rate) are $I(1)$ variables. The first differences of these variables are stationary and have the order of integration $I(0)$. Thus cointegration technique is an appropriate tool for analysis of long-run relationships between mentioned variables. It is important to note that while determining the order of integration of several variables (namely, the first differences of M1, the first differences of consumer prices) structural breaks have to be taken into account.

As the cointegration analysis shows, there exists the long-run function for nominal money balances. This long-run relationship is consistent with theoretical expectations and stable within investigated sample. Demand for nominal money in the long run is determined by consumer prices, real industrial production (as a proxy for real income), nominal exchange rate and refinancing rate.

According to our analysis, the hypotheses of price homogeneity cannot be

rejected for the long-run money demand function (i.e., there is no monetary illusion). It enables us to model demand for real money balances correctly.

Cointegration analysis provides us with the evidence that a long-run function for real money balances exists. Demand for real money balances in the long-run is determined by real industrial production, nominal exchange rate and refinancing rate. Inflation, as a stationary variable, is not included in the long-run relationship.

In the framework of the model for nominal money balances, equilibrium correction occurs through two variables, namely M1 and prices, which are endogenous in the cointegrated VAR. Within the model for real money balances equilibrium in money market is restored through endogenous variables such as real money and the nominal exchange rate. The speed of adjustment is approximately 2.4 quarters.

Our tests for weak exogeneity have shown that modeling short-run money demand functions for nominal monetary balances has to be done within a system of equations, while for real money balances a single equation approach is appropriate. According to our results, for real money balances there exists a well specified and recursively stable short-run money demand function, with a clear-cut economic interpretation.

Our analysis in the framework of a dynamic model of inflation with an equilibrium correction mechanism also proves the hypotheses about the monetary nature of inflation in Belarus. Money supply growth influences inflation both in the long-run and short-run.

This research shows that in Belarusian economy the adjustment process occurs rather fast. The period of equilibrium correction on money market is considerably shorter than entire sample period. This evidence is in favour of acceptability of using comprehensive econometric tools, including cointegration analysis, for rather short but relatively informative time series.

The main message one can derive from this chapter is that modeling money demand and inflation in Belarus using the same techniques used in more developed economies is a feasible undertaking, and that those can be a valuable tool for helping a policy-making process. A stable macroeconomic framework, which includes sustainable, consistent policies, is essential for the maintenance of growth in the long run.

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Chapter 9

Economic Growth in Belarus (1996-2004): Main Drivers and Risks of the Current Strategy

Marina Bakanova and Lev Freinkman¹³³

1. Introduction - Belarus' Growth "Puzzle"

The Belarusian economy has experienced steady and sizable growth since 1996. In 1996-2004 overall GDP growth averaged 6.6 percent per annum or 77.4 percent cumulatively. This makes Belarus one of the best performing economy in the region. At the same time, the country is lagging behind most of the transition economies in various aspects of post-socialist transformation. The Belarusian government reacted to the economic declines of the early transition by introducing policies aimed at slowing down further liberalization and strengthening its role in the economy.

According to the EBRD, Belarus made the least progress among all transition economies in such reform areas as enterprise restructuring, large scale privatisation, and infrastructure reform. For instance, price and trade liberalization remain far from being completed. After the initial liberalization, which took place in the early years of independence, little progress was made during 1996-2000. While some additional steps towards liberalization were undertaken since 2001, they were not yet sufficiently radical and consistent.

For, instance, in a number of fundamental dimensions of reforms in the energy sector Belarus lags almost all other FSU countries, which have recently moved more decisively toward private sector involvement in the energy sector, as well as enhanced their institutional framework to make it more transparent and accountable.

Small-scale privatisation is yet to be completed, while large scale privatisation has been minimal and practically stalled recently. Even those corporations that have been either partially or completely privatized are usually subject to a high

¹³³ The chapter is largely based on the authors' contributions to the recent World Bank Study "Belarus: Window of Opportunity to Enhance Competitiveness and Sustain Economic Growth" (World Bank, 2005). The views expressed are those of the authors and do not necessarily represent those of the World Bank. The authors would like to acknowledge research assistance from Maryna Sidarenka.

degree of administrative control. The “golden share” provisions are excessive and they are exercised in relation to a number of privatized enterprises. As documented in recent global studies¹³⁴, small private businesses and individual entrepreneurs in Belarus face one of the most hostile business environments among the European transition economies. Not surprisingly, the share of private sector in GDP is about 25 percent – the lowest among all transition economies¹³⁵ – and the FDI inflow is much lower than needed and predicted, given Belarus’ strategic geographical location, privileged access to the Russian market, educated and skilled labour force, and a relatively good infrastructure.

This combination of high growth and slow reform makes the Belarusian experience somewhat at odds with the standard transition paradigm and the relative stability of the Belarusian economy was even called a “puzzle”¹³⁶. In contrast to other better performing transition economies, nine years of growth in Belarus have not been backed by sound and consistent macroeconomic policies, advanced structural and institutional reforms, and a thriving private sector. In fact, the Belarusian economy now has a number of features that make it quite different from most transition economies. These include: (i) dominance of traditional firms (state-owned or quasi-private) in production and exports; (ii) high degree of government interventions in enterprise operations (that cover both SOEs and privatised firms), including preserving some elements of central government planning of output, wages, and employment; (iii) high level of tax burden and major budget redistribution of funds aimed at supporting traditional firms and employment; and (iv) high dependence on trade with Russia and a slow pace of geographic diversification of exports.

This chapter takes stock of growth trends in Belarusian economy since 1996, reviews the evidence of accumulated challenges and risks within the existing growth patterns, and provides policy recommendations aimed at strengthening growth sustainability. In sum, while economic growth in Belarus in the last nine years was impressive, the chapter argues that sticking with the current growth strategy would lead to a gradual erosion of economic competitiveness. The Government of Belarus (GOB) should make significant policy adjustments by reorienting its policies toward ensuring a better business environment and a lower size of government.

The chapter has the following structure. The next section presents a summary of growth and macroeconomic progress, as well as alternative growth estimates. Section 3 discusses the main growth drivers, while distinguishing between two particular phases in growth dynamics. Sections 4 and 5 show the trends in industrial competitiveness and trade performance respectively. This follows by the analysis of peculiarities of both the investment climate and trade regime that

¹³⁴ World Bank (2003b and 2005b).

¹³⁵ EBRD (2004). Only for Turkmenistan the value of the indicator is the same.

¹³⁶ Fischer and Sahay (2000); Havrylyshyn and Wolf (1999).

are largely responsible for the current performance trends. Section 7 presents policy recommendations regarding improvements in competitiveness. The concluding section contains a summary of risks that the existing growth strategy is facing.

2. Summary of Growth and Macroeconomic Progress

Following an estimated decline of close to 40 percent during the period 1992-95, GDP growth resumed in 1996.¹³⁷ Annual growth rates fluctuated between 2.6 and 11.4 percent (Table 9.1). As already mentioned, in 1996-2004 overall GDP growth in Belarus averaged 6.6 percent per annum or almost 80 percent cumulatively. Rates of GDP growth in 1999-2002, aftermath of the Russia crisis, were relatively moderate, but growth accelerated in 2003 to 7 percent and further to 11 percent in 2004.

Economic growth in Belarus has been rather broad-based. It has been driven primarily by the improvements in labour productivity and increases in both energy efficiency and capacity utilization. Fiscal and external adjustments were significant and helped to improve macroeconomic conditions for growth. In contrast to some other CIS countries, where growth and exports remain concentrated in the extracting sectors with limited employment opportunities, the growth structure in Belarus has been much more beneficial for labour. Growth in labour-intensive sectors, backed by government wage and income policies, helped to ensure that the benefits from recent growth were rather broadly shared by the population.¹³⁸

Poverty rates declined substantially, while inequality remained rather stable and moderate. The poverty headcount ratio (national definition) fell from 38.6 percent of population in 1996 and 46.7 percent in 1999 to 17.8 percent in 2004 (Figure 9.1), while inequality, which was moderate by regional standards during the whole period of economic growth, decreased further since 2001. This decline in poverty is, however, in line with a broader trend in poverty reduction that took place recently in the transition economies. The recent World Bank (2005d) study concluded that more than 40 million people moved out of poverty during 1998-2003 in the transition economies of Europe and Central Asia. This remarkable achievement is the result of a unique constellation of factors – rapid “catch-up” growth in the CIS accompanied by reductions in inequality in some countries.

¹³⁷ For a detailed description of Belarus' initial conditions and initial recovery and growth see Bakanova et al. (2004).

¹³⁸ This is confirmed by findings from the recent Poverty Assessment by the World Bank (2004a), which concluded that poverty reduction in Belarus was significant and that this has been achieved almost entirely due to economic growth, shared broadly across sectors, regions, and population groups.

Table 9.1 Belarus: Basic Macroeconomic Indicators

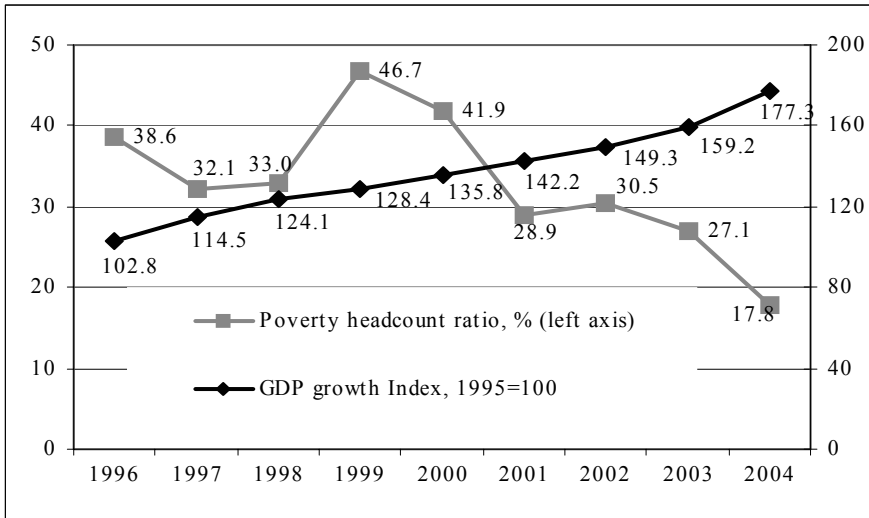
	1997	1998	1999	2000	2001	2002	2003	2004
GDP (nominal, USD m)*	13845	14522	11158	13055	12313	14557	17755	22880
GDP per capita (current USD)*	1,372	1,445	1,114	1,307	1,237	1,471	1,803	2,335
GDP per capita PPP (current international USD)	3,831	4,215	4,430	4,802	5,163	5,542	6,065	6,906
<i>% changes on previous year:</i>								
GDP	11.4	8.4	3.4	5.8	4.7	5.0	7.0	11.0
Industrial Output	18.8	12.4	10.3	7.8	5.9	4.5	7.1	15.6
Agricultural Output	-4.9	-0.7	-8.3	9.3	1.8	0.7	6.6	12.9
Consumer Prices	63.8	73.0	293.7	168.6	61.1	42.6	28.4	18.1
Real Wages	14.3	18.0	7.3	12.0	29.6	7.9	3.2	16.8
Unemployment rate, %**	2.8	2.3	2.1	2.1	2.3	3.0	3.1	1.9
Poverty (national definition)	32.1	33.0	46.7	41.9	28.9	30.5	27.1	17.8
Gini (income concentration)	25.8	28.3	26.9	27.0	27.8	27.2	25.4	25.4
General Gov. Balance, %GDP	-0.7	-1.0	-2.0	-0.1	-1.9	-1.8	-1.4	0.0
Merchandise trade balance, % GDP	-10.2	-10.3	-5.1	-6.8	-6.6	-6.3	-7.1	-9.0
Current account balance, %GDP	-6.2	-7.0	-1.7	-2.6	-3.2	-2.1	-2.4	-4.6
FDI, net (BoP, current USD m)	349.5	200.9	443.2	118.6	95.5	453.3	170.3	168.1
FDI per capita, net (BoP, current USD)	34.6	20.0	44.2	11.9	9.6	45.8	17.3	17.2
Reserves (in months of imports)	0.5	0.5	0.5	0.5	0.5	0.6	0.5	0.6
Population, m	10.09	10.05	10.0	9.99	9.95	9.90	9.85	9.80

* At average official exchange rate.

** Officially registered.

Sources: Belarus Authorities, IMF, WDI.

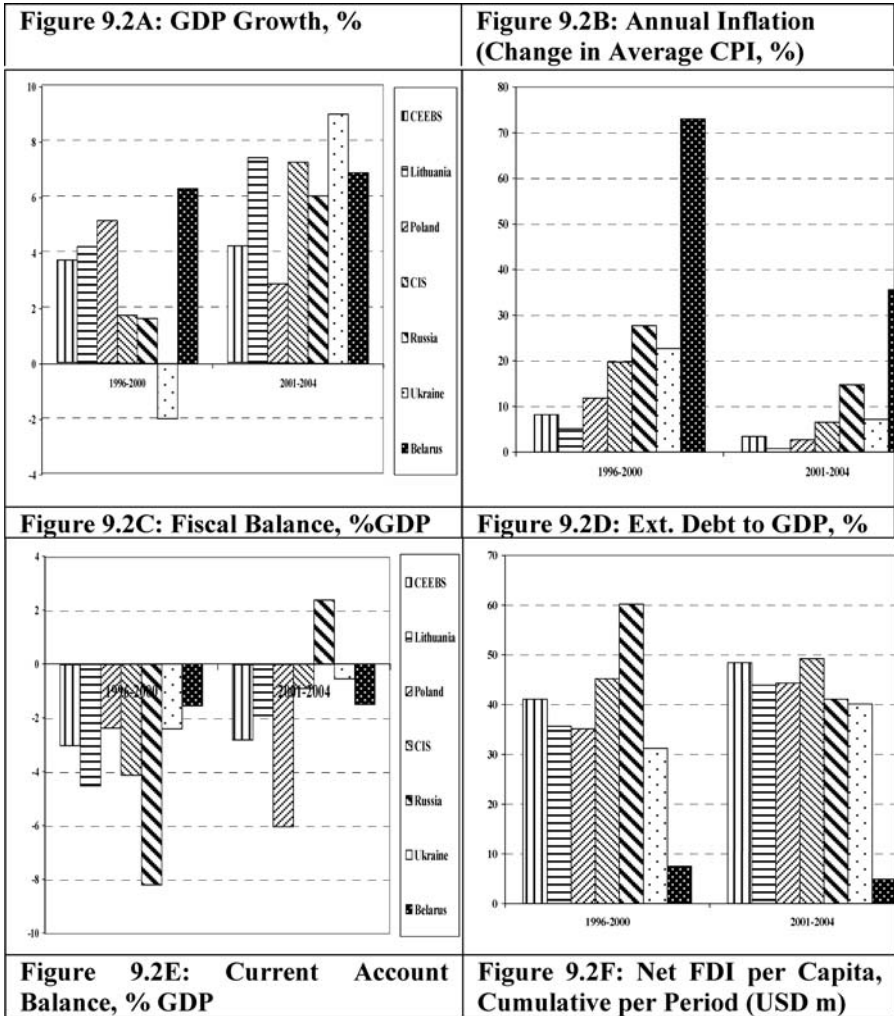
Figure 9.1 Steady Growth Has Driven Poverty Reduction (GDP growth index and poverty headcount rates)

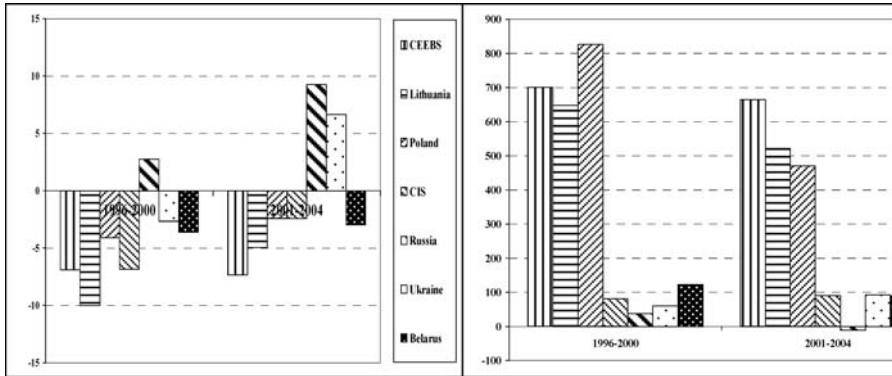


Source: Belarus Authorities.

Note: Poverty headcount ratio is defined as percentage of population below the national poverty line.

Figure 9.2 Belarus: Macroeconomic Performance in Comparative Perspective





Source: World Bank ECA regional database.

Growth in Belarus has taken place despite uneven macroeconomic progress and slow and inconsistent progress in structural reforms. Belarus has managed to maintain moderate budget deficits and debt levels. However, inflation has remained significantly higher than in other transition economies (Figure 9.2A). The current account position is still precarious, given the low level of reserves, inability to attract a sizable amount of FDI, and limited access to international financing. Overall, there are serious macroeconomic risks associated with continuing the current growth strategy in Belarus, especially related to its balance of payment situation and export concentration (Box 9.1).

Box 9.1. Main Macroeconomic Risks of the Current Growth Strategy

Low international reserves (0.6 months of imports) in the context of no access to international capital markets poses a risk of disorderly balance of payments adjustment (through either depreciation or rationing of imports or both) and potentially significant output costs.

High dependence on a single and unstable export market such as Russia that accounts for about a half of total exports. So far, Belarusian enterprises have demonstrated only a limited capacity for export diversification.

High concentration of the economy further aggravates the above mentioned risks. Both budget revenues and foreign exchange proceeds depend too much on the operations of a limited number of exporters, which in turn depend excessively upon the business conditions in the one external market. The 100 largest taxpayers contributed about 30 percent of total tax proceeds.

Large size of the government. Tax burden (about 45 percent of GDP in 2003) is substantially higher than in neighbouring countries. This puts Belarusian producers in a competitive disadvantage. At the same, an important part of Belarusian growth success derives from the government capacity to support expansion in domestic demand through budget instruments.

Vulnerabilities in the banking sector largely relate to the high incidence of directed lending (about a quarter of all commercial credit). Any erosion in the competitiveness of the real sector would lead to a rapid worsening in the share of non-performing loans, which would require government interventions to prop up the banks.

Developments in the pension system represent a major fiscal risk. The combination of demographic trends and government social policies generate significant fiscal pressures on the country's pension system, which is not capable of supporting this level of benefits in the future.

Costs of adjustment to future higher prices of Russian energy will be considerable. When measured against actual 2003 energy imports, they exceeded 6 percent of GDP a year.

In addition, Belarus' relatively strong debt and trade indicators in the late 90s should be treated with caution: use of the official exchange rate in times of the multiple exchange rate system distorted the data. Application of the alternative exchange rate¹³⁹ revealed that during the first period of growth Belarus had much more serious problems in its balance of payments than it is usually recognized (Table 9.2). In 1998, the current account deficit amounted to almost 16 percent of GDP, while the official numbers show only 7 percent. However, both measures

¹³⁹ Alternative rate is estimated based on the official and parallel market average exchange rates, with the weights of 30 percent and 70 percent respectively.

show a strong post-1999 recovery in all main indicators of external vulnerability, indicating a strong external adjustment.¹⁴⁰

Table 9.2 Selected Trade and Debt Ratios Using Official and Alternative Exchange Rate, % of GDP*

	Merchandise trade balance/GDP, %		Balance of trade in goods and services/GDP, %		Current Account Balance/GDP, %		External debt** outstanding/GDP, %	
	Off. Rate	Alt.rate	Off. Rate	Alt.rate	Off. Rate	Alt.rate	Off. Rate	Alt.rate
1996	-8.0	-9.3	-4.0	-4.7	-3.6	-4.2	6.7	7.8
1997	-10.2	-12.3	-6.2	-7.5	-6.2	-7.5	7.0	8.5
1998	-10.3	-23.2	-7.0	-15.8	-7.0	-15.7	7.0	15.6
1999	-5.1	-9.1	-2.3	-4.1	-1.7	-3.1	7.9	14.2
2000	-6.8	-9.0	-3.4	-4.6	-2.6	-3.5	6.2	8.3
2001	-6.6	-6.5	-4.1	-4.1	-3.2	-3.2	6.2	6.1
2002	-6.3	-6.2	-3.3	-3.3	-2.1	-2.1	5.6	5.5
2003	-7.1	-7.1	-3.8	-3.8	-2.4	-2.4	4.2	4.2
2004	-9.0	-9.0	-5.9	-5.9	-4.6	-4.6	3.2	3.2

* Alternative rate is calculated as $0.3 \times \text{official NBB rate} + 0.7 \times \text{parallel market rate}$ (in all cases, period averages were used).

** Medium- and long-term debt only.

Source: Authors' calculations.

At the same time, since the late 90s, Belarus has succeeded in sustaining and even improving the performance of its energy sector. This was an important factor in advancing macroeconomic stabilization. The investments in the sector were sufficient to maintain sector assets in a satisfactory condition and carry out modernization projects, which contributed to improved energy efficiency. The incidence of both quasi-fiscal subsidies and deficit declined and this improved the financial viability of energy companies. Moreover, the centralized sector structure and preserved command and control governance mechanisms helped the sector to survive the time of economic crises, which badly affected many FSU countries and their respective energy sectors in the second half of the 1990s.

¹⁴⁰ It is worth noting another significant deterioration of both current account and trade balance in 2004. Both still remain stronger, however, than in 1997-98.

Alternative Growth Estimates

Although the official data on Belarusian growth are often met with considerable scepticism (IMF, 2005a-c), our comparison of the official growth data with alternative growth estimates, based on business surveys, has revealed rather a high correlation in the identified growth trends. This supports the argument that economic growth in Belarus has been real and not just a statistical phenomenon.

This section uses the alternative survey data¹⁴¹ to explore the question of broader reliability of official growth estimates. To what extent do the official data manage to reflect at least the overall trend in industrial dynamics? Do the alternative data support the claim that Belarusian industry has been going through an extended period of economic expansion?

The alternative dataset is based on the quarterly mailed-in survey of business conditions that has been undertaken by the Research Institute of the Belarusian Ministry of Economy since April 1994.¹⁴² The main block of the survey contains 15 qualitative questions on economic dynamics, which are formulated in line with the standard European methodology.¹⁴³ In contrast to the established European practice, however, the survey in Belarus is not a part of the regular state system of statistical monitoring. Enterprises participate in the survey on an entirely voluntary basis. It would be worth incorporating this kind of survey into the Belarus state statistical system and thus expand availability of such information for both policy makers and experts.

In summary, the comparison of survey results with the official growth data suggests rather a high correlation in identified growth trends. While the official growth data are likely to be somewhat biased, they seem to reflect reasonably well the direction/sign of economic dynamics¹⁴⁴. This means that there are reasons to believe that economic growth in Belarus is real, it is not just a “paper phenomena generated by statistical manipulations”.

¹⁴¹ These results are based on Gotovsky and Zheltkov (2004).

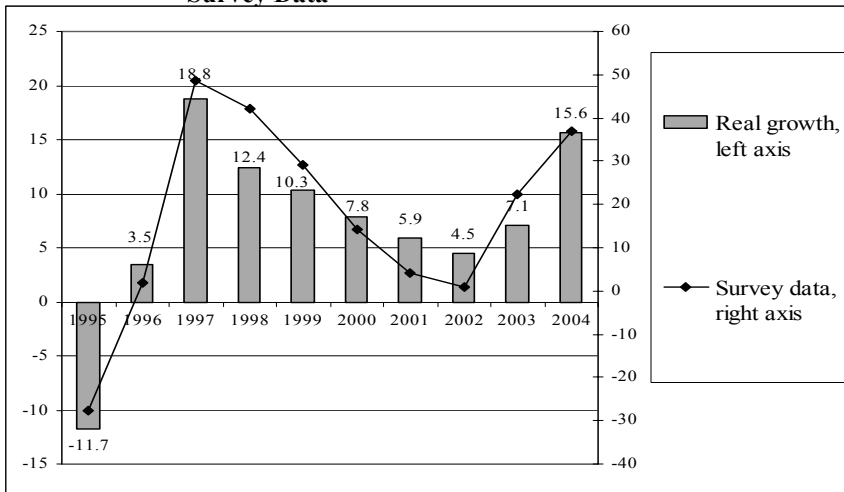
¹⁴² A somewhat similar industrial survey, but with a stronger focus on the enterprises' financial performance, has been also run by the National Bank of Belarus since 2000. For the time period for which both survey data are available, their results regarding main trends in industrial performance are broadly consistent.

¹⁴³ The questionnaire was developed with methodological support from the OECD Department of Statistics. It is similar to the questionnaires used in Russia and Ukraine, which provides for comparability of the respective survey results. The survey sample includes 904 industrial enterprises (more than 40 percent of their overall number). The average quarterly return amounts to about 300 filled questionnaires.

¹⁴⁴ Of course, the finding that the trends are the same does not necessarily imply that the overall growth rates are the same, or that they started from the same base.

The integral measure of growth in the alternative survey is the balance between positive (those who report that their output increased in the latest period) and negative (those who experienced a decline in output) answers. Figure 9.3 presents both official and alternative growth measures. Their comparison reveals a strong correlation in the time series. Both measures point to: (i) a drastic change in economic dynamics from 1995 to 1996; (ii) years of high growth 1997-99; (iii) a visible slowdown in 2000-02; and (iv) new growth acceleration in 2003. At the same time, it is worth mentioning that the alternative measure suggests significantly lower growth in 2001-02 – less than 2 percent compared to about 5 percent in the official data.

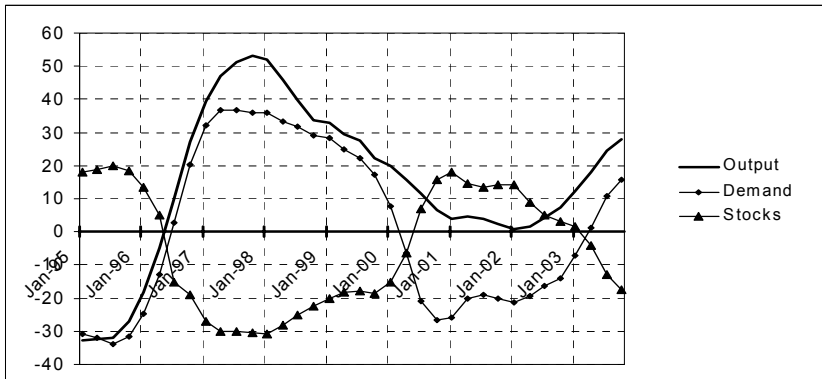
Figure 9.3 Trends in Industrial Output According to Official and Survey Data



Source: Gotovsky and Zheltkov (2004).

Another important data-related issue is in regard to the economic nature of growth in Belarus: To what extent was the observed growth driven by changes in economic fundamentals (such as, e.g., strengthening in demand)? Or alternatively, could it be that output growth was primarily a result of administrative pressure, which, instead of growth in sales and earnings, led mostly to accumulation of inventories and waste of inputs? Figure 9.4 suggests that dynamics of output and demand were strongly correlated, i.e., industrial output in Belarus has been reacting to actual changes in demand, not just to government pressures to produce more. The only significant deviation relates to the period 2000-02, when output continued to expand despite a noticeable compression in demand. This inconsistency between output and demand indeed led to a considerable inventory accumulation during that period.

Figure 9.4 Changes in Output, Demand and Inventories According to the Survey Data (Balance of Answers)



Source: Gotovsky and Zheltkov (2004).

A comparative analysis of similar business surveys in Russia, Ukraine, and Belarus provides additional confidence in the alternative growth data.¹⁴⁵ Enterprises in both Russia and Ukraine operate in a much more liberal economic environment than in Belarus. They do not face any significant administrative pressure to inflate output, which in Belarus could, as one may claim, distort even the replies provided to the non-official survey. The comparison of the survey data from three countries, however, reveals a number of similarities in managers' responses. There is no evidence that responses obtained in the Belarusian survey differ in their quality because of, e.g., either potential differences in qualifications of respondents or differences in their incentive framework.

3. Main Growth Drivers

The peculiarities of the pre-reform industrial structure and short-term effects of both state ownership and administrative controls contributed to the Belarusian recovery and growth (including its recent acceleration):

- Belarus inherited several unique USSR economic assets in the manufacturing sector (e.g., in the automobile and tractor industries), which proved to be more competitive at the Russian market than the rest of the USSR industry. At the time of strong Russian growth, these firms have been facing strong export demand. Moreover, Belarus inherited significant manufacturing capacity in chemical and oil processing industries, which proved to be highly competitive at the European markets.

¹⁴⁵ Russian surveys are conducted by the Institute of Economic Transition (Moscow), those in Ukraine by the Statistical Research Institute (Kiev).

- In contrast to many large manufacturing enterprises in other FSU republics, many enterprises in Belarus lost a smaller share of their original productive capacity during the period of early transition. This was due to a lower incidence of asset stripping and capital flight in Belarus (because of slow privatisation and much stronger administrative controls). Also, special political relations with Russia helped many firms to get some Russian orders and keep running even in the most difficult periods of low demand in the early 90s.
- Many leading Belarusian exporters are traditional SOEs that enjoy soft budget constraints. Profit maximization is not an overwhelming priority for these enterprises. Some of them, as claimed, continue exporting even when their export turns out to be unprofitable.
- The GOB encourages import-substitution activities by imposing non-tariff import restrictions, which act as an additional channel of state support for local industries. These non-tariff restrictions are most significant for consumer goods. Such restrictions tend to reduce the impact of government demand stimulus on total import demand in the economy.
- It is known that administrative interventions could be efficient for a limited period for solving specific, well-defined production problems and some of Belarus' recent successes are clearly due to their broad usage. For instance, a strong administrative control over the energy sector's performance led to smaller quasi-fiscal deficits and a smaller accumulation of energy debts, which contributed considerably to keeping the overall levels of public debts at quite a low level, as well as to overall macroeconomic stabilization.

Access to considerable economic rents has been another source of relative economic stability in Belarus. These rents are quite efficiently taxed by the state¹⁴⁶ and broadly distributed in the economy to subsidize non-viable enterprises, push up domestic demand, and provide some degree of employment guarantees to households. The primary sources of such rents relate to the following:

-Activities of several large enterprises in the sector of primary resources and basic commodities (oil processing, fertilizers). These enterprises benefited recently from strong prices at global commodity markets. Belarus on average benefits from higher global oil prices because of its major oil processing capacity.

-Privileged access to the Russia market, especially in the machinery sector, which is labour intensive and has major backward linkages to the rest of the local economy. In the past successful exporters were subject to additional taxation through the multiple exchange rate regime.

-Privileged access to underpriced Russian energy supply. A significant portion of the benefits related to cheap energy were not passed on to energy consumers, but centralized by the government.

¹⁴⁶ Our estimates suggest that the oil processing sector has been facing an effective tax rate that exceeds 80 percent of value added it generates.

We distinguish between the two periods of growth, 1996-2000 and from 2001 onwards.¹⁴⁷ Both the external and internal environments differ substantially among these two periods, influencing Belarus' growth patterns (as shown below in this chapter). Belarus' performance vis-à-vis other transition economies has also been somewhat different during the two periods (Figures 9.2A-F). For a number of indicators (GDP growth, debt and deficit), Belarus stands rather favourably as compared to its regional comparators. However, its relative strength became less prominent during the second period and even disappeared in some instances. Thus, before 2001 in terms of economic growth, Belarus outperformed both Central Eastern European and Baltic countries (CEEBS) and CIS, but during the second period (2001-04), the CIS as a group performed stronger than Belarus and the difference in growth rates between Belarus and CEEBS decreased.

The First Growth Phase: 1996-2000

Growth during the first phase (1996-2000) could be explained largely by the simultaneous effect of two groups of factors: (i) active political re-integration with Russia, which resulted in improved market access; and (ii) government policies that, through the real depreciation of the rubel and an expansion in interest rate and other implicit subsidies, provided sizeable net benefits for many leading exporters.

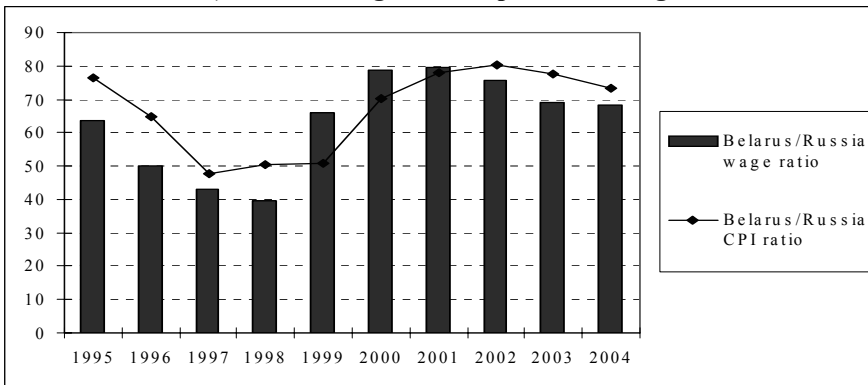
The policy of re-integration with Russia was critical for the growth in the first phase. Thanks to special relations with Russia, at the height of the output crisis in the CIS, Belarus managed to preserve a larger share of its pre-reform production capacity in manufacturing than any other CIS country (Russia included). The Union Treaty with Russia has already yielded important arrangements fostering mutual trade by, most importantly, setting up a functioning Customs Union that led practically to the abolishment of the mutual customs border. At the same time, the excessive export concentration on Russia reflects the duality of Belarus' export capabilities – a considerable part of what is exported to Russia cannot be sold at other markets.

While the government policy in the late 90s was destabilizing, it created a considerable (albeit artificial and temporary) price advantage for Belarusian producers relative to those in Russia (Figure 9.5). This price advantage appears to be fundamental in explaining Belarusian growth at that time. For the period 1996-99, the average price ratio for Belarusian and Russian markets was at about 60 percent of its level in both 1995 and 2000. However, this price advantage has been mostly driven by wage, not productivity differences.

¹⁴⁷ The first year of economic growth, 1996 is somewhat transitional. Strictly speaking, 2000-01 should also be considered as a transitional sub-period to another pattern of growth. For simplicity of the analysis, we include 2000 in the first growth period and 2001 in the second one.

The price advantage helped secure a considerable share of the large Russian market and thus established a first-mover competitive advantage for Belarusian exporters. When Russia started to grow after the 1998 crisis, the Belarusian industry was well positioned to benefit from this growth. In the environment of the growing Russian market, it was easier (relative to exporters from other countries) for established Belarusian exporters to expand export volumes, primarily by improving capacity utilization. In other words, the scale of cost and market advantages accumulated before 2000 were sufficiently large to support further export growth to Russia in 2000-04.

Figure 9.5 Belarus Had Significant Price Advantage over Russia
(Annual average relative prices and wages, Russia = 100%)



Source: Gotovsky and Zheltkov (2004).

The effect of the above factors was so significant largely due to low capacity utilization back in 1995. Respectively, in the years of early growth, average capacity utilization in industry grew rapidly – from 37 percent in 1995 to 53 percent in 1999 (Table 9.3).¹⁴⁸

At the same time, loose monetary policy with subsidized credits to some sectors of the economy (agriculture, housing, and manufacturing) resulted in high inflation, negative interest rates and a reduction in savings, thus depleting domestic sources for investments. The exchange rate policy was characterized by the multiple exchange rate system with an overvalued official exchange rate, foreign exchange rationing and surrender requirements as a tax on exporters. At its maximum in 1998, the gap between market and official exchange rates reached

¹⁴⁸ In most industries (except food and light) growth in capacity utilization has continued after 1999. However, the rate of this growth has slowed down (excluding energy). As shown below in this chapter, post-1999 industrial growth has getting stronger support from growth in investments, and relatively less from improvements in capacity utilization.

200 percent. This policy stimulated import-substitution, ensured a certain level of “strategic imports” (energy, food, medicines), and provided hidden support for selected exporters. At the same time, it worsened conditions for exports in general, thus holding back economy-wide productivity growth. This also led to the development of parallel currency markets, significant real depreciation, depleting hard currency reserves, growth in barter and rent seeking activities.

Table 9.3 Capacity Utilization in Industry, 1995-2003, %

	1995	1999	2001	2003
Industry, total	37.2	52.9	47.7	49.5
<i>of which:</i>				
fuel	30.9	40.1	57.8	54.2
ferrous metallurgy	55.5	88.1	91.3	93.9
chemical and petrochemical	44.1	63.2	68	67.6
machinery and metalworking	26.3	41.2	47.7	52.6
logging, woodworking, pulp and paper	49.1	70.5	80.3	88.8
construction materials	42.3	57.9	72.4	80.7
light	40.1	53	44.3	44.9
food	42.8	54.7	48.3	55.6

Source: Belarus Authorities.

This growth strategy had serious limitations and could not be sustained. First, it required the preservation of low (relative to Russia and other neighbours) wages, which gradually became an acute political problem. After the unification of the exchange rate in 2000, the Government fundamentally modified its wage policy and introduced targets for growth in *dollar* wages as one of its top policy priorities, undermining one of the pillars of the previous growth model. Second, high inflation and excessive government interventions in price and exchange rate mechanisms made it difficult for enterprises in the real sector to initiate any longer-term restructuring. The level of industrial investments was depressed. Third, in the environment, where the main comparative advantage at the major market was based on low production costs that were seen by enterprises largely as a result of government policies, but not the effect of their own efforts, enterprises’ incentives for modernization and restructuring were additionally weakened. Fourth, macroeconomic stabilization in Russia after 1998 led to a rapid evaporation of barter trade and thus removed another source of earlier Belarusian growth. Finally, the more recent economic expansion in Russia, with its impressive growth in real household incomes, raised quality requirements for imports, which created much stronger competitive pressures on Belarusian producers than ever before.

The Second Growth Phase: 2001-04

Since 2000, in response to external and domestic conditions the Government policies have been gradually adjusted and distortions reduced. Despite various remaining problems, the latest growth episode has been based upon improved incentives for investment and restructuring at the enterprise level. The main directions of improvement undertaken during this period were as follows:

- Improved macro policies, such as unified exchange rate, stricter monetary policy, considerable fiscal and quasi-fiscal adjustment, and lower inflation;
- An energy and utility policy that aimed at attaining full cost recovery in tariffs, strict payment discipline, and advancements in energy efficiency;
- New wage and income policies that stimulated domestic demand; and
- Phasing out barter trade that, *inter alia*, helped accelerate export diversification out of the Russian market.

The second period is characterized by several positive developments, first of all, in the area of macroeconomic management. The exchange rate was unified in September 2000. The NBB regained formal independence in June 2000.¹⁴⁹ The monetary policy was tightened and the NBB started to pursue a policy of positive interest rates. Costs of credit in Belarus have been increasing gradually and real lending interest rates exceeded those in all neighbouring countries, except Ukraine. Domestic credit to the economy has also been growing, from 14.8 percent GDP in 2001 to 17.8 percent in 2003, which is nevertheless still below the levels of the neighbouring countries.

The GOB also initiated significant improvements in the area of fiscal management, including steps toward budget consolidation, increase in budget coverage, improvements in methodology of budgeting and reporting, etc. (World Bank, 2003a and IMF, 2004). Fiscal stabilization progressed. After 2000 fiscal adjustment was rather impressive, albeit it remained almost unnoticed. The official levels of budget deficit (both cash and accrual) have been always rather low in Belarus. However, these data are not particularly informative since they did not reflect quasi-fiscal (hidden) deficits. The indicator of actuarial deficit provides more accurate estimates for the broad trend in accumulation of the public sector's liabilities.¹⁵⁰ The size of the actuarial deficit in Belarus declined from 11 percent of GDP in 2000 to 1 percent in 2004.¹⁵¹ This was driven by the reduction in

¹⁴⁹ By Presidential Decree, the former decision which subordinated the NBB to the Government was cancelled.

¹⁵⁰ For definitions and cross-country comparisons see Freinkman et al. (2003).

¹⁵¹ Due to the data limitations, we estimate the hidden deficit on the basis of an incomplete list of quasi-fiscal operations. Still, we believe that our aggregates

external debt flows, phasing out quasi-fiscal activities in the energy sector and a decline in quasi-fiscal activities of the National Bank (Table 9.4).

Improved macroeconomic policies resulted in lower inflation and gradual de-dollarisation. Inflation (CPI-based) in Belarus, while it fell from 3-digit numbers in 2000 to 18.1 percent in 2004, still remained the highest in the region.¹⁵² The reduction in inflation was due to the policy of positive real interest rates, pushed by the NBB, as well as the unification of the exchange rate and related stabilization of the market for foreign exchange. In addition, during 2004 a slowdown in inflation has been supported by the cessation of NBB direct financing of the budget deficit. A tighter monetary policy also resulted in the reduction in both seignorage and inflation tax (Figure 9.6). The decline in the burden of inflation tax on the real sector and households was the most significant – from about 16 percent of GDP in 1998-99 to less than 1 percent in 2004.

During the second growth episode, the role of initial growth drivers (privileged access to the Russian market, temporary cost advantages, and subsidies to exporters) has been gradually declining. However, new factors have emerged that helped sustain growth, which include the following:

- **Drastically improved external environment.** This reflects primarily the growth in oil prices, which benefited Belarus directly (expansion in oil processing exports), but especially indirectly – accelerating Russian growth and Russian demand. This also includes a number of secondary factors, such as improved external prices for metals and fertilizers (both relatively important export items for Belarus), and raising the volume of Russian remittances. While recent economic growth in Belarus has been indeed strong, it is worth noting that it was not extraordinary by regional standards. In fact, during the period 2001-04, the CIS as a group had a stronger performance than Belarus (Figure 9.2A).
- **Strengthening of domestic demand.** The government budget and wage policies, based on excessive government involvement in the economy, became an important source of steadily rising domestic demand. Moreover, the existing trade regime helped to limit growth in consumer imports and ensure that domestic producers, especially in the consumer sector, became the main beneficiaries of this growth in domestic demand.

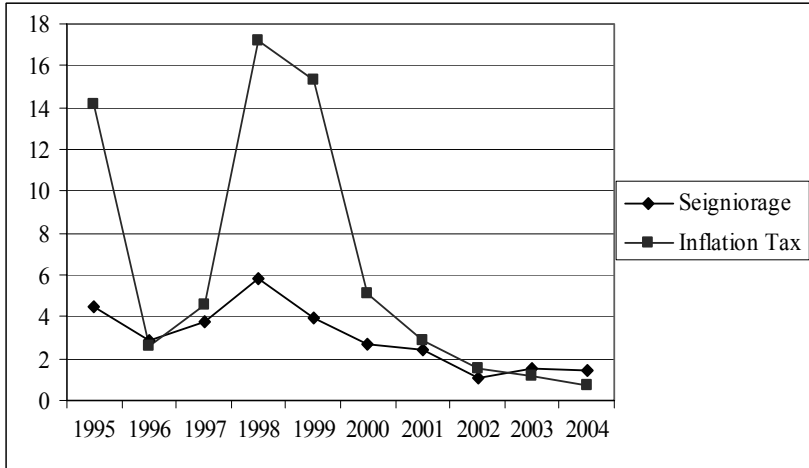
do reflect the actual scale of macroeconomic adjustment that took place in 2000-04.

¹⁵² The persistence of high inflation rates during the second growth episode was to a large extent due to the supply shocks and, in particular, due to the adjustments in utility prices. For example, according to the IMF, in 2002, when these adjustments were particularly strong, more than a third of the overall CPI increase of 35 percent (e-o-p) was caused by the combined impact of deregulations and other supply shocks. Monetary authorities managed to accommodate these shocks to minimize output effects arising from the tariff adjustment (IMF, 2003).

**Table 9.4 Belarus: Actuarial, Conventional, and Hidden Deficits
(Annual Flows and as a Percent of GDP)**

	2000	2001	2002	2003	2004
External Debt, BYR bln	474.1	297.4	395.1	77.8	75.6
as % of GDP	5.2	1.7	1.5	0.2	0.2
Domestic Debt, BYR bln	241.2	656.0	352.9	751.4	672.0
as % of GDP	2.6	3.8	1.4	2.1	1.4
Reserve Money, BYR bln	221.1	439.8	270.6	570.6	707.1
as % of GDP	2.4	2.6	1.0	1.6	1.4
Energy Sector External Arrears, BYR bln	197.1	198.5	(162.8)	49.5	(364.6)
as % of GDP	2.2	1.2	(0.6)	0.1	(0.7)
Budget Arrears, BYR bln	62.0	182.9	(17.4)	(73.9)	53.7
as % of GDP	0.7	1.1	(0.1)	(0.2)	0.1
A. Total Increase in Liabilities, BYR bln	1,195.5	1,774.6	838.4	1,375.4	1,143.8
as % of GDP	13.1	10.3	3.2	3.8	2.3
Privatisation Proceeds, BYR bln	7.3	12.5	427.0	36.0	39.7
as % of GDP	0.1	0.1	1.6	0.1	0.1
Loss in Gross Reserves of NBB, BYR bln	(185.8)	(163.9)	(351.3)	(187.1)	(630.6)
as % of GDP	(2.0)	(1.0)	(1.3)	(0.5)	(1.3)
B. Total Loss of Assets, BYR bln	(178.0)	(151.4)	75.7	(151.1)	(590.9)
as % of GDP	(1.9)	0.9)	0.3	(0.4)	(1.2)
C. PSB (Actuarial Deficit) = A + B as % of GDP	1,017.5	1,623.2	914.0	1,224.3	552.9
Budget Deficit (accrual), % GDP	11.1	9.5	3.5	3.3	1.1
Hidden deficit, % GDP	10.1	6.4	1.6	2.2	1.1
<i>Memorandum Items</i>					
Conventional Budget Deficit (cash), % GDP	0.1	1.9	1.8	1.4	0.0
GDP, BYR bln	9,134	17,173	26,138	36,565	49,445
Exchange rate, (period average)	933	1,383	1,784	2,075	2,164

Source: Authors' calculations.

Figure 9.6 Seigniorage and Inflation Tax in Belarus, %, GDP

Source: Authors' estimates.

- **Improved performance of domestic enterprises in selected sectors**, driven by competitive pressures in external markets and facilitated by certain domestic macroeconomic stabilization and some strengthening of budget constraints. With all caveats, the Belarus' industrial sector was able to generate significant growth in both productivity and exports.

The so-called Belarusian “puzzle”, as seems, has rather a conventional economic explanation - Belarus had, and still has, significant comparative advantages at its main export market, which is Russia. This poses, however, a question that is central to this chapter: how stable are these advantages and how large is the risk that they may be eroded quickly?

While recent economic growth has been strong, there are a number of indications that the existing growth model has been reaching its limitations and cannot ensure growth sustainability without reform. These indications relate to chronic weaknesses of financial and investment performance, depressed level of new business entry, and especially the slow changes of Belarus' export patterns. The low dynamism of the country's exports represents the essence of the competitive challenges Belarus is facing.

Moreover, while the turn in macroeconomic policies undertaken in Belarus in 2000-01 was aimed at some restoration of macroeconomic discipline, it simultaneously emphasized the accelerating growth in real wages, thus leading to a significant erosion of the earlier cost advantages. The domestic price parity with Russia was restored in 2000. In 2001, the average wage in Belarus reached its highest so far level relative to Russia of 80 percent. This coincided with a major slowdown in growth in Belarus that occurred in 2000-02. Changes in the

macroeconomic environment and related evolution in incentives forced exporters to gradually adjust their strategy and move to a market niche with higher quality and price levels. A new acceleration of growth took place in 2003, in part in response to strong Russian growth at that time (which was associated with the strengthening of the Russian rouble and rapid growth in Russian real wages). However, as shown below, the most recent growth episode (2003-04) in Belarus differs qualitatively from the growth of the late 90s because it has much stronger support by both real improvements in performance at the micro level and investments in upgrade of the existing export capacity.

4. Trends in Industrial Productivity and Competitiveness

The primary focus of growth analysis in this chapter is on (i) productivity trends in industry, and (ii) export dynamism. Because of its industrial structure, trends in manufacturing competitiveness are critical determinants of the overall economic performance in Belarus. At the same time, in a small open economy, growth cannot be sustainable without strong and diversified export capabilities within a enterprise sector that is fully restructured to response properly to market signals.

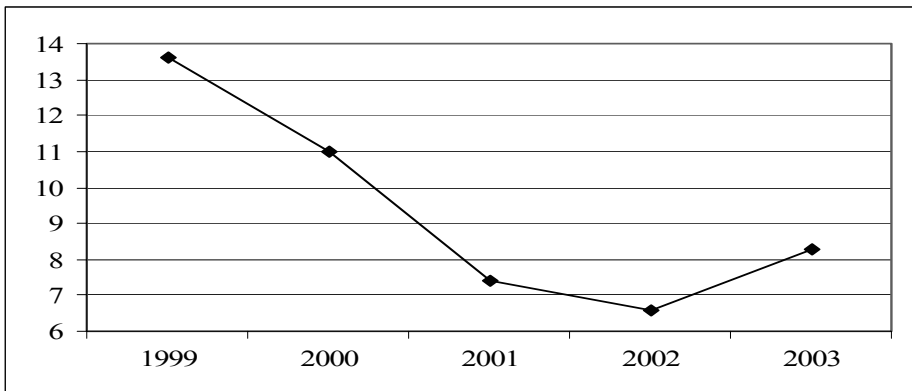
The following specific features of industrial structure are critical for understanding the recent trends in industrial performance, as well as prospects for future overall economic growth:

- **High industrial concentration.** The industrial structure is dominated by giant firms. In 2004, the ten largest companies produced 36 percent of the total industrial output, while the 50 largest – 59 percent. One must note that this level of concentration did not change much since the Soviet era. Companies with more than 1000 employees contribute about two-thirds of the total industrial production and employ about 56 percent of industrial labour. Their output share has remained practically unchanged since 1991. The 20 largest exporters are a source of more than half of all exports, and more than 80 percent of non-CIS exports. At the same time, less than 6 percent of industrial labour is employed by companies that have less than 100 employees.
- **Export orientation.** The Belarusian industry is highly regionally integrated. Traditional Soviet era ties with Russian customers and suppliers are especially close. This is largely a reflection of the fact that the large traditional enterprises continue to dominate a relatively small but open economy. 53 percent of the total industrial output was exported in 2003. Exports to Russia made 60 percent of total manufacturing exports. Taking into account local production of industrial inputs for exporters, about two-thirds of Belarusian industry works for external markets.
- **Predominance of state ownership.** The pace of privatisation in Belarusian industry has been slow. In 2004 only 18 enterprises held in republican ownership were privatized. The Government strategy at the moment has been focused on

corporatisation of medium and large enterprises, accompanied by partial privatisation while preserving state control in them¹⁵³. While about two-thirds of all industrial enterprises could be considered private or mostly private, these are mostly small firms with a combined share in total output that was less than 20 percent in 2004. The state remains in full control over 34 percent of enterprises, which produce about 82 percent of output and employ 74 percent of labour (Table 9.5). About one-fourth of these firms (8.8 percent of the total number) are the largest Belarusian enterprises, where some privatisation took place, but only a small minority of shares has been divested so far, while the state preserved the controlling stake. The dominance of SOEs largely explains prevailing low profit margins in the sector.

- **Low profitability.** The level of profitability remains depressed, which is a reflection of a number of factors: (i) soft budget constraints and high share of loss making enterprises; (ii) wage and employment policy that inflates labour costs; and (iii) excessive tax burden with a number of turnover taxes. Average profitability in industry fell from 17.1 percent in 1999 to 10.5.0 in 2002. Although the profitability has been increasing during 2003-04, it still remains low: 15.3 percent. The policy of targeted wage increases and informal restrictions on labour shedding results in rather a low profit/wage ratio, which on average has been below 10 percent (Figure 9.7). This reduces investment opportunities of the enterprise sector and undermines its longer-term competitiveness. For comparison, the profit/wage ratio in Russian industry amounted to about 50 percent in 2002-03.

Figure 9.7 Profit/Wage Ratio in Industry, %



Source: Authors' estimates based on official data.

¹⁵³ The state owns more than 50 percent of shares in about half of the more than 800 joint stock companies that emerged in the course of the corporatization process.

Table 9.5 Ownership Structure in Industry in 2004, %

	Number of enterprises	Output	Employment
Total industry	100	100	100
1. State ownership	25.1	37.0	41.5
- republican	9.7	34.0	35.9
- municipal	15.4	3.0	5.6
2. Mixed ownership, w/o foreign participation	8.8	44.6	32.1
3. Private ownership	66.1	18.4	26.4
- o/w with foreign participation	3.9	6.4	2.0

Source: Authors' estimates based on the data from the Ministry of Statistics.

- **High tax burden.** While the Belarusian economy is characterized by the high overall tax burden, this tax burden is rather unevenly distributed across the economy with industry being especially heavily taxed. Table 9.6 shows that in 2002-03 taxes amounted to about 60 percent of value added created in industry. This represents rather a modest decline of 10 percentage points relative to 2000, despite various government decisions aimed at a reduction in the tax pressure. The current taxation burden remains excessively high and represents additional risk for industrial competitiveness. Industry is, on average, over-taxed even on a net basis, i.e., even after accounting for subsidies and tax exemptions.

There have been **four** broad trends in industrial productivity during 1996-2003. **First**, the Belarusian industry demonstrated a significant, steady, and broad improvement in productivity. Labour productivity practically doubled during the period. All output growth in the sector derived from productivity improvements. The sub-sectors that faced the strongest external competition (machinery, construction materials, and apparel) became the leaders in productivity improvements in 1999-2003. They over-performed compared to the sectors that were more resource-dependent (such as fuel, chemicals, and metals). In response to competitive pressures, the average restructuring effort within the Belarusian industry indeed increased.

Labour productivity improvements were supported by labour markets. Despite remaining administrative interference in enterprises' employment and wage decisions, there has been considerable room in the economy for labour mobility in response to market signals. Labour movement generally occurred in direction from less to more productive sub-sectors, while the wage differential has been broadly consistent with differences in sector productivity. There was also a major employment shift from agriculture to services, construction, and transport. Such employment restructuring had positive longer-term growth and poverty implications, since agriculture in the CIS tends to be a low-productivity, low-wage

sector with large hidden unemployment. Since 1990, total employment in agriculture and forestry has declined by 40 percent.

Table 9.6 Tax Burden by Industrial Sub-Sector, %^{a/}

	Taxes as a % of sales					Taxes as a % of value added				
	2000	2001	2002	2003	Δ 2000 -03	2000	2001	2002	2003	Δ 2000- 03
National Economy	14.7	14.9	15.3	15.8	1.1	33.1	31.7	28.8	29.0	-4.0
Industry	16.8	16.7	16.7	17.0	0.2	70.0	67.4	60.1	58.9	-11.1
Power industry	16.8	18.7	19.6	18.7	1.9	68.1	55.4	72.3	62.5	-5.7
Fuel industry	20.2	18.4	21.1	20.1	-0.1	89.2	78.6	73.8	86.0	-3.2
Ferrous metallurgy	14.5	13.9	11.4	12.0	-2.5	61.3	78.8	45.1	40.4	-20.9
Non-ferrous metallurgy	17.5	15.4	20.1	18.4	0.9	71.2	50.7	61.3	40.9	-30.3
Chemical & petrochemic. industry	15.6	13.8	13.9	15.5	-0.1	49.9	47.4	44.9	44.8	-5.1
Machinery & metal working	18.2	17.7	17.4	18.1	-0.1	80.4	81.4	63.7	65.5	-14.8
Timber, wood-working, pulp and paper	20.1	19.4	19.5	20.2	0.1	69.6	60.1	55.4	48.1	-21.5
Construction materials	18.0	21.6	20.3	19.6	1.6	59.0	53.4	46.2	41.1	-17.9
Light Industry	17.2	17.2	17.4	17.6	0.4	61.0	65.7	58.8	48.7	-12.3
Food industry	13.9	14.0	13.2	13.2	-0.7	92.3	92.9	71.8	71.1	-21.3
Other	15.3	16.6	15.6	15.4	0.1	52.1	50.4	41.1	44.0	-8.1
<u>Memo: Total taxes b/</u>	<u>26.5</u>	<u>26.3</u>	<u>26.8</u>	<u>27.3</u>	<u>0.9</u>	<u>59.7</u>	<u>55.9</u>	<u>50.4</u>	<u>50.3</u>	<u>-9.6</u>

^{a/} Producer taxes, excluding PIT, excises, and tax penalties.

^{b/} Actually paid, including PIT, excises and other taxes paid by consumers.

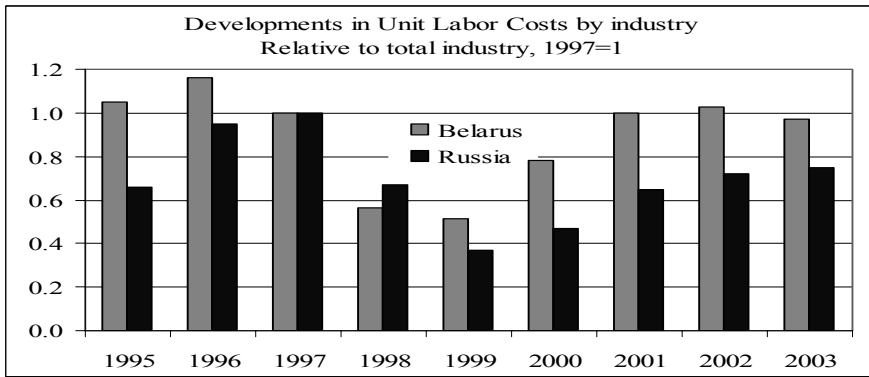
Source: Volchok (2005).

At the same time, after 1995, changes in the employment structure in Belarus have been much smaller than in other transition economies. The most remarkable feature of labour trends in Belarus is a preservation of the high employment in industry. The active reallocation of labour from industry to services was very pronounced in other transition economies through the entire 90s, but in Belarus this process practically stopped in 1995. Industrial employment in 2003 was only 4 percent below its 1995 level, while in Russia, Ukraine and Kazakhstan this decline amounted to 15-25 percent. The share of labour employed in industry is still about 27 percent in Belarus, while it declined (from the same initial level of above 30 percent) to about 20 percent in both Russia and Ukraine.

The comparison between employment contraction in Belarusian industry with those in CEE countries, where industrial restructuring has been largely completed, may indicate that in Belarus the industrial sector is still characterized by considerable job hoarding to a magnitude of 15 percent of pre-transition employment in the sector, i.e., up to 250,000 employees. Recent growth helped to utilize some of this excess labour, but it still falls short of its full utilization. This potential over-employment represents about 6 percent of current national employment.

Second, the Belarusian competitive advantage is being eroded by high wage growth. Average unit labour costs (ULC) grew strongly in 1999-2001, driven by both a policy of accelerated real wage growth and real currency appreciation, and remained broadly unchanged in 2001-03. Competitiveness would have eroded even further had it not been for the high productivity growth lately, which since 2001 has largely offset wage increases. When compared to 1997, relative labour costs in Belarusian industry in 2003 were at least 20 percent higher than in Russia (Figure 9.8). The deterioration of competitiveness relative to Russian producers was most noticeable in the food processing and construction materials sub-sectors. In fact, actual deterioration of Belarus' competitive position has been even more significant if one takes into account the recent substantial reduction in average payroll taxation rates in Russia.

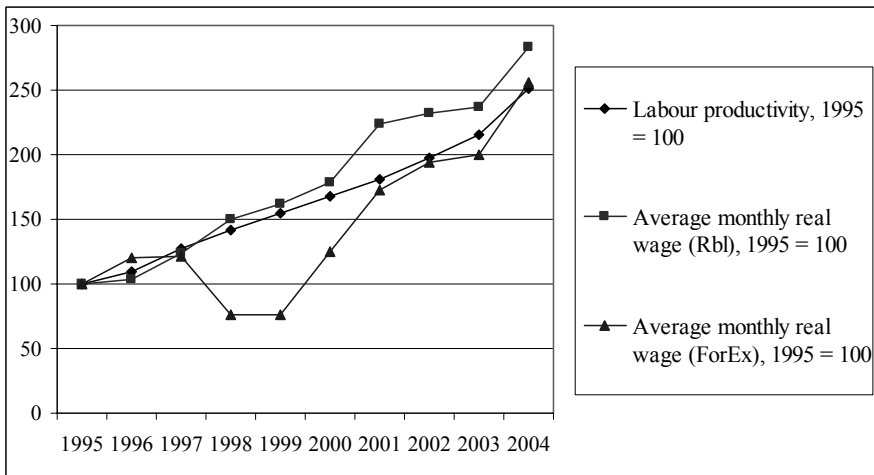
Figure 9.8 Growth in Unit Labour Costs Indicates Erosion in Competitiveness



Source: Authors' estimates, Ahrend (2004).

Evidence suggests that government wage policy has seriously undermined Belarusian competitiveness. For the period 1996-2001, real rubel wage growth consistently exceeded productivity improvements (Figure 9.9). These findings suggest that the continuation of the current policy of rapid wage growth will be more risky in the future relative to the earlier period because a significant portion of the earlier cost advantage has been eroded by now.

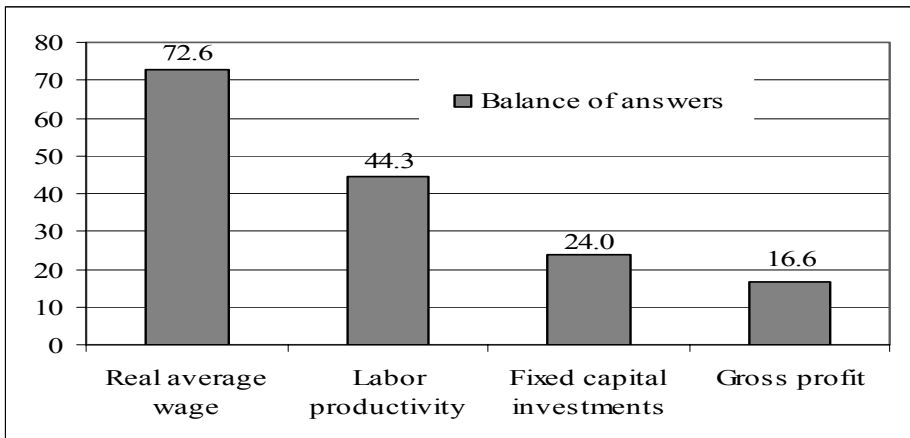
Figure 9.9 Wage Growth Exceeds Productivity Improvements in Industry



Source: Authors' estimates based on official data.

Third, the analysis suggests a considerable mismatch in growth of main performance indicators at the micro level. According to the 2004 industrial enterprise survey, growth in investments has recently been more widespread than growth in profits, confirming the gap between financial and investment performance (Figure 9.10). At the same time, incidence of productivity growth by far outpaced incidence of growth in investments, but in turn has been less common than growth in wages. It is clear that the economy cannot sustain such a growth mismatch for an extended period because, in the long term, wage growth should be backed by adequate productivity improvements, which must be based on sufficient growth in investments and profits (to finance these investments).

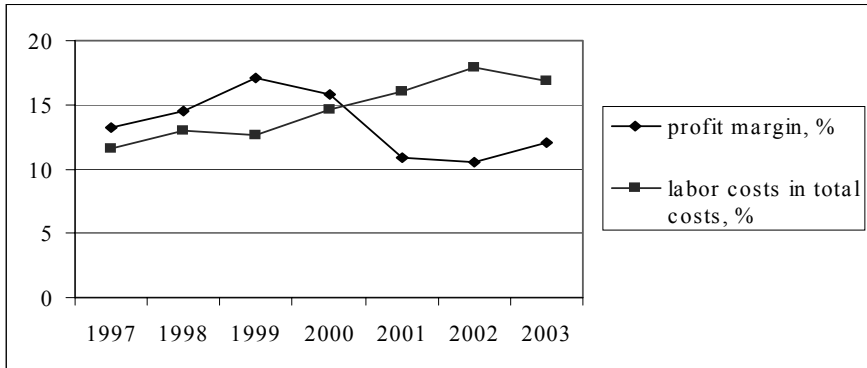
Figure 9.10 Unbalanced Growth -- Managers' Answers about Recent Changes in Performance of Their Enterprises (balance between increase and decline reports)



Source: Pelipas and Pukovich (2004).

Low profitability represents an important source of vulnerability for Belarusian industry and is driven primarily by excessive wage growth. Low profitability is a basic indicator of low rate of return on investments, which, other factors being equal, drives down the investment attractiveness of the country. Financial performance (with average margins below 10 percent) is the weakest in the sub-sectors that face stronger competitive pressures at both the domestic and CIS markets. About a quarter of industrial enterprises are loss-making. The share of total labour costs (wages and payroll taxes) in total production costs increased by more than 50 percent in 1997-2002. Figure 9.11 shows a clear negative correlation between changes in profitability and labour cost share.

Figure 9.11 Growth in Labour Costs Drives down Profitability in Industry



Source: Authors' estimates based on official data.

Fourth, productivity growth is undermined by low levels and quality of investments. This is primarily due to weak investment climate. In particular, there seems to be a major incentive bottleneck for strengthening real sector investments in the environment of prevailing state ownership in large enterprises (which are known worldwide for their propensity to under-invest) and high costs of entry for the new private sector. The existing incentive framework for enterprise management is excessively focused on attaining short-term growth targets and addressing the government's social priorities. This leaves too little financial room for investments and longer-term restructuring efforts.

The analysis of investment performance suggests that the overall level of fixed capital investments (without stock accumulation) in Belarus, which has recently been in the range of 22-23 percent of GDP, does not look low by regional standards. However, the country's investment structure is quite imbalanced with a relatively low share (about 30 percent) of total investments going into industry. At the same time, investments are heavily concentrated in the housing and utility sector (30-35 percent of the total) and transportation (10-15 percent). The latter are important investment areas,¹⁵⁴ but investments in these sectors cannot compensate for under-investments in industry, which at the moment is a critical sector for sustaining Belarusian export competitiveness. Investment needs in industry to renew and modernize its capital stock are quite high – in 2004 the degree of depreciation of fixed capital in industry was estimated at 62 percent.

Moreover, industrial investments are highly concentrated. 40 percent of total investments in the sector in 2002 were made in the power, fuel, and metallurgy

¹⁵⁴ At the same time, the existing level of government subsidies to housing construction is excessive and cannot be justified from either the fiscal or the social policy perspective.

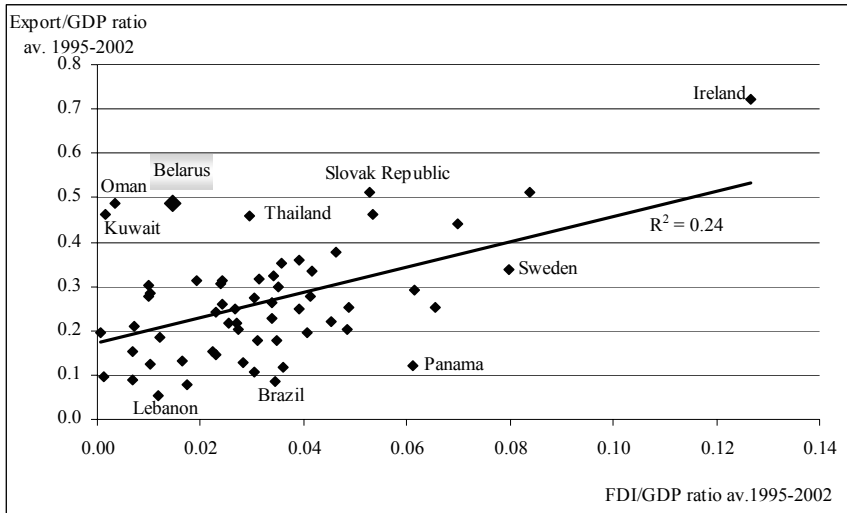
sub-sectors, which together account for less than 3 percent of the total number of industrial firms in Belarus. The majority of investment growth prior to 2003 occurred in these sub-sectors and did not affect the main part of industry. The bulk of industrial firms (about 97 percent of their total number, which employ about 93 percent of industrial labour) have been responsible for rather a modest amount of investments – on average less than 4 percent of GDP in 1999-2003.

The weak investment climate led to a depressed level of FDI, which represents a serious disadvantage for Belarus. The cumulative FDI per capita for the period 1989-2003 accounted for USD 200, which is on average about 10 times less than in the Central European countries. This not only reduces the overall level of investments in Belarus, but, more importantly deprives the economy from major dynamic benefits. FDI usually helps to push up productivity in the host country by providing access to modern technology, management, and training. This access is particularly important for transition economies, where additional efforts are needed to bring the quality of production to international standards.

Moreover, in the era of globalization, FDI volumes have become a primary determinant of the countries' capacity for export growth (Figure 9.10). From this perspective Belarus is a significant outlier from the global trend - its current level of export development is disproportionately high relative to the depressed FDI level. This disproportion suggests that without expansion in FDI inflows Belarus may find it difficult to expand its export on a sustainable basis.

Investment financing remains extremely limited. While enterprise self-funding is limited because of low profit margins, commercial credit is generally less accessible and more expensive than in the neighbouring countries. Moreover, government interference in credit allocation puts those firms that are unable to participate in the directed credit programs into an especially difficult situation. In addition, the analysis of cross-sectoral variations in performance suggests that government interventions create significant barriers for efficient allocation of investment funds. In particular, there may exist a negative correlation between investment growth and profitability, indicating that less profitable sectors were able to finance more investments.

The tax burden is substantially higher in Belarus than in the neighbouring countries, which puts Belarusian producers at a competitive disadvantage. For instance, in 2003, the total explicit tax burden in Belarus amounted to 44.7 percent of GDP, against 34.7 percent in Russia. Moreover, the tax structure is highly distorted – about 30 percent of all taxes paid by industry are turnover based. The manufacturing sector has been disproportionately affected by the current tax policy.

Figure 9.12 Export-FDI interlink: a global view, 1995-2002

Source: Authors' estimates based on WDI.

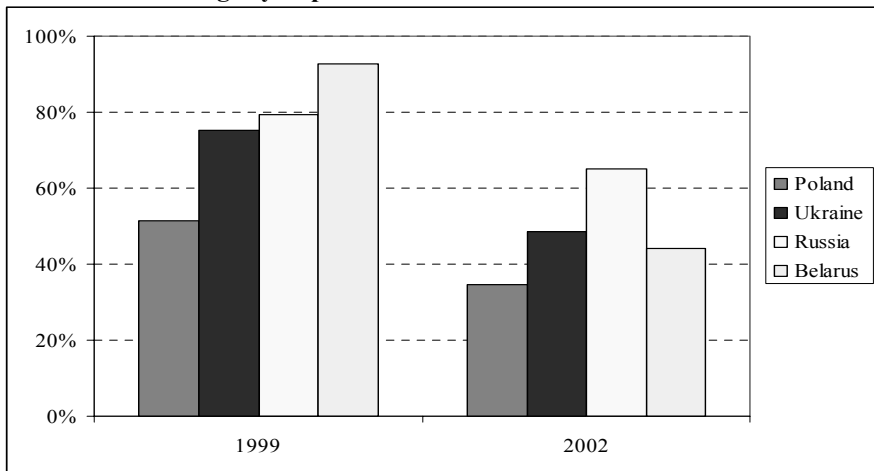
Business perceptions – as seen from the enterprise surveys – reflect a growing concern about declining competitiveness. Overall, most survey respondents believe that their products are competitive domestically and to some extent in Russia. However, with respect to other markets, the balance of responses is either close to zero (which points to the absence of competitive advantage) or negative. Among the main determinants of their competitiveness, the respondents emphasized the role of cost factors, primarily those associated with low wages and low profit margins in the Belarusian industry. However, the existing cost/price advantage appears to erode rather quickly, as seen by comparing responses from the similar 2004 and 2002 surveys. The leading factors of potential cost disadvantage of Belarusian enterprises in Russia relate to the growing wage burden, higher taxation, and more expensive borrowing.

In summary, the recent productivity growth in Belarusian industry appears to have quite a limited foundation in improvements of economic fundamentals, such as ownership change, entry of new firms, penetration of new markets, acquisition of new skills (such as e.g. new management), etc. Instead of genuine restructuring in response to market signals as happened in other economies in transition, the industrial sector so far has been mostly adapting to a combination of growing competitive pressures, an improved macroeconomic environment, and continued administrative controls. So far, this adaptation has resulted in productivity improvements primarily from better utilization of the inherited industrial capacity. However, longer-term sustainability of such improvements is of concern.

Increased domestic competition with the new private sector and with the imports is likely to be the leading driver of industrial restructuring within the Belarus

economic strategy. BEEPS (Business Environment and Enterprise Performance Survey) surveys have revealed a serious shift towards the acknowledgement of the importance of competition from imports in Belarus between 1999 and 2002. Interestingly, the magnitude of changes in perceptions of competitive pressures among Belarusian entrepreneurs was much stronger than in neighbouring countries (Figure 9.13).

Figure 9.13 Growing Sense of Competitive Pressures -- Percent of firms calling competition from import not important or only slightly important in 1999 and 2002



Source: BEEPS database.

With all these caveats, restructuring in industry, including SOEs, has happened and resulted in some unbundling. The problem has been, however, that the overall restructuring was slow and limited with some important (basic) restructuring measures are yet to be implemented. As this chapter argues, to accelerate restructuring in the future may be increasingly difficult without serious changes in institutional and regulatory environment. To do this, the right set of incentives should be in place, which is impossible without de-politisation – completely missing element in transformation of the industrial sector in Belarus so far.

5. Trade Performance: Low Dynamism of Export Patterns

Strong export performance has been a distinctive feature of the recent growth episode in Belarus. As a small open economy, Belarus' growth prospects depend heavily on its export capabilities. During the first period of growth (96-00), trade volumes fluctuated considerably. However, growth in exports on average was stronger than in imports, leading to improvements in trade and current account

balances. Backed by improved demand in Russia and higher oil prices, exports more than doubled in 2000-04. During the 2nd period, expansion in both exports and imports was quite strong, but imports grew at a higher rate than exports, so that trade and current account balances deteriorated (Table 9.7). The deficit of trade balance increased from 6.8 percent of GDP in 2000 to 9.0 percent in 2004.

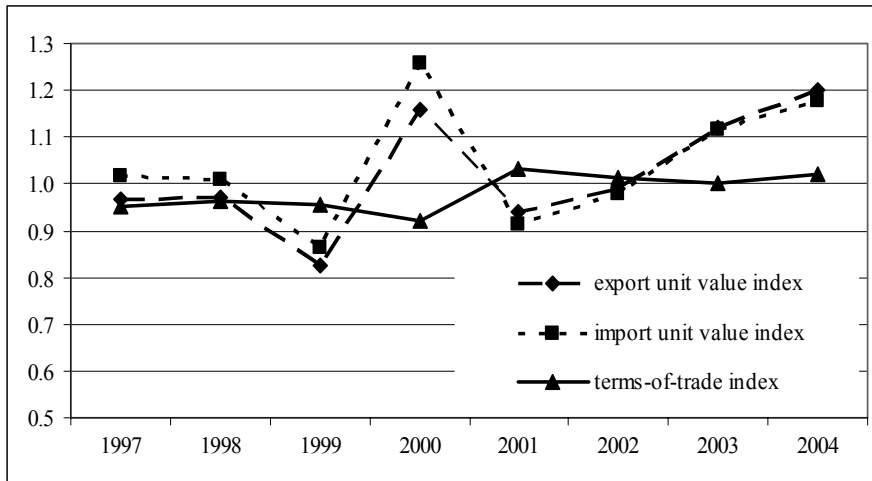
Table 9.7 Belarus: Merchandise Trade Dynamics, 1996-2004

US\$ million	1996	2000	2004	2004/2000
Exports, f.o.b.	5790	6641	13917	
<i>Exports index, 1996=100</i>	<i>100</i>	<i>115</i>	<i>240</i>	<i>210</i>
Imports, f.o.b.	6939	7525	15983	
<i>Imports index, 1996=100</i>	<i>100</i>	<i>108</i>	<i>230</i>	<i>212</i>
Trade balance	-1149	-884	-2066	
<i>Trade balance index, 1996=100</i>	<i>100</i>	<i>77</i>	<i>180</i>	<i>234</i>
<i>Memorandum items</i>				
<i>Trade balance, %GDP</i>	<i>-8.0</i>	<i>-6.8</i>	<i>-9.0</i>	<i>-2.3</i>
<i>Current account, %GDP</i>	<i>-3.6</i>	<i>-2.6</i>	<i>-4.6</i>	<i>-2.0</i>

Source: Belarus' Authorities.

Belarus has benefited from the improvements in its Terms of Trade (ToT) since 2000. Fluctuations in ToT have been driven largely by the price dynamics for gas, oil and oil refinery products. Energy resources dominate Belarus imports, so that average import unit values are largely affected by the dynamics of energy (first of all, oil and gas) prices. At the same time, Belarus is able to compensate for an increase in prices of imported oil by increasing export values of refinery products. Net changes in ToT then depend on movements in relative prices for crude oil and refinery products. Figure 9.14 shows that export and import unit values in Belarus have been strongly correlated, and it also illustrates a rather significant average improvement in ToT in 2001-04, relative to the earlier period. Hence, the contribution of the price factor to the overall export growth has been rather significant recently – in 2001-04 about a third of total export growth was due to price movements.

While not explaining the overall growth dynamics in Belarus, ToT improvements clearly provided essential income and growth support to the economy in the recent past. That is the combined export and import price dynamics has been favourable for growth in Belarus. This is an important finding because the traditional analysis of developments in Belarusian trade tends to be too focused on the negative trends associated with growth in import prices of gas and other energy, while the positive effect of export price dynamics remains unappreciated.

Figure 9.14 Terms of Trade Index, 1997-2004

Source: Authors' estimates based on official data.

In spite of strong growth, Belarus exports remain highly concentrated in terms of export markets, exported products, and the role of leading exporters. Russia's share, while somewhat decreased, still accounts for about half of total exports and about 90 percent of CIS exports. The 20 largest exporters are a source of more than 55 percent of all exports, and more than 80 percent of non-CIS exports. The ten main export commodities accounted for over 50 percent of the total exports in 2004. Oil products alone accounted for almost a quarter of total exports.¹⁵⁵ Other important exports were potassium fertilizers (5.5 percent), ferrous metals (4.6 percent), trucks (3.9 percent), tractors (2.5 percent), and refrigerators (2.3

¹⁵⁵ Belarus was able to respond to increasing market demand for refinery products and benefit from their growing prices by not just preserving the capacity inherited from the USSR in the refinery sector - two large oil-processing plants (Mozyr Refinery Plant in the south and "Naftan" in the north-west) -but also by heavily investing in their upgrade and modernization. The corporatization of Naftan occurred in 2002, but the state continues to be its major shareholder (a meagre part of shares was sold to employees and managers of the companies). The Mozyr Refinery Plant was corporatized in the early years of independence and became part of the large Belarus-Russian vertically integrated oil company "Slavneft", in 1994. Slavneft took an active part in the reconstruction of the Mozyr Refinery by directly investing in it, providing credit guarantees, and ensuring the guaranteed delivery of crude oil to the refinery (not less than 3.5 million tons a year). At the same time, modernization of the sector in general (and, especially, of "Naftan") has been undertaken primarily with domestic investments.

percent). These are the products traditionally produced and exported by Belarus before independence. This excessive export concentration makes the country's trade vulnerable to external shocks.

At the same time, other conventional measures of export concentration exhibit different dynamics as far as different export markets are concerned (Table 9.8): exports to the CIS are getting less concentrated, while exports to non-CIS became more concentrated. The non-CIS market is more sophisticated with higher certification and standardization requirements. The data suggest that the penetration of this market with new products is increasingly more difficult for Belarusian producers who in many ways are detached from new technologies and marketing techniques. This is because normally the transfer of technologies and skills is associated with FDI.

Table 9.8 Indices of Export Concentration for Belarus, 2001-03

	2001	2002	2003	2001	2002	2003
	Belarus-CIS			Belarus-non-CIS		
Indices of export concentration						
Export diversification index	0.496	0.465	0.459	0.714	0.718	0.737
Hirschman index	0.142	0.140	0.140	0.387	0.418	0.447
Share of 5 largest exporters in total exports, %	15.2	16.0	19.6	40.7	41.6	42.7
Share of 10 largest exporters in total exports, %	24.1	25.1	26.6	57.7	55.4	57.6
Share of 20 largest exporters in total exports, %	45.1	44.6	46.1	79.3	78.4	80.7
Number of commodity positions for which export exceeds \$US 5 m*	122	121	128	59	61	64
Number of commodity positions for which export exceeds \$US 10 m*	91	93	105	37	39	45

* According to 3-digit SITC classification.

Source: Belarus Authorities, Authors' estimates based on WITS/COMTRADE data.

As compared to neighbouring countries (Table 9.9), Belarus' exports are more concentrated than Polish and Ukrainian exports. This is somewhat an expected result: smaller countries tend to have more concentrated exports than larger ones. However, a comparison with Lithuania, which is smaller than Belarus in terms of both population and economic size, provides an additional insight. While in 1998 Lithuania's exports were more concentrated than Belarusian ones, much of this difference has eroded by 2003. In short, even allowing for differences in size of the economies, Belarusian exports are too concentrated and the recent trends toward additional concentration appear to be rather disturbing.

Trade restructuring and diversification in Belarus is taking place at a much slower pace than in the neighbouring countries. However, Russia remains by far Belarus' major trading partner. The share of Russia in Belarus total exports fell from 65 percent in 1998 to 47 percent in 2004, i.e., still accounting for about half

of total exports and about 90 percent of CIS exports. Even larger is the share of Russia in Belarus imports, which increased from 55 percent in 1998 to 68 percent in 2004. Another important trading partner for Belarus in the CIS is Ukraine. However, exports to Ukraine declined both in absolute and relative terms in 2001-04, and it is now below 4 percent of the total.

Table 9.9 Export Concentration Indicators: Belarus, Lithuania, Ukraine and Poland

	1998	2000	2002	2003
Belarus				
Number of commodity positions* for which export exceeds \$ 5 million	149	142	139	147
Number of commodity positions* for which export exceeds \$ 10 million	115	108	116	125
Hirschmann Index **	0.218	0.262	0.260	0.268
Diversification Index DX*	0.504	0.551	0.549	0.544
Lithuania				
Number of commodity positions* for which export exceeds \$ 10 million	70	69	84	97
Hirschmann Index **	0.243	0.270	0.252	0.255
Diversification Index DX*	0.532	0.560	0.549	0.551
Ukraine				
Number of commodity positions* for which export exceeds \$ 10 million	150	142	152	..
Hirschmann Index **	0.142	0.144	0.114	..
Diversification Index DX*	0.257	0.257	0.257	..
Poland				
Number of commodity positions* for which export exceeds \$ 10 million	177	175	175	..
Hirschmann Index **	0.046	0.047	0.048	..
Diversification Index DX*	0.185	0.187	0.186	..

*According to 3-digit SITC classification.

** For 65 items exported, according to 2-digit SITC classification.

Source: Authors' estimates on WITS/COMTRADE data, World Bank (2004b).

The share of EU-15 in Belarus' exports has been growing constantly and accounted for 24 percent of total exports in 2004 (as compared to 6.8 percent in 1998 and 11.0 percent in 2001). This growth has accelerated recently. However, this pick up in exports to the EU should be treated with caution, since it has a very narrow base: most of the growth occurred at the expense of a sharp increase in the exports of oil products, from USD545 million in 1998 to almost 3.6 billion in 2004. The total share of refinery products in Belarus' total exports increased from 7.7 percent to 26.2 percent during this period. This occurred largely due to the very high growth in exports of refinery products to the UK, Germany and the Netherlands. For instance, refinery products accounted for 94.4 percent of Belarus' total exports to the UK in 2004 as compared to 12.8 percent in 1998. Only a quarter of Belarusian industrial firms export outside of the CIS. This is comparable to the level observed in Russia in 1994 before any substantial restructuring started.

Overall, given its location, the importance of the EU as Belarus' trade partner remains very moderate and trade with the EU is significantly lower not only compared to its neighbours that are NMS, but also compared to other European CIS countries. In 2001 the ratios of actual to projected volumes of trade with the EU ("realization ratios") were 1.4 for Moldova, 1.1 for Russia, 1.0 for Ukraine, but only 0.6 for Belarus.¹⁵⁶ Although trade restrictions from both sides contributed to this outcome, the major reason relates to a slow pace of restructuring of the Belarusian economy.

The export structure shows very limited dynamism. Besides high concentration, the analysis revealed several serious weaknesses in the recent export patterns, which, if not addressed, pose a serious risk for future growth.

First, the number of product groups in which Belarus exhibits strong export specialization ($ESI > 2$)¹⁵⁷ is low and declined between 1998 and 2003 both globally and at the EU-15 markets, while increased somewhat at the CIS market (Table 9.10). This is another indication of growing export concentration at the non-CIS market. Interestingly, Ukraine recently has been more successful in diversifying its trade with the EU than with the CIS.¹⁵⁸

Table 9.10 **Export Specialization by Export Market: Number of Product Groups with a Strong RCA (>2)***

	1998	1999	2000	2001	2002	2003
World	12	11	10	10	10	9
CIS	9	10	9	10	9	11
EU-15	12	11	13	13	9	7

Source: Authors' estimates on WITS/COMTRADE data.

*According to 2-digit SITC classification out of 64 positions.

Second, the factor intensity structure of exports shows an increasing importance of exports that are resource- and unskilled labour-intensive (Figure 9.15). This indicates deterioration in the export structure. Meanwhile, the new EU members (EU-8) exhibited an opposite trend: an increase in the relative importance of labour- and capital-intensive exports, which are generated by the sectors with greater growth potential and higher wages. Reliance on relatively low value-added exports constrains possibilities for the economy to generate new jobs,

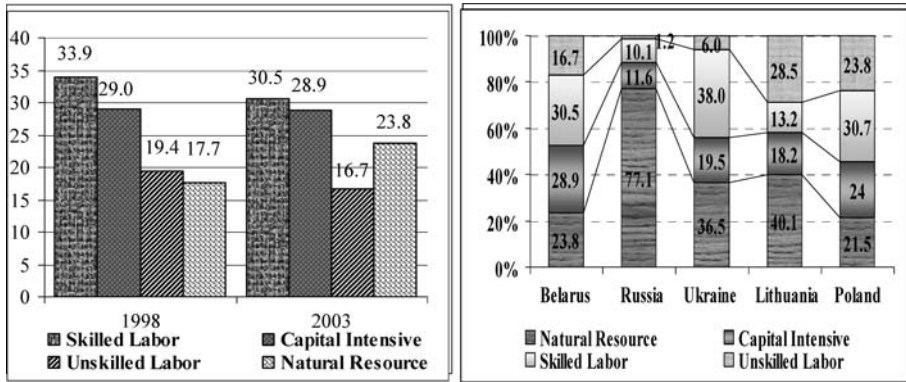
¹⁵⁶ Freinkman, Polyakov, and Revenco (2004).

¹⁵⁷ We used so-called "Balassa measure" of Revealed Comparative Advantages (RCA) to access Belarus' export specialization. The index for country i good j is $RCA_{ij} = (X_{ij}/X_{it})/(X_{wj}/X_{wt})$, where w =world and t =total for all goods. When the index is calculated for specific markets or partners, it is often called Export Specialization Index (ESI).

¹⁵⁸ World Bank, Ukraine Trade Policy Study. 2004. Volume II, p.25.

thus holding back productivity growth and productivity improvements in the economy.

Figure 9.15 Exports Factor Intensity: Dynamics (left, 1998 & 2003) & Comparison with Neighbour Countries (right, 2003), Percent



Source: World Bank (2005c).

Third, underdeveloped intra-industry trade (IIT) with the EU reflects the failure to attract European FDI. Comparison of the dynamics of Grubel-Lloyd (G-L) indices¹⁵⁹ with those for Poland and Ukraine (Table 9.11) reveals that the G-L index for total trade in Belarus is rather high, but it declined somewhat since 1998. In 2003, the IIT intensity in Poland exceeded that in Belarus, while the opposite was the case in 1998. This indicates that Belarus underutilizes potential benefits from international trade. Moreover, the high value of the index is due to the high intensity of IIT with the CIS countries (and their dominance in Belarus’ external trade). This is a reflection of the fact that Belarus preserved its economic and production links from the Soviet era. The level of IIT with the countries outside the CIS, while growing, still remains rather low and cannot be substantially increased without attraction of sizeable amount of FDI. Low level of IIT with the EU further limits opportunities for trade-related productivity gains.

Fourth, there have already been signs of increasing competitive pressures Belarus exports face in the Russian market, as expressed in their declining market shares in total Russian consumption. Thus, whilst the results of survey of

¹⁵⁹ The G-L index, $I = [(\sum_i (X_i + M_i) \sum_i |\tilde{X}_i M_i|) / \sum_i (X_i + M_i)] * 100$, where X_i and M_i are, respectively, exports and imports in sector i (Grubel and Lloyd, 1975). The higher the index, the larger the portion of intra-industry trade. The index ranges from 0, meaning complete lack of intra-industry trade, to 100, indicating a fully integrated manufacturing trade.

industrial competitiveness¹⁶⁰ do not provide evidence that Belarusian exporters have been losing their traditional markets in Russia (except for the light industry – textiles, garments, and footwear), the data are troubling as to the current level of competitiveness in Russia, especially in the food processing and machinery sub-sectors. The primary existing competitive advantages of Belarusian industry in Russia and, to a lesser extent, elsewhere in the CIS, relates to cost factors, as well as higher labour and management skills. However, it should be noted that the existing cost/price advantage appears to erode rather quickly. The comparison of responses from similar 2004 and 2002 surveys suggests a drastic decline in the perceived importance of this advantage relative to competitors from CIS/Russia (Table 9.12). At the same time, the role of quality-based advantages somewhat increased. For the non-CIS markets, the relative importance of competitive advantages has been evolving in the opposite direction – the role of quality-based advantages declines, while cost-based factors become more prominent.

Among the main determinants of their competitiveness, the respondents emphasized the role of cost factors, primarily those associated with low wages and low profit margins in Belarusian industry. Availability of high-skilled labour in Belarus is seen as significant only relative to the CIS and developing countries' markets. Technological advantages are important only at the CIS markets outside of Russia. In addition, as expected, the respondents pointed out to three factors that seriously undermine their competitiveness at all markets, such as: (i) higher costs of inputs and energy; (ii) high cost of borrowing; and (iii) higher tax burden. Relative to the EU, the Russian market remains much more accessible for Belarusian firms because of the differences in both standard requirements and severity of import restrictions. However, import restrictions in Ukraine and the rest of the CIS (non-Russia) appear to be as binding as in the new EU members.

¹⁶⁰ The survey was undertaken by the Research Institute of the Belarusian Ministry of Economy (RIME) in the second half of 2004. The main objective of the survey was to study the perceptions of enterprise managers regarding: (i) competitive advantages of their products in different markets; (ii) factors that drive the competitiveness of Belarusian enterprises; and (iii) cross-sectoral differences in competitiveness. 231 enterprises from eight main industrial sub-sectors which are located in all regions of Belarus participated in the mail-in survey. 25 out of the country's top 100 enterprises were included in the sample. For detailed description of the survey methodology and results, see Gotovsky, Khamchukov and Kovalevskaya (2005).

Table 9.11 G-L Indices for Belarus, Ukraine and Poland, 1998-2004

	1998	1999	2000	2001	2002	2003	2004	2002-1998
Belarus**								
Total trade	54.3	48.1	48.2	50.3	51.4	48.9	47.4	-2.9
CIS	53.3	49.1	48.3	48.8	50.1	51.2	50.1	-3.3
ROW	23.0	22.8	24.3	24.7	27.1	25.0	24.3	4.1
o/w: EU15	14.5	17.0	19.0	18.2	18.1	17.6	16.6	3.7
Ukraine*								
Total trade	34.5	35.6	37.9	40.1	38.4	-	-	3.9
CIS	52.9	54.5	52.4	55.7	53.9	-	-	1.0
ROW	30.5	31.8	34.9	36.7	35.6	-	-	5.1
o/w: EU15	20	19.9	21.8	23.6	22.5	-	-	2.5
Poland*								
Total trade	48.4	50.5	55.5	55.8	57.5	-	-	9.1
CIS	17.7	21.8	19.7	17	16.7	-	-	-1.0
ROW	49.4	50.8	56.4	56.4	58.2	-	-	8.8
o/w: EU15	44.1	47.7	52.5	52.7	54.6	-	-	10.5

*Note: The index is calculated for merchandise trade only (groups 5-8 excluding 68), using the SITC revision 2.

**Note: The index is calculated for merchandise trade only (groups 5-8 excluding 68), using the SITC revision 3.

Source: Authors' calculations on WITS/COMTRADE data, World Bank (2004b).

Table 9.12 Dynamics of competitive advantage in industry (as % of the total number of respondents)

		Quality	Price
Belarus	2002	55.2	44.2
	2004	57.7	55.8
Russia and CIS	2002	48.0	70.0
	2004*	56.4	40.1
Outside the CIS	2002	62.9	37.1
	2004**	31.4	41.9

* Answers are consolidated for two markets – Russia and Ukraine/rest of CIS.

** Answers are consolidated for four markets – Eastern Europe, Western Europe/other developed economies, and developing countries.

Source: Gotovsky, Khamchukov and Kovalevskaya (2005).

The survey respondents estimated that on average about half of their industrial capacity is fully competitive. This share varies from 40 percent in food processing to 87 percent in metallurgy. Given the current level of capacity utilization (about two-thirds), this suggests that Belarusian industry has considerable reserves for further growth even without major investments in capacity expansion. Based on

the survey data, such additional growth in industrial output could be estimated at 25 percent relative to its level as of the middle of 2004. But if the economy is growing at a rate of 8 percent this capacity reserve would be fully exhausted in about three years.

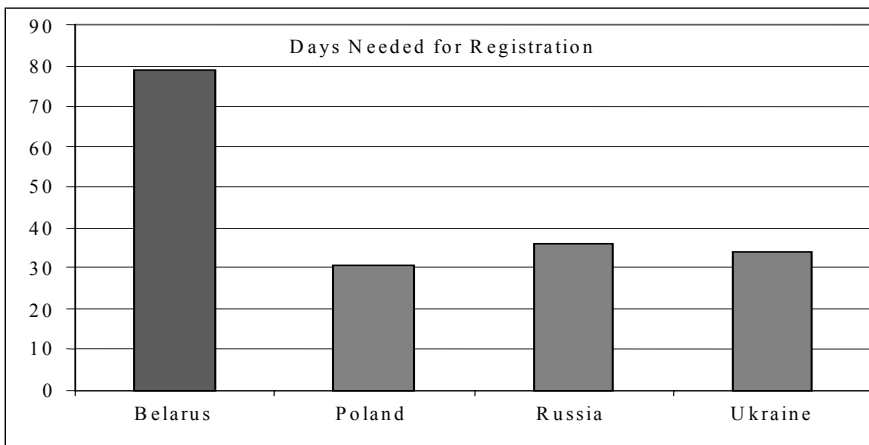
6. Investment Climate and Trade Regime

This section looks for explanations of the observed productivity and trade patterns in the Government economic policies. It argues that both the investment climate and trade regime in Belarus remain largely unsupportive of productivity growth.

The continuing excessive government intervention in the activities of the enterprise sector crowds out the positive impact of the latest reforms. Over the last few years, the Government has made some progress in simplification of business registration and licensing, as well as in regulation of export activities. The Government is planning to continue streamlining and simplifying the processes for starting a business and is considering introduction of a ‘one window’ registration process to facilitate new market entry. Yet those improvements went in tandem with deterioration of the situation in other areas of the business environment.

Belarusian business people have strong negative perceptions of the trends in the country’s investment climate. The survey results do not yet show any significant positive outcomes of what the government considers a substantial shift in its policy directions. Cross-country comparisons suggest that Belarus is a high cost place to do business, especially if one takes into account the implicit costs of delays related to the long administrative procedures (Figure 9.16). The low rate of new business creation is a strong indication of the costly business environment. As reflected by various international indices, Belarus’ investment climate is perceived as one of the most hostile in Europe.

Figure 9.16 Business Registration is too Slow (days)



Source: World Bank’s Database “Doing Business in 2005”.

The existing business environment represents a major risk for sustainability of the country's economic growth. It undermines Belarus' growth prospects through a number of channels. First, high costs of compliance with administrative regulations mean that a significant amount of resources is diverted from more productive use. Second, high costs of entry deprive the economy of major benefits associated with flexibility and innovations, which only new firms could generate. Third, the high incidence of government interference damages Belarus' investment image, poses the risk of international economic isolation, limits its opportunities for attracting FDI, and generally reduces the potential benefits of global integration, which its neighbours enjoy.

High costs of overregulation, regulatory uncertainty, and informality affect companies in their daily operations in a multitude of ways. The highest concerns of the business community relate to the following:

- Inspections are seen as the most severe administrative barrier that has been worsening over time. Unplanned tax inspections, non-tax fiscal inspections, and sanitary inspections are specifically highlighted as a major problem.
- Administration of business permits is lengthy and costly. This specifically hurts the investment process (land and construction permits, permits for occupation of business premises).
- Tax administration aggravates the problems associated with the high tax burden because of the multitude of taxes, excessive tax inspections, instability and complexity of tax legislation and severe penalties for unintentional mistakes.
- Price controls remain excessive. The survey revealed that in 2002 a staggering 66 percent of firms had been affected by price and profit margin controls to some degree.
- Firing restrictions remain mostly informal, but enterprises are sensitive to their effect. Among large state-owned and privatized companies more than a quarter claims to have excessive staffing levels.

Belarus should use the current favourable macroeconomic situation to launch reforms in the investment climate. An important lesson from other experience in transition is that fundamental improvements in the business environment cannot be attained quickly and solely by the introduction of a package of "good" regulations. The business environment reforms are of long-term nature. A considerable amount of political will to change prevailing government attitudes to business and enhance public-private dialogue is needed, as well as deeper reform of public administration, the civil service, and the judiciary. Many of these changes are easier to undertake in the environment of a stable and growing economy. Thus, Belarus should not miss its window of opportunity to advance these reforms without further delay.

Belarus has an administrative advantage that could support its future reforms in the business environment. An important asset of the Belarusian State is a relatively good capacity for quick resolution of business disputes and the low level of corruption within state institutions. It also has a track record of resolving

specific administrative problems that proved to be difficult to address in other CIS countries. For instance, unlike other countries in the region, Belarusian exporters did not see the VAT refund as a problem. While traders complain about some deterioration in customs administration, customs clearance in Belarus is still less time consuming than in the neighbouring countries.

At the same time, the analysis suggests that there may be a serious internal conflict between government's plans to reform the business environment and its reliance on the existing economic model for development. The current economic model requires massive administrative interventions at the micro level, which unavoidably raises the costs of doing business in the country and imposes serious limitations on how much the business environment could be improved without dismantling some central components of the existing control system.

Role of State Support

Expensive subsidization in Belarus undermines competition in the economy. The complicated and pervasive system of state support to the real sector is a fundamental feature of the Belarus economic model. The Government of Belarus (GOB) has been pursuing an activist industrial policy, under which most large enterprises have been in a position to negotiate with the government a case-by-case package of incentives and benefits to support their rehabilitation and development programs. This results in a system of state support that is too costly, too segmented and non-transparent, with too many programs and beneficiaries. In spite of various attempts made by the GOB in recent years to streamline, quantify and access its effectiveness, little change has been achieved so far.

The current system has a major distortive effect on enterprise incentives. The coexistence of a high nominal tax burden, massive tax benefits and subsidies for those enterprises that are either less efficient or well-connected undermines competition and stimulus for productivity improvements.

Table 9.13 presents our estimates for the incidence of subsidies in the Belarusian economy. The table contains two different indicators of the aggregate state support: (i) the total (gross) financial flow to the enterprise sector, which is the amount of funds that are allocated through various government decisions; and (ii) the net resource transfer to the enterprise sector (net subsidy). The latter amount is smaller, reflecting the fact that a substantial portion of government assistance is provided in the form of highly concessional directed credits, including tax credits.¹⁶¹ Given that

¹⁶¹ In most cases, less than half of such credits were granted at the NBB refinance rate, while the rest at rates that were between $\frac{1}{4}$ and $\frac{1}{2}$ of the NBB refinance rate.

the level of repayments of such credits remains relatively high, the net subsidy is indeed smaller than the gross level of government interventions.¹⁶²

The aggregated measures of enterprise subsidization show no significant decline in the incidence of state subsidies in Belarus. The total annual amount of funds that the GOB allocates to the real sector (including state-owned banks) is still about 10 percent of GDP. In 2001-04, the estimated annual net subsidy amounted on average to 6 percent of GDP. This is somewhat lower than prior to 2001, but still is excessively high. It is comparable with the total national public spending on education (6.3 percent of GDP in 2004). Agriculture remains the sector that is the most heavily subsidized.

Moreover, the above estimate reflects only the level of producer subsidies, and do not account for the existing subsidies to consumers (mostly in utilities and transportation), as well as for directed credits on housing constructions that are also aimed at households. Consumer subsidies amounted to an additional 1.9 percent of GDP in 2004, which is a decline against 2.9 percent of GDP in 1999 due to increases in cost recovery in these sectors. The housing credits on average amounted to about 1 percent of GDP in 2000-04.

The current system of support has a major negative impact on credit markets. The total amount of credit allocated through direct government interventions (directed credit programs from the banks, budget loans, and credits issued with government guarantees) in 2001-04 amounted on average to about a quarter of all annual commercial bank credit in the economy. This crowds out proper commercial credit and makes borrowing much more expensive for those who cannot participate in the government programs, including small private firms.

During 2000-04, some positive changes took place in relation to the state support via tax benefits. This was partially due to the pressure from Russia in the course of negotiations on equalizing conditions for businesses in the two countries. It resulted in a gradual reduction in the amount of individual tax exemptions and benefits (from 2.1 percent GDP in 2000 to 0.5 percent GDP in 2004), and their replacement with the restructuring of tax credits and tax arrears. In addition, the accumulation of tax arrears has slowed down considerably. Hence, the reduction of the overall state support through tax expenditures amounted to from 3.0 percent of GDP in 2001 to 1.3 percent of GDP in 2004. Yet in 2004, the total value of tax benefits received by the enterprise sector was estimated at 5.8 percent of total tax revenues of the enlarged government (excluding the personal income tax), down from 12.7 percent in 2000. However, the above reduction was compensated by the increase in subsidization through other channels, including growth in banking sector's recommended lending and budget subsidies to

¹⁶² We estimated the implicit subsidy in such programs using a difference in interest rates between those available under commercial borrowing and those established under the directed credit programs.

agriculture. The costs of bank recapitalization in 2002-04 were also much higher than in the earlier period.

In general, the system of state support in Belarus lacks consistency, transparency and strategic vision. It is both widely dispersed among numerous recipients and highly concentrated (“picking-up winners”). In 2004, as reported by the Ministry of Economy, state support in the amount of about BYR 1.9 trillion has been provided to 3,651 enterprises of the real sector. 74 different presidential and governmental decisions on granting state support were issued in 2004 (which is a reduction from 133 such decisions in 2003). Some enterprises manage to get state support through different programs and from different sources (budget, off-budget funds, banking sector, etc.), and many of the largest firms have been getting state assistance annually. This further undermines transparency and accountability of the system. The provision of individual state support clearly favours large enterprises (both SOEs and former SOEs). This creates additional disadvantages for new private entry, including firms with foreign capital.

Table 9.13 Incidence of State Support, Current BYR billion and percent of GDP

	1999*	2000	2001	2002	2003	2004
1. Total tax benefits	74.1	273.8	442.4	570.2	729.5	648.4
%GDP	2.4	3.0	2.6	2.2	2.0	1.3
- Individual tax exemptions	55.1	190.2	173.5	201.0	171.2	252.2
%GDP	1.8	2.1	1.0	0.8	0.5	0.5
- Tax credits	2.1	30.4	83.6	143.7	244.5	214.6
%GDP	0.1	0.3	0.5	0.5	0.7	0.4
- Tax restructuring	7.5	6.1	34.1	71.2	225.8	273.8
%GDP	0.2	0.1	0.2	0.3	0.6	0.6
- Tax arrears, including SPF	9.4	47.1	151.2	154.3	88.0	-92.2
%GDP	0.3	0.5	0.9	0.6	0.2	-0.2
2. Budget subsidies, incl from EBFs	195.2	547.0	898.1	1050.7	1811.7	2493.0
%GDP	6.5	6.0	5.2	4.0	5.0	5.0
A. Producer subsidies	109.3	287.3	425.3	468.5	1034.5	1558.9
B. Consumer subsidies	85.9	259.7	472.8	582.2	777.2	934.1
3. Total investment grants, including from EBFs	53.7	160.5	297.3	409.6	634.8	802.7
%GDP	1.8	1.8	1.7	1.6	1.7	1.6
4. Total budget credits, including from EBFs	4.4	57.0	202.5	344.0	380.6	309.6
%GDP	0.1	0.6	1.2	1.3	1.0	0.6
5. Banking sector recommended credits**	28.0	258.2	443.3	433.1	847.6	1,636.7
%GDP	0.9	2.8	2.6	1.7	2.3	3.3
A. Producer credit		140.8	232.9	185.6	516.0	1,069.4
B. Consumer credit (housing)		117.3	210.4	247.4	331.6	567.3
6. Bank recapitalisation program		68	27	367	561	517
%GDP		0.7	0.2	1.4	1.5	1.0
7. Budget spending on repayment of guaranteed credits (called guarantees)			6.8	99.5	9.3	10.4
%GDP			0.0	0.4	0.0	0.0
Total flows, as % of GDP (w/o consumer subsidies)	8.9	10.8	9.5	9.4	10.6	9.9
Resource transfer (net subsidies and grants), % GDP	7.8	7.4	5.9	6.4	6.4	5.2
Memo: Credits issued with government guarantees, stock at the end of the year			181.7	132.9	270.8	631.8
%GDP			1.1	0.5	0.7	1.3

*We have only partial data for 1999. **Allocated under the decisions of the President and Council of Ministers.

Source: Authors' estimates based on the data from Belarus Authorities and IMF.

The system of government support to the real sector needs comprehensive reform. The first step needed is drawing up a thorough inventory of all subsidization programs (both explicit and implicit) and concentration of all information in one agency (possibly in the form of a registry or database), such as the Ministry of Economy. A strategic analysis of the existing system should be undertaken to address several key questions of government policy in this area. What is the actual amount of net resource transfer to various sectors of the economy via all types of state support programs? Is this affordable for the economy at present and in the near future? What are the expected outcomes of these interventions? What indicators should be used to measure these outcomes? Are these outcomes, the best achievable through the currently used instruments and channels? Are these instruments in conformity with the international rules (WTO, at the first instance)?

Trade Regime

Belarus trade regime is characterized by modest import tariff rates but rather extensive non-tariff barriers that discourage trade. Average import tariff rates were stable and quite modest in 1998–2003, staying in the range between 10 and 14 percent. Agricultural import tariffs, with the exception of sugar, do not seem excessively high. Although sugar is a sensitive commodity in many countries, Belarus current sugar import tariff seems unreasonably high. The fiscal importance of import taxation is quite modest, which provides a justification for simplification of the import tariff schedule, which is currently too segmented.

A large number of *ad hoc* administrative restrictions on trade exist in Belarus on both the national and local levels. They are primarily aimed at limiting import of consumer goods, and they seem to succeed in keeping the share of consumer imports relatively low. This anti-import bias in the regulatory regime is reflected *inter alia* in additional permit requirements for specific types of consumer imports and higher rates of sales tax for imported goods relative to the domestically-produced competing goods. The Government should undertake a review and to cleanse the large regulative array in order to liberalize trade. The issue of *de facto* existing minimal prices on imports, which are prohibited by the WTO Customs Valuation Agreement, but which are a reality of the customs administration practices in Belarus, has to be addressed on a priority basis.

Recently, Belarus has made considerable progress in its WTO membership bid by introducing a large mass of new WTO-compliant legislation. There was also progress on several sectoral fronts such as agriculture, standards, and intellectual property rights. Nevertheless, much remains to be done. Given that no single bilateral market access agreement has been signed yet, Belarus should be considered as a country at the early stage of accession, which could be compared to that of Russia and Ukraine 3-5 years ago. The experience of the neighbouring countries should caution the Government against excessive optimism regarding the potential speed and ease of accession.

Belarus' legislation on foreign investment and free economic zones is reasonably good. However, this has not resulted yet in sizable foreign investment due to a detrimental economy-wide business environment.

The economic integration with Russia has been a core of Belarusian foreign economic strategy of the last decade. This integration process has been important for Belarus in two fundamental ways. First, Russia provided direct demand support for traditional Belarusian exports, including labour intensive items in the machinery and equipment sector. Second, the integration process was a primary driver for recent policy adjustments, including several major reform steps, such as unification of the exchange rate and phasing out direct NBB financing of the budget deficit.

Trade with Russia played a vital role in supporting Belarus' economy through a significant resource transfer. The main channels of this transfer were discounted prices for Russian energy, non-market trade arrangements (such as barter and inter-government agreements on mutual direct deliveries), and through unilateral violations by Belarus of the provisions of the Customs Union.

The resource transfer from Russia has been significant throughout the post-Soviet period. Belarus and other CIS members continue to benefit from energy import prices that are much lower than their world market equivalent, but this effect has been steadily declining. Moreover, Belarus until recently received even better energy treatment than the rest of the CIS. When compared to the prices of gas imports to Ukraine, in 2000-03 the average annual transfer received by Belarus through lower gas prices amounted to about 2 percent of GDP. However, they mostly have dried up from 2004 on (Table 9.14). Overall, while the benefits of special economic and trade relations with Russia are still large, their relative impact has been on decline.

Table 9.14 **Estimated Economic Gain of Belarus from Depressed Import Gas Prices (USD)**

	2000	2001	2002	2003	2004
1 Actual purchase price, USD/MCM	30.7	31.1	30.6	36.9	46.7
2 Benchmark gas price, USD/MCM	50.0	50.0	50.0	50.0	50.0
3 Volume of imported gas, bcm	17.1	17.3	17.6	18.1	19.6
4 Import gas price subsidies, USD million	330	327	341	237	65
5 Transit fee discount, USD million	33	33	37	42	44
6 Adjusted subsidies (=4-5), USD million	297	294	304	195	21
7 GDP, USD million	12,758	12,421	14,653	17,513	22,889
8 Subsidies to GDP, %	2.3%	2.4%	2.1%	1.1%	0.1%

Source: World Bank (2005 a).

Barter arrangements in Russian-Belarus trade, while substantial in the earlier years, however, amount to a small share of trade today. In the earlier years of transition,

however, barter arrangements were critical for maintaining bilateral trade at a high level, since the market mechanisms needed time to fully develop.

As stated above, unilateral violations by Belarus of the Customs Union provisions represent another channel of resource transfer from Russia. For instance, in the mid- and late 1990s, Belarusian importers used to obtain (on a case-by-case basis) the waivers of import and excise duties and then re-export to Russia without paying duties at the Russian border. Such schemes were especially profitable for excisable goods (e.g., alcohol, vehicles). They were abolished, however, following the Russian government's protests.

In addition, the existing Customs Union appears non-symmetric in terms of market access. Belarus has been pursuing an aggressive strategy of penetrating the Russian market using its government capacity and exploiting the benefits of the Customs Union. At the same time, Belarus has the second largest number of contingency measures on Russian exports to Belarus among all trade partners (after only the EU)¹⁶³, while the Russian measures against imports from Belarus are limited to sugar. This can be partially explained by a modest share of imports from Belarus in total Russian imports.

Belarus has so far used rents associated with special relations with Russia quite strategically. A large portion of it was centralized by the government and used for various public programs, including infrastructure investments, enterprise support, and social assistance throughout the economy.

A potential erosion of the Belarusian comparative advantage in Russian markets due to either unexpected political shifts or economic reasons represents a significant risk. In particular, a major potential challenge may come from a future higher pace of restructuring in the Russian (mostly private) corporate sector relative to the restructuring rate that Belarusian SOEs could afford. As mentioned above, in recent years, there have already been signs of increasing competitive pressures faced by Belarus' exports in the Russian market. On the import side, in the medium term Belarus will face unavoidable costs of adjustments that relate to future higher prices for Russian gas and oil. The latter costs, as measured against actual 2003 energy prices and import volumes, exceeded 6 percent of GDP a year.

7. Priority Directions for Reforms – How to Enhance Competitiveness and Sustain Economic Growth

In the longer term, if aiming for sustained growth, the Government of Belarus needs to make a determined push for advancing a comprehensive reform program to accelerate its transition to a market economy. These efforts should address a number of pending issues in all the core areas of liberalization,

¹⁶³ According to the Russian Ministry of Economy and Trade estimates, the 2004 annual loss of Russian exports to Belarus due to the contingency measures exceeded USD250 million.

macroeconomic stabilization (including price and exchange rate stability), privatisation, and wide-ranging structural reforms. Despite their up-front costs, the structural reforms (including public administration, legal and judicial, social assistance and insurance, and infrastructure reforms) represent a critical element of the sustainable growth strategy. This chapter recommends that the GOB may use the current window of opportunity, associated with the favourable external and internal economic environment, to accelerate the reform process without much delay.

In the case of Belarus, the level of FDI attracted should be seen as an indicator that summarizes the economy's longer-term potential to sustain growth and competitiveness. Belarus seriously underutilizes the advantages of its geographic location as a basis for attracting FDI and restructuring its trade patterns. Addressing this weakness should be a policy priority. FDI inflows would ease the financing constraint, facilitate technology transfer, and provide access to new product markets. Even if there are concerns about widespread foreign ownership, liberalizing economies in other regions have generated considerable gains from channelling foreign investments through joint ventures.

This chapter, however, is primarily focused on a narrower set of key reform priorities, which could be sufficiently advanced within the very gradualist approach toward market transformation explicitly chosen by the Government. Many of the recommendations that follow are fully consistent with the objectives outlined in the various government development programs. These recommendations intend to help the GOB address the immediate growth challenges, as identified by the chapter's analysis, which otherwise may pose a risk for attaining government policy targets in the areas of wage and employment growth and poverty reduction.

The focus of the chapter's recommendations is on two inter-related challenges the Government must address in order to strengthen the competitiveness of the economy as a source of sustainable growth:

- **Imposing stricter market discipline** on the existing enterprise sector in order to accelerate its restructuring and productivity growth at the micro level; and
- **Encouraging the expansion** of both new and fully restructured traditional firms that proved to be quite competitive without state support.

Market Discipline

The main strategy for disciplining traditional enterprises could be summarized as follows:

- **Restructuring and drastically downsizing the existing system of state support to the real sector,** including strengthening the discipline in the financial sector through discontinuation of regular recapitalization of state-owned banks and winding down directed credit programs and moving the residual quasi-fiscal

activities from the banking sector to the budget. This would help to sustain the fiscal balance under lower statutory tax rates. Moreover, this would improve incentives for enterprise restructuring and equalize business conditions among different types of business entities.

- **Accelerating the exit of non-viable firms.** A shift toward a more pro-business economic policy in Belarus should employ at least some highly visible cases of bankruptcy and liquidation of non-viable large enterprises. Such liquidations would be important to support several other improvements. First, they would send an important signal to the entire real sector and thus would have an essential incentive effect. Second, they would bring some additional fiscal savings. Third, they would release economic resources for new firms.
- **The GOB should initiate the preparation of the pilot program of large-scale privatisations** to cover several efficient SOEs (including state banks), which could be privatized competitively in an orderly and transparent way.
- **Further trade liberalization and exposure of local producers to international competition** are critical for strengthening the effects of market discipline on enterprise restructuring and productivity growth. The Government should greatly reduce the existing non-tariff restrictions on imports, as well as phase out the restrictions in trade with Russia that are inconsistent with the Custom Union agreements.
- **The Government should advance its international integration efforts in both WTO and CIS directions.** The experience from other transition economies suggests that the trade negotiations, especially those on WTO membership, could become an important driver for a number of domestic reforms. The Government should be prepared to advance its trade negotiations by reducing the current level of subsidization in agriculture and industry, including exporters. In addition, much more progress is needed in liberalizing and de-monopolizing a number of sectors, such as financial services and telecommunications.

Encourage new business growth

The competitiveness of the Belarusian economy is greatly constrained by unnecessary business costs associated with the current government policies. The economy is also affected by depressed new entry that undermines its flexibility as well as capability to withstand potential shocks. There is an urgent need for policy adjustments along the following primary directions:

- **Reducing the tax burden and reforming the tax structure.** The priority is to reduce the incidence of the most distortionary taxes, such as turnover and payroll taxes. The latter would create additional incentives to accelerate the pension reform that may include an increase in the retirement age. The existing implicit taxes on the industrial sector should be phased out as well. This will require steps to advance divestiture of enterprise social assets, elimination of tariff cross-subsidization in utilities, and provision of agricultural inputs at fixed low prices.

- **Liberalizing employment and wage policies.** Enterprise managers need more decision-making powers on labour and wage issues, while the Government should discard its use of administrative controls to attain wage increase targets. Combining this policy with a renewed impetus to support new market entry would limit its potential negative effects on overall employment.
- **Advancing price liberalization** by phasing out the residual price control, including downsizing the list of enterprises that are subject to price control as monopolists, as well as the list of regulated export prices. This also includes further liberalization of interest rates. In agriculture, producer price levels need to be brought much more into line with international prices. In an economy that has been increasingly internationally integrated, the GOB could rely on competition as a primary tool to avoid excessive price growth.
- **Reducing the level of day-to-day regulatory costs.** By launching a more efficient dialogue with the business community, the Government should be able to identify and reduce various unnecessary costs that stem from inefficiencies in the regulatory regime. The priority areas for actions may include: (i) reforming tax administration to make the system simpler, more stable and predictable; (ii) halting the recent trend of deterioration in customs administration, which includes addressing the issue of customs valuation practices; (iii) liberalizing procedures for new entry (by reducing the time needed for business registration and simplifying the procedures); (iv) reducing informal market protectionism and trade barriers at the regional level; and (v) consolidating the tariff schedule.
- **Limiting discretionary administrative interference.** The Government needs to change the incentive system for the regulatory agencies to discourage their discretion in enforcing regulatory requirements. Among other things, this means a drastic reduction in “unplanned tax inspections” and similar interventions, which are the most detrimental to the business climate. In agriculture, able managers of state-controlled farms should be given much greater decision-making autonomy. Also, businessmen should be offered an independent channel to the central administration to challenge irregularities in regulatory interventions. This is something that the Government can accomplish without a fundamental overhaul in the underlying system of regulations.
- **Accelerating reform in the standards system.** Although the needed legislative framework is mainly in place, slow reform implementation has not yet allowed a switch from the excessive compulsory regulation inherent in the ex-Soviet GOST system to the modern two-tiered system of internationally-compatible mandatory technical regulations and voluntary standards.
- **Consolidating recent progress toward a stable macroeconomic environment,** including tightening monetary conditions to lower inflation and taking additional measures to scale down government interventions in the economy (including quasi-fiscal activities) and thus lower government financing requirement and interest rates. Sustained macroeconomic stability is critical for strengthening enterprise incentives for restructuring and investments.

- **The Government must also invest considerable resources in improving the country's investment image if it is serious about attracting any sizeable foreign investments.** As a starting point, the Government should take several highly visible decisions to address the most common concerns of the private sector. For instance, the golden share rule should either be abolished or made much less intrusive, and its future application should be legally restricted to a narrow set of cases that directly relate to the strategic interests of the state. It would also be advisable to establish a specialized institution for investment promotion, which would employ best international practices in this area and could support a broad communication campaign to develop Belarus' image as an attractive location for business and investment.
- **Attracting foreign investments is of special importance for future rehabilitation and modernization of the energy sector.** Over the next decade the sector will be facing a growing demand for investments that most likely cannot be met internally. In order to secure external financing, the energy sector structure and governance arrangements should be adjusted through structural and institutional transformations, such as unbundling the existing monopolies, introducing disclosure and corporate governance principles, and developing public-private partnerships. Establishing an independent regulatory agency and investing in its capacity building would make the sector more attractive for external investors, while also help to promote both improvements in energy efficiency and better quality service delivery.
- **The food processing industry represents a sector that should become a major beneficiary of FDI.** Development of export-oriented food processing requires substantial investment to underpin efficiency and, most importantly, to ensure adequate product quality. At the same time, experience elsewhere has shown that modernization and efficiency improvements in primary agriculture can occur quickly once they are driven aggressively by a modernized and internationally competitive processing sector.

8. Conclusion – Major Risks of the Current Growth Strategy and Way Forward

The analysis in this chapter has documented the significant and broadly-based growth that took place in Belarus since the middle 90s, while points to the erosion of several important factors that have been driving this growth recently.

The Belarusian economy is facing a considerable risk of declining competitiveness. The real sector is seriously affected by high administrative and labour costs, excessive taxation, and high costs of financing. The pace of export diversification is slow, which imposes the economy to additional external shocks.

To sustain growth, a significant policy adjustment is necessary to enhance market discipline and encourage new business entry.

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Chapter 10

Why is Financial Strength Important for Central Banks?

Franziska Schobert¹⁶⁴

1. Introduction

Central bank financial strength matters at least for two reasons: First, the availability of financial resources enables the central bank to perform its tasks independently. Second, market expectations could be influenced by a financially weak central bank, which could compromise monetary policy credibility (Blejer and Schumacher, 1998, Stella, 2002). Some studies focus on the role of central bank capital as a buffer against financial risks (Stella, 1997, Bindseil et al. 2004). It is, however, not all that matters. Capital depends on the accounting and profit distribution rules of the central bank. As there is a remarkable diversity of practice in these areas among central banks, this means that what capital represents in one central bank is very different from what it represents in another (Stella, 2003). Furthermore, the composition of (on and off) balance sheet items and therefore, the financial risks to which the central bank is exposed is very heterogeneous. The chapter, therefore, will focus on two particular balance sheet items that bear financial risk to central banks, so called junk assets and sterilization instruments. Junk assets have been accumulated due to some form of government financing for example as the result of the participation of the central bank in the restructuring of the financial system or as the result of financial support to the government, state-related banks or enterprises. These assets have in common that they bear no return or a return below market rates and therefore expose the central bank to substantial credit risk. Sterilization instruments are market-based means through which the central bank will conduct sterilized intervention in face of capital inflows, if it does not want to permit an exchange rate appreciation or an induced and possibly inflationary increase in base money (Mackenzie and Stella, 1996). The central bank, thus, aims at two goals, an exchange rate target and internal price stability. Sterilization, however, incurs costs, the difference between the interest cost paid by the central bank and the interest earned on the foreign assets acquired with the foreign exchange purchase. It therefore also exposes the central bank to financial

¹⁶⁴ The opinions expressed are those of the author and do not necessarily represent the opinion of the Deutsche Bundesbank.

risk and can be the origin of substantial central bank losses (Dalton and Dziobek, 2005, Hawkins, 2003).

The chapter compares central banks in the new EU member and EU acceding & candidate countries with central banks in the Commonwealth of Independent States (CIS). The group of new EU member countries, the Czech Republic, Hungary, Poland, the Slovak Republic and Slovenia and the EU acceding & candidate countries, Croatia, Romania and Turkey, exclude the countries that have opted for very fixed exchange rate regimes and therefore either do not intervene and sterilize at all, like countries with currency board arrangements, or mainly aim at an explicit exchange rate target. The group of CIS countries excludes Belarus, Tajikistan, Turkmenistan and Uzbekistan, due to the availability of data.

The chapter starts with analysing the importance of market-based sterilization versus other forms of sterilization and then proceeds with a closer investigation of junk assets in central banks' balance sheet and their link to past inflation compared to traditional indicators of central bank independence.

2. The Effect of Sterilization on Central Bank Balance Sheets

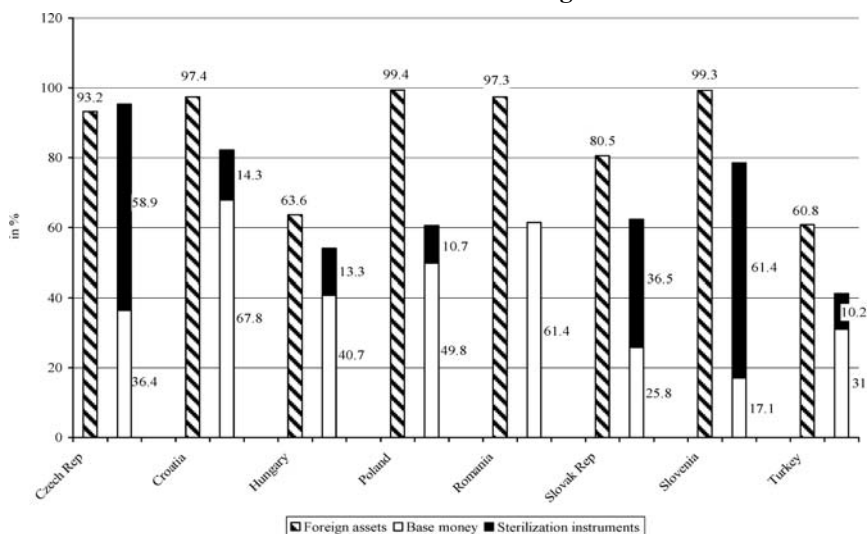
In Figures 10.1 and 10.2 the share of foreign reserves on the asset side and base money and sterilization instruments on the liability is shown as a percentage of the balance sheet.¹⁶⁵ At most of the new EU member countries and EU acceding & candidate countries foreign reserves dominate the asset side of the balance sheet. Foreign reserves more than cover base money, sometimes even more than twice. Sterilization instruments are an important item on the liability side apart from Romania. The large amount of sterilization instruments points at sizeable sterilization costs even if domestic interest rates have decreased during transition and the EU accession process. In fact, Schobert (2005) calculates sterilization costs between 0.1 and 1.4 percent of GDP annually on average for the period 1999 to 2003 for this group of countries.¹⁶⁶

Due to the currency mismatch between foreign reserves on the asset side and base money and sterilization instruments in domestic currency on the liability side valuation gains usually should help to compensate sterilization costs. Since some currencies in this group of countries are already appreciating against their reserve currencies, however, valuation gains sometimes have turned into valuation losses. According to Schobert (2005) these losses can range between 0.1 and 0.3 percent of GDP annually on average for the period 1999 to 2003 for the Czech Republic, Croatia and the Slovak Republic.

¹⁶⁵ For the definition of sterilization instruments in the central banks' balance sheet, see Schobert (2005).

¹⁶⁶ As central banks generally do not reveal the currency structure of foreign exchange reserves the calculation depends on certain assumptions.

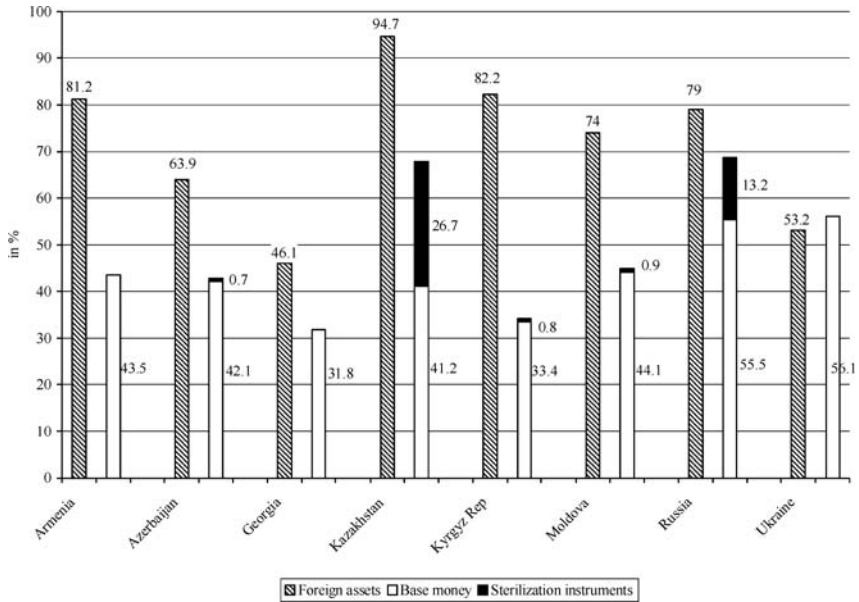
Figure 10.1 Foreign reserves, sterilization instruments and base money as a share of central bank balance sheets at the end of 2003 – new EU member and EU acceding & candidate countries



Source: Financial statements of central banks, 2003

In contrast, the share of sterilization instruments is fairly low in the group of CIS countries apart from Kazakhstan and Russia. The relatively low stage of development in implementing indirect monetary policy instruments and in opening the capital account can be possible reasons.

Figure 10.2 Foreign reserves, sterilization instruments and base money as a share of central bank balance sheets at the end of 2003 – CIS countries



Source: Financial statements of central banks, 2003

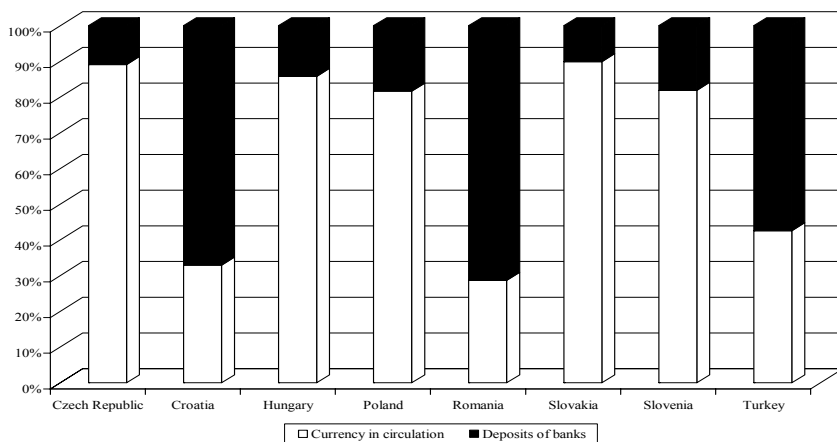
Other reasons, however, could be that these countries tolerate higher inflationary risk that is caused by higher liquidity created by interventions or simply do not intervene at all but leave exchange rate developments up to market forces. Sterilization costs can be expected to increase if the first two reasons are more relevant and the use of marketable assets in monetary policy implementation and capital inflows become more important during transition.

Some central banks use less market-conform means to sterilize interventions, i.e. regulatory changes to bank's deposits or changes in government deposits. Figures 10.3 and 10.4 show the two components of base money, cash in circulation and bank's deposits, as a share of base money at the end of 2003. A high share of banks' deposits indicates that the central bank may exploit their sterilizing effect. In Romania, Croatia and Turkey, banks' deposits comprise close to two third of base money at the end of 2003 as shown in Figure 10.3. This alternative form of sterilization, however, is not without costs. Even though not covered by the traditional measurement of sterilization costs, remunerated banks' deposits can cause sizeable interest expenses for these central banks.

Other central banks use changes in government deposits in order to sterilize interventions. Figures 10.5 and 10.6 show the development of foreign assets to government deposits in central banks' balance sheets. A smooth development indicates that the central bank changes government deposits with foreign assets in

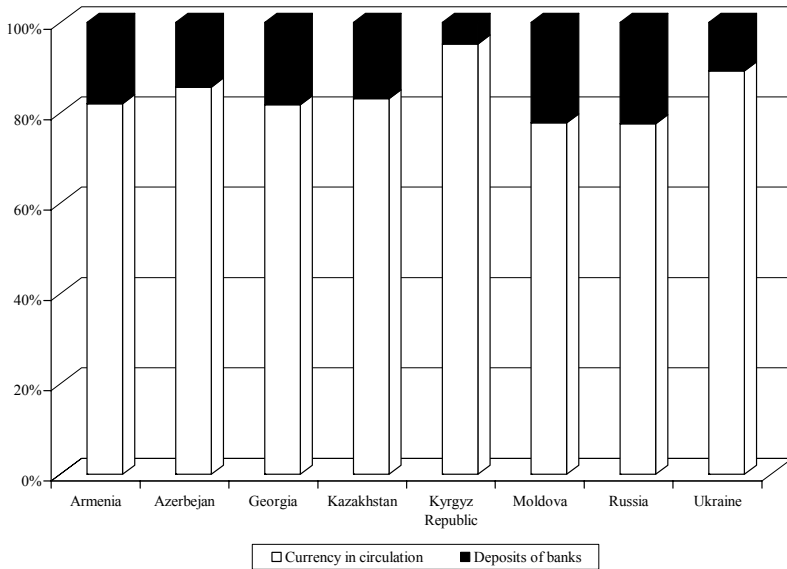
order to sterilize the liquidity effect of interventions. The evidence suggests that Russia and Kazakhstan use changes in government deposits extensively in order to sterilize. These operations, however, demand a close cooperation between the central bank and the Ministry of Finance, which may sometimes be unwanted.

Figure 10.3 Cash in circulation and banks' deposits as a share of base money at the end of 2003 – new EU member and EU acceding & candidate countries



Source: Financial statements of central banks, 2003

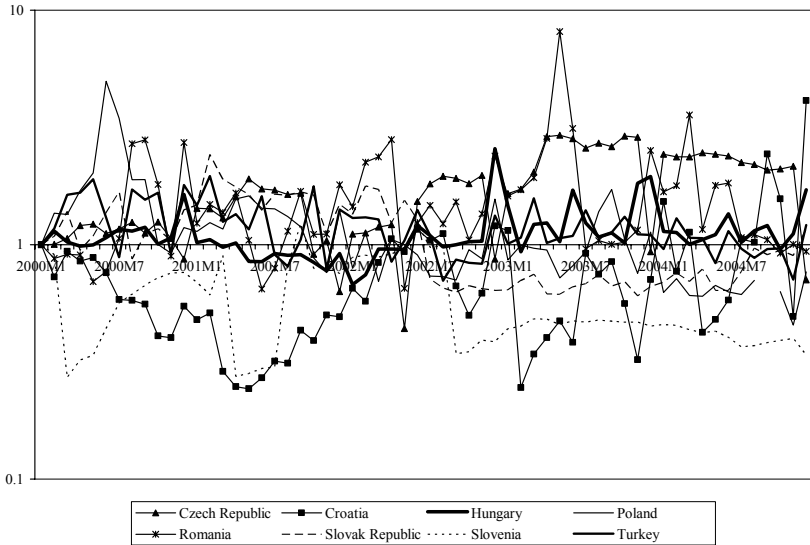
Figure 10.4 Cash in circulation and banks' deposits as a share of base money at the end of 2003 – CIS countries



Source: Financial statements of central banks, 2003

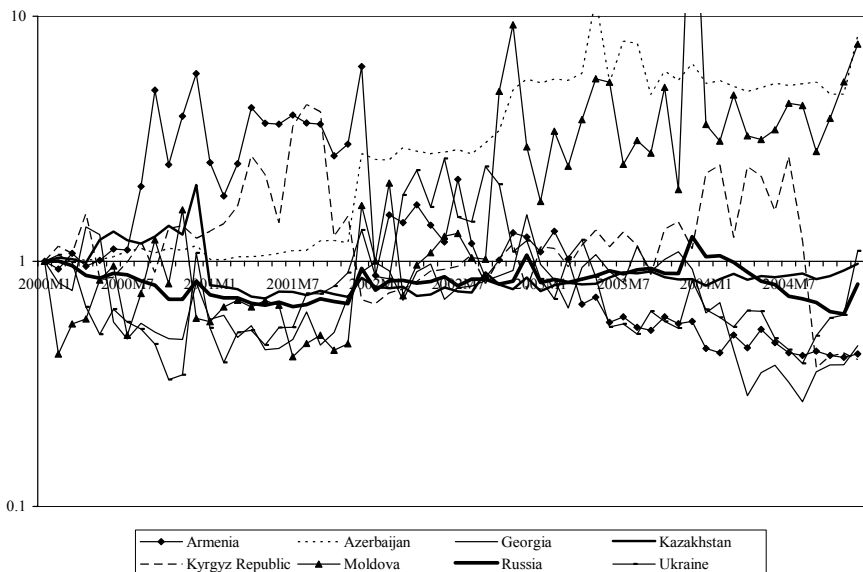
Thus, the comparison between the countries shows, that sterilization by using market-oriented monetary policy instruments is more important at central banks that have reached a more advanced stage of transition. As long as sterilization costs can be compensated by valuation gains on the portfolio of foreign reserves, the combined effect of sterilization costs and valuation gains can still be profitable for the central bank. Central banks that have been successful in stabilizing their exchange rates, however, can incur substantial valuation losses. As long as domestic interest expenditures on sterilization instruments are still higher than the corresponding return on foreign assets, sterilization and valuation changes can then jointly create substantial losses for the central bank.

Figure 10.5 Ratio of foreign assets to government deposits in central banks' balance sheet from 2000 to 2004 – new EU member and EU acceding & candidate countries



Source: IMF, International Financial Statistics, logarithmic scale

Figure 10.6 Ratio of foreign assets to government deposits in central banks' balance sheet from 2000 to 2004 – CIS countries



Source: IMF, International Financial Statistics, logarithmic scale

3. The Link between Junk Assets and Independence

Junk assets are another factor that can put a burden on central banks' performance. Its importance seems to differ with the stage of transition. The share of junk assets in central banks' balance sheets is generally fairly low in the NMS, while it is substantial at some central banks in the CIS countries and in Turkey.

In all new EU member countries junk assets are now negligible. In case they are still existent, they usually comprise less than 1 percent of total assets at the end of 2003. In the Czech Republic the share of junk assets, 4.2 percent of total assets, is relatively higher, but nevertheless fairly moderate and mainly originates from the net value of classified loans, remnants from the banking crisis in 1997.

Croatia and Romania, two of the three EU acceding & candidate countries, also have shares of junk assets below 1 percent. The balance sheet of the Central Bank of Turkey, however, is heavily burdened with junk assets. More than one third of total assets or almost 8 percent of GDP at the end of 2003 comprises government debt that was accumulated during the restructuring of the banking system after the financial crisis in 2000/01 (see Binay, 2003, p.253 and Box 10.1).

Box 10.1 The origins of junk assets at the Central Bank of Turkey

The Central Bank of Turkey is a classic example of a central bank that carries the financial consequences of government interferences in the banking system, which resulted in so called duty losses (IMF, various country reports). The central bank was eventually involved in the clean-up of the banking system and thereby engaged in indirect government financing. Direct government advances to the fiscal authorities in order to avoid further strains on already high levels of domestic debt service payments were common in the past and increasingly used before the currency crisis in 1994. In 1997, however, central bank advances to the fiscal authorities were banned. As the direct channel of financing via the central bank was closed, a form of quasi-fiscal financing became prominent, so called duty losses of banks. These have arisen from quasi-fiscal activities, which were run by the two largest state banks on behalf of the government. They mainly included the provision of subsidized credits to farmers and small and medium-scale businesses and the collection of taxes and the payment of salaries to civil servants and public sector workers. Up until around 1994-1995, the costs of these activities have been borne by the banks. As financial liberalization progressed, these banks lost market shares, their profitability eroded and large deficits started to build. These were then filled by an accumulation of claims on the government and they were shown on banks' balance sheets as claims on special duty accounts thereby avoiding losses to materialize. Interest payments on these claims were accumulated. The government, thereby, received a non-interest bearing loan in order to finance subsidies. This not only avoided interest expenditures in the budget, but also lowered the pressure on the treasury bill and government bond markets. Finally, the system collapsed and led to the financial crisis in 2000/01 and thus, ultimately to the burden on the central banks' balance sheet.

Russia's share of junk assets, 14 percent of total assets or 3 percent of GDP at the end of 2003, mainly consists of restructured government securities due to the financial crisis in 1998 and of foreign exchange loans to the Ministry of Finance in 1998/99. Vyugin (2003, p. 223) clearly explains the origin of these assets from quasi-fiscal operations and describes how the operations circumvented the central bank law and the budget code, which both prohibit central bank financing of the budget deficit by buying government securities on the primary market.

In the Ukraine junk assets, about 26 percent of total assets or 7 percent of GDP at the end of 2003, mainly comprise so called Internal State debt and government securities. The notes to the financial statements 2003 describe the origin of the junk assets from indirect financing of the government, the reasons why they bear low or no return and the ongoing discussion they create with the Ministry of Finance (see Annual Report, 2003, National Bank of Ukraine, p. 109 and Box 10.2).

Box 10.2 The origins of junk assets at the National Bank of Ukraine

Junk assets at the National Bank of Ukraine originate from past government financing of the central bank, which after restructuring has turned into a portfolio of poorly performing assets.

The portfolio of junk assets at the National Bank of Ukraine partly consists of government securities and partly of so called Internal State debt.

One part of government securities was issued in 1998-2000 and restructured in October 2000, after which the National Bank of Ukraine received interest bearing government bonds. The interest rates, however, are annually set by the Ministry of Finance and based on the projected inflation rate for the current year, partly adjusted for differences between projected and actual inflation for the preceding year. Due to deflation in 2002, the Ministry of Finance decided to pay no interest in 2003. The other part of government securities are promissory notes of the State Treasury received as part of the restructuring of accrued income on domestic Government bonds due in 2000-2004. They are non-interest bearing.

Internal State debt, the other part of the portfolio of junk assets, was created in accordance with the Law "On Restructuring the Debt of the Cabinet Of Ministers of Ukraine to the National Bank of Ukraine". One part of Internal State debt comprises restructured loans granted in 1994-1996 in national currency. Repayment should start from 2010 until 2035. Since the Law does not specify the period of interest accrual, interest income on these loans is not recognised in the income statement. The other part of Internal State debt is in US dollar and due to be repaid from 2002-2009. However, the Laws of the State budget for 2002-2004 did not provide sufficient funds for the repayment and the central bank has approached the government to resolve this issue.

Shares of junk assets at other central banks are due to restructured government securities (Azerbaijan, Kyrgyz Republic and Moldova, 5.4 percent, 11.9 percent

and 25 percent of total assets), or bad debt to the state-related energy sector (Georgia, 6.2 percent of total assets).

Because the accumulation of junk assets originates from some form of government financing, it also carries information on the degree of central bank independence, even though direct central bank lending to the government is often formally prohibited or seriously restricted by the central bank statutes. It will also signal deficiencies in central bank independence, if the accumulation of junk assets has originated in past periods in which financial crises forced the central bank in its role as a lender of last resort. A central bank that is not able to gradually decrease the amount of junk assets signals a lack of bargaining power in negotiations with the national treasuries.

The analysis by Schobert (2005) shows that junk assets can even have a closer link to past inflation than traditional independence indicators that are based on the institutional design codified in central bank statutes and not on behavioural aspects. For this purpose annual average inflation during 1999 to 2003 is compared with indicators for political and economic independence as developed by Grilli et al. (1991) in Figures 10.7 and 10.8 and with the share of junk assets at the end of 2003 in Figure 10.9.

The scatter plots in Figures 10.7 and 10.8 show no link between the indicators of central bank independence and average past inflation. The indicator for economic independence even shows the opposite sign for the correlation coefficient than should be expected. In contrast, Figure 10.9 indicates a positive link between the share of junk assets and past average inflation. Furthermore, Romania clearly is shown as an outlier. Without Romania the correlation coefficient would increase to 0.81.

The evidence supports the view that a government will be more likely to burden the central bank balance sheet with junk assets, if the central bank is less independent to withstand these quasi-fiscal operations. This can give better information on the limited success of these central banks in achieving price stability than traditional central bank independence indicators. Romania, however, gives an example of a central bank that has high average inflation without having a significant share of junk assets. One explanation could be the fact that Romania has been an EU accession country for many years. This could have worked as an external anchor that accelerated the clean up of the central bank balance sheet without being successful in controlling the multiple channels of inflation. There is, however, no central bank in the sample that has a successful track record in fighting inflation despite having a high share of junk assets.

Figure 10.7 Inflation and central bank indicator for political independence

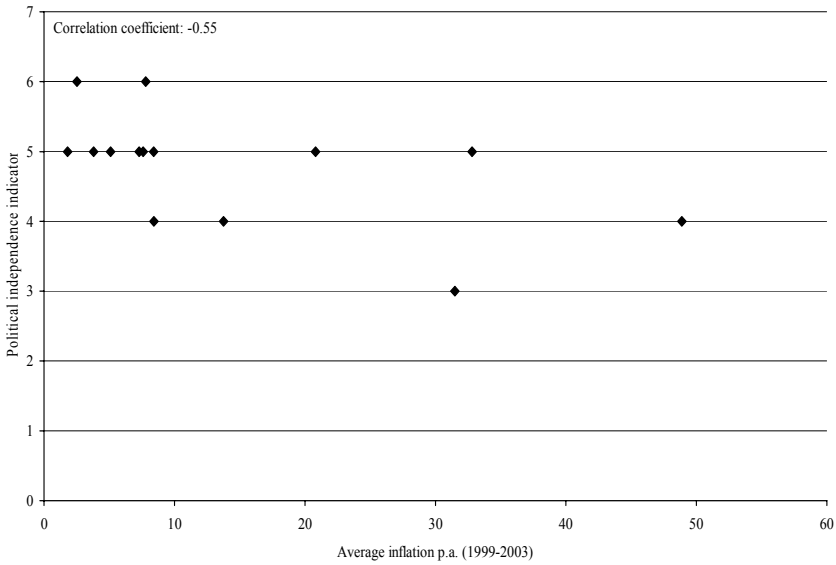


Figure 10.8 Inflation and central bank indicator for economic independence

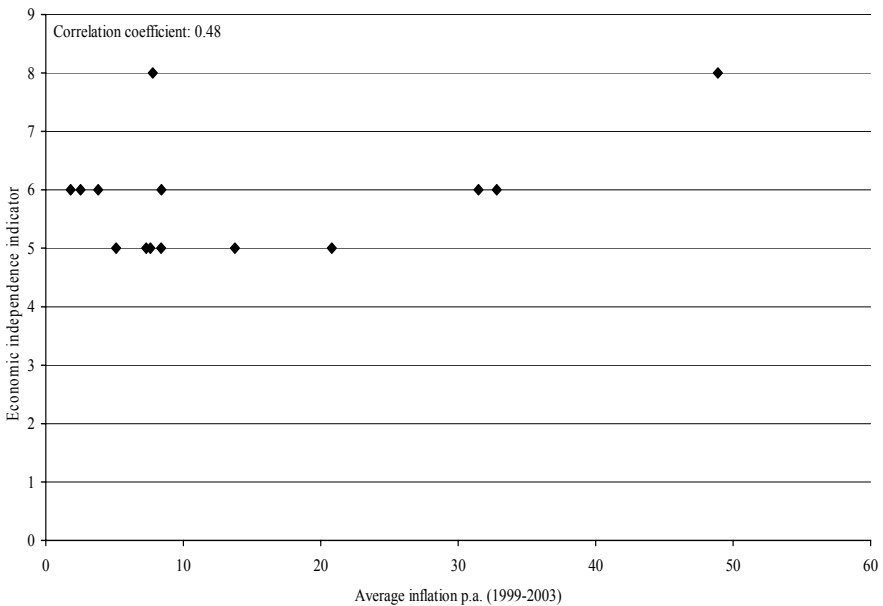
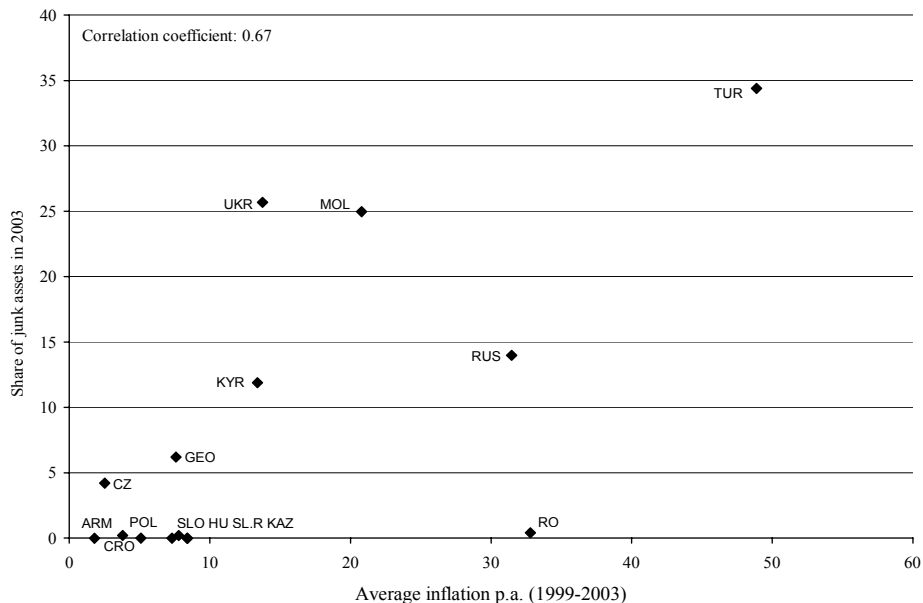


Figure 10.9 Inflation and share of junk assets

4. Conclusion

The chapter explores risks to the financial performance of central banks in Central and Eastern Europe, Turkey and CIS countries arising from two factors, the impact of sterilization instruments and the share of junk assets in central banks' balance sheets. The analysis is related to central bank independence, because a financially weak central bank lacks sufficient financial resources to cover its expenses and therefore impairs its financial independence. Furthermore, a large share of junk assets may indicate that the central bank has been less independent to withstand government financing and now still has not enough bargaining power to resolve the issue.

Differences between the two factors impacting on the financial soundness of central banks seem to depend on different stages of transition.

Central banks in the new EU member countries are in an advanced stage of transition. Their balance sheets are fairly clean regarding junk assets, whereas the share of sterilization instruments is important. Sterilization costs, therefore, can still be substantial, even if domestic interest rates have decreased. Furthermore, valuation gains of the corresponding foreign exchange portfolio that have often compensated sterilization costs in the past can now turn into valuation losses as some of their currencies are already appreciating against their reserve currencies.

In contrast, sterilization instruments still play a minor role in most central banks' balance sheets in CIS countries and EU acceding & candidate countries.

Some of these central banks have, nevertheless, used other, less market-oriented forms in order to sterilize the liquidity effects of interventions, i.e. regulatory changes in banks' deposits and changes in government deposits. Sterilization by increasing required reserves is a less market-oriented instrument that will leave the domestic financial system with a competitive disadvantage, if reserves are not remunerated at market-related rates. If they are remunerated, however, they also create costs, even though these costs are not covered by the traditional measurement of sterilization costs. Sterilization by increasing government deposits requires a closer cooperation with the Ministry of Finance which may sometimes be unwanted.

Junk assets, however, play a more important role at the Central Bank of Turkey and at some central banks in CIS countries. These assets have offered the government a way to move problems to the central bank without making them transparent in the budget and finally in the measurement of government debt. Junk assets can signal a lack of central bank independence: They reveal quasi-fiscal financing to the government even though direct financing is prohibited in their central bank statutes nowadays and they create ongoing discussions with the Ministry of Finance on how to deal with them. The share of junk assets as an alternative indicator will show a closer link to inflation, if it is compared to independence indicators that are solely based on the institutional design of central banks. This leads to the conclusion that traditional indicators of central bank independence may have lost their significance, since central banks have "learned their lesson", at least on paper and that junk assets could provide an important missing link on this topic.

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Chapter 11

The Impact of Financial Openness on Economic Integration: Evidence from Europe and the CIS

Fabrizio Carmignani and Abdur Chowdhury¹⁶⁷

1. Introduction

This chapter aims to assess whether financial openness facilitates¹⁶⁸ international trade in goods and services and per-capita income catching-up across countries in Europe and the CIS. Its motivation is twofold. On the one hand, the widespread progress on capital account liberalization, the massive increase in financial flows across the borders, and the financial crises that hit emerging economies in the '90s have stimulated a lively debate on the broad economic effects of financial openness. This chapter contributes to the debate by focusing on two of the dimensions that most critically characterise the process of economic integration, namely international trade and income convergence. On the other hand, as the current wave of globalization has placed economic integration among top priorities in policymakers' agenda, widespread interest has emerged on the factors

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¹⁶⁸ For a discussion on this issue see, among others, Abiad and Mody (2005).

and policies that best promote it. This chapter provides empirical evidence on whether financial openness is to be included among such policies.

Several features characterize this chapter relative to the existing literature. First, the analysis specifically separates the concept of financial openness from that of international financial integration. These have often been used interchangeably in the literature, but the relationship can be characterised as mean-goal¹⁶⁹. Financial openness is the process of lifting administrative or legal restrictions to capital movements and hence creating the necessary conditions for the integration of the domestic financial system into the global market. Thus, financial openness is a necessary but not a sufficient condition to achieve international financial integration. Operationally, the analysis in this chapter will employ different empirical proxies: financial openness will be measured by an index of capital account restrictions, international financial integration will be measured by portfolio-based and equity-based capital flows.

Second, specific attention will be devoted to disentangling the effect of financial openness from that of domestic financial development. As the two phenomena are expected to be positively correlated, the variables used to proxy for financial openness might also capture the effect of domestic financial development on economic performance. The resulting spurious estimates could then lead to an overestimation of the actual impact of financial openness. To address this problem, the econometric model will include indicators of the depth of domestic financial markets in addition to measures of financial openness¹⁷⁰.

Third, most of the literature on the effects of financial openness (or financial integration) on economic performance essentially looks at economic growth.¹⁷¹ This chapter instead directly considers the income difference between rich and poor countries, thus assessing the differential impact of financial openness on the speed of catching-up. Moreover, in studying the contribution of financial openness to international trade, this chapter extends the existing research on trade empirics by considering variables not included in previous studies using gravity equations¹⁷².

Finally, the country coverage includes countries from western, central, eastern and south-eastern Europe as well as the Commonwealth of Independent States (CIS)

¹⁶⁹ See, for instance, the discussions in De Brouwer (1999) and Le (2000).

¹⁷⁰ Guiso et al. (2004) provides an in-depth analysis of the link between financial development and financial integration focusing on the EU countries. They claim that most of the growth pay-off from financial integration occurs through domestic financial development.

¹⁷¹ See Hali et al. (2004) for a survey.

¹⁷² Rose (2004) surveys the variables and channels that are most often investigated in the literature on the macroeconomic determinants of international trade.

and North America¹⁷³. The sample thus consists of countries at sufficiently different stages of development, distributed along a continuum spanning from high to low-income countries, but with relatively strong incentives towards forms of regional cooperation and integration. In this respect, the analysis is linked to the fast growing literature on regional economic integration¹⁷⁴. Furthermore, evidence specifically relating to the experience of formerly centrally planned economies will be provided.

The key results of the analysis can be summarised as follows. Financial openness, that is the degree to which international capital movements are not restricted, is a powerful force driving economic integration in terms of both international trade and per-capita income convergence. This conclusion holds after controlling for the impact of domestic financial development and a number of other determinants of economic integration. The effect is particularly strong, at least with respect to the trade dimension of economic integration, for transition and post transition economies. International financial integration, that is the effective degree of involvement of domestic markets into global financial links, also promotes economic integration to a significant extent.

The rest of the chapter is organised as follows. Section 2 briefly surveys the theoretical hypothesis on the impact of financial openness on the two dimensions of economic integration. Section 3 introduces the econometric methodology and explains the specification of the model. Section 4 discusses the results. Section 5 concludes, drawing some policy implications and pointing to future lines of research. Tables and description of the variables are presented in the Appendix.

2. Some Theoretical Background

This chapter evaluates the effect of financial openness on two dimensions of economic integration: international trade in goods and services and convergence of per-capita income across countries. The theoretical underpinnings of the analysis are spelled out in this section.

2.1. Financial Openness and Convergence of Per-Capita Income.

Economic growth theory provides the rationale for linking financial openness (and financial integration) to per-capita income. In both neo-classical and endogenous growth models, per-capita income at a generic time t is determined by technology and rates of accumulation of production factors (labour, physical and human

¹⁷³ This sample coincides with the membership of the United Nations Economic Commission for Europe and it is therefore characterised by some significant degree of cooperation and integration on socio-economic matters

¹⁷⁴ For a recent overview of this literature see Schiff and Winters (2003).

capital)¹⁷⁵. Several channels have been proposed in the literature to suggest that financial openness impacts on such determinants of per-capita income.

One channel (see Bailliu, 2000) points to possible technological spillovers arising from capital account liberalisation, which spurs capital inflows and investments from abroad. Related arguments emphasise other spillovers eventually stemming from transfers of skills and increased competition. Another strand of research (i.e. Bekaert and Lundbloom, 2001; Henry, 2003) suggests that financial openness will broaden risk-sharing opportunities for domestic investors, thus reducing the cost of equity capital and hence increasing investment and the rate of capital accumulation. Moreover, better risk-sharing options will allow countries to shift their investment mix towards riskier and hence higher-return projects (i.e. Obstfeld, 1994 and Acemoglu and Zilibotti, 1997). On a different ground, the political economy literature has pointed out the role of financial openness as a commitment technology device (i.e. Bartolini and Drazen, 1997). When economic policies are dynamically inconsistent, capital account liberalization signals government's intention to stick to macroeconomic and financial discipline. This, in turn, reduces economic uncertainty and hence favours longer-term investment and factors accumulation. Finally, financial openness might be linked to income growth via the domestic financial system (i.e. Klein and Olivei, 1999). In this view, lifting capital account restrictions promotes faster development of the domestic financial intermediation leading to a greater volume of credit being available to finance profitable projects as well as higher efficiency in the allocation of resources.

The implication of this literature is that financial openness positively correlates with per-capita income (and with the rate of economic growth). *If a country maintains capital account restrictions and limits the degree of international integration of its financial markets, it will experience a widening gap in per-capita income relative to a partner that is more financially open.* That is, for a given level of financial openness of the partner country, the income gap between the partner country and the domestic country will be greater the lower the degree of financial openness of the domestic country.

However, this prediction does not go unchallenged. Several models emphasise possible counter-effects of financial openness on income that might, in turn, complicate the relationship between financial openness and income catching-up. If domestic institutions are weak, increasing financial openness will lead to a capital flight (even if the country is capital-scarce). This will hamper investment and hence long term growth prospects. Similarly, since the capital account is a channel of contagion in financial crises, its liberalization will make the country more vulnerable to speculative attacks, sudden stops and capital reversal, which are in

¹⁷⁵ For a formal treatment of the neo-classical model see Mankiw et al. (1992). For a review of models of endogenous growth see Barro and Sala-i-Martin (1995, Chapters 4 and 5).

turn all likely to have large negative output effects. Finally, informational asymmetries and/or pre-existing distortions (such as trade restrictions) might well imply that foreign capital will be allocated inefficiently, for instance, going to sectors where the country has a comparative disadvantage¹⁷⁶. All of these counter-arguments thus indicate that by increasing its degree of financial openness relative to that of richer partners, a country might not necessarily reduce its income gap relative to such partners.

2.2 Financial Openness and International Trade

Assuming that internationally well integrated capital markets will effectively emerge from it, financial openness can influence the extent of international trade in goods and services through two main channels. . The first operates through risk-sharing and production specialization¹⁷⁷. Consider a region where countries are affected by idiosyncratic shocks. If such shocks are large and volatile, or alternatively if households are risk averse to a sufficient degree, then incentives to diversify domestic production will be stronger, thus leading to low specialization. Open and well integrated financial markets facilitate the diversification of ownership. This in turn has two effects. First, if economic agents in one country hold debt and equity claims on the output of the other country, then the dividend, interest and rental income derived from these holdings contributes to smoothing shocks across countries. This is thus a form of ex-ante international insurance. Second, to achieve consumption smoothing, households in each country will undertake ex-post adjustment of their asset portfolios following the realization of idiosyncratic shocks in the region. Again, this will lead to a smoothing of income in all countries. Once insurance is available through international trade in financial assets, each country will have stronger incentive to specialize in one production (or technology) in order to fully exploit economies of scale (or technological competitive advantage). Specialization in production will then create greater scope for international trade in goods and services, as predicted from a standard neo-classical trade theory.

The second channel relies on the ability of the financial sector to divert savings to the private sector. When domestic financial intermediation is weak and inefficient, firms in export-oriented sectors are burdened by significant liquidity

¹⁷⁶ See Boyd and Smith (1992) for a critique of the perverse effects of financial openness when domestic institutions are inefficient. A sceptical view of capital account liberalization based on various arguments is put forward by Rodrik (1998). The empirical literature also provides mixed evidence on the growth-effects of financial liberalization. For a broad assessment see Eichengreen (2001).

¹⁷⁷ For a discussion of the theoretical and empirical link between capital markets, risk sharing and production specialization see Kalemli-Ozcan et al. (2003). For more empirical evidence see Imbs (2003).

constraints and hence trade less. Financial openness can help overcome those constraints by making more external finance available to domestic firms. An implication of this model is that international trade will tend to increase particularly in those sectors that more heavily rely on external finance, such as projects in the manufacturing sector. A related argument is that financial openness, by eventually facilitating the development of financial intermediation and hence contributing to the establishment of efficient systems of international payments, can work as a trade facilitation factor¹⁷⁸.

Overall, with respect to international trade, the prediction on the effects of financial openness is less ambiguous than that observed for per-capita income convergence: *countries that are more financially open should experience greater volumes of international trade; that is, financial openness should facilitate country's trade integration with any partner.*

3. Methodology and Data

Based on the discussion in Section 2, this chapter paper estimates two equations. The first one links financial openness to the difference in per-capita income across countries. The other one links financial openness to a country's international trade. Modelling strategy and estimation methodology are described below.

3.1 Modelling Strategy

Lets' consider the income-gap equation. The log of per-capita income y in country i at time t is assumed to be a function of K variables plus the degree of financial openness z (as suggested by the arguments reviewed in Section 2):

$$y_{it} = f(x_{1,it}, x_{2,it}, \dots, x_{K,it}, z_{it}) \quad (1)$$

Denoting j as the partner country, the income gap between i and j can be written as:

$$y_{jt} - y_{it} = f((x_{1,jt} - x_{1,it}), (x_{2,jt} - x_{2,it}), \dots, (x_{K,jt} - x_{K,it}), (z_{jt} - z_{it})) \quad (2)$$

For estimating equation (2), to the data one needs to specify the regressors $x_1 \dots x_K$ on the r.h.s. Using a technology-augmented Cobb-Douglas specification for the production function, a parsimonious set of regressors can be identified which

¹⁷⁸ Kletzer and Bardhan (1987) provide a first formalization of the second channel. Further theoretical advances and some supporting empirical evidence are reported by Beck (2001).

includes (in logs): the rates of labour accumulation (n), physical capital accumulation (k) and human capital accumulation (h) and a constant term (c)¹⁷⁹. The empirical model for income gap between country i and country j at time t is thus given by:

$$dy_t = \alpha_0 + \alpha_1 dn_t + \alpha_2 dh_t + \alpha_3 dk_t + \alpha_4 dz_t + \varepsilon_t \quad (3)$$

where d denotes the difference between country j and country i (i.e. $dy_t = y_{jt} - y_{it}$; $dn_t = n_{jt} - n_{it}$; and so forth), $\alpha_0 = c_j - c_i$, ε_t is a normally distributed stochastic disturbance, and the α s are parameters to be estimated. Note that if $\alpha_4 > 0$, then the more country i falls behind country j in terms of financial openness, the larger the income-gap will be. This means that to reduce the income-gap, country i will have to increase its degree of financial openness for any given degree of financial openness achieved by the partner j . The null hypothesis $H_0 : \alpha_4 = 0$ will thus provide empirical evidence on the role of financial openness in the process of per-capita income convergence.

Two modifications of equation (3) will also be considered. First, as discussed in the introduction, it is important to separate the effect of financial openness from that of domestic financial development. For this purpose, a term dq_t , where q is a proxy of the depth of domestic financial intermediation, will be added to equation (3). Second, as several theoretical models predict that financial openness will impact on per-capita income by affecting directly the rate of physical capital accumulation, the inclusion of the term dk_t might bias the estimated α_4 downward, thus leading to the conclusion that financial openness is not significant when it actually is. For this reason, equation (3) will be estimated both with and without dk_t . As it will turn out, the null hypothesis $H_0 : \alpha_4 = 0$ is rejected in both cases.

Turning to the international trade equation, the starting point in the modelling strategy is the gravity model¹⁸⁰. For a given year t , the gravity equation expresses trade of country i with the partner country j (T_{ij}) as a function of the economic size of the two countries (Y), the geographical distance between them (D) and a set of additional geographical, economic and environmental variables W :

$$T_{ij,t} = \frac{Y_{i,t} Y_{j,t}}{D_{ij,t}} \exp(W_{ij,t}) \quad (4)$$

Taking logs on both sides, equation (4) becomes:

¹⁷⁹ The underlying assumption being that technology grows at a constant rate and that its initial level is equal to a constant plus a white noise. See Mankiw et al. (1992).

¹⁸⁰ For a discussion of gravity equations, see, inter alia, Evenett and Keller (2002).

$$\ln(T_{ij,t}) = \ln(Y_{i,t}Y_{j,t}) - \ln(D_{ij,t}) + W_{ij,t} \quad (5)$$

Following the arguments presented in Section 2, financial openness of country i (z_i) will be included in the set W . Similarly, in the specification of the per-capita income gap equation, a proxy for domestic financial depth in country i will also enter the r.h.s. so as to disentangle the effect of financial openness from that of financial development. Thus, the gravity equation to be estimated is:

$$\ln(T_{ij,t}) = \beta_0 + \beta_1 \ln(Y_{i,t}Y_{j,t}) + \beta_2 \ln(D_{ij,t}) + \beta_3 z_{i,t} + \beta_4 q_{i,t} + v_{ij,t} \quad (6)$$

where v is a stochastic disturbance, and β 's are the parameters to be estimated. It goes without saying that, whilst formally indexed by the subscript t , distance D is constant over time. Again, the sign and statistical significance of the coefficient β_3 will provide empirical evidence on the impact of financial openness on the degree of trade integration of country i with partner j . A statistically significant and positive value of β_3 would indicate that financial openness promotes trade integration.

Drawing on the gravity literature, equation (6) will also be expanded by including additional variables in the set W : (i) the log product of per-capita income in the two countries and (ii) dummy variables to isolate specific trade facilitating conditions (such as a common land border or the existence of free trade agreements).

3.2. Estimation Methodology and Data

Sample and Methodology

Equations (3) and (6) are separately estimated on a sample of 44 countries over the period 1990-2003¹⁸¹. The countries represent a wide range of income, social and geographical variation. Trade integration and per-capita income convergence are estimated for each country i vis-à-vis the European Union-15 (EU15) average, which is therefore taken to be the reference partner. That is, in both equations, j is

¹⁸¹ The panel is however unbalanced as for some countries the first available observation comes later than 1990. The following countries are included in the sample: Albania, Armenia, Austria, Azerbaijan, Belarus, Belgium, Bulgaria, Canada, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Kazakhstan, Kyrgyz Republic, Latvia, Lithuania, Luxembourg, Malta, Moldova, Netherlands, Norway, Poland, Portugal, Romania, Russian federation, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, United Kingdom, United States.

represented by the EU15 average. This makes it possible to assess the effect of financial openness on the process of economic integration of country i with the EU15. In fact, it can be anticipated that using the United States or the richest among EU15 economies as the reference partners leaves results qualitatively unchanged.

To account for reverse causality; that is for the possibility that financial openness is determined by trade volumes and per-capita income growth, equations (3) and (6) will be estimated by 2SLS, using lagged and initial values of endogenous variables as instruments. The estimator is further corrected to account for the fact that the annual panel is unbalanced.¹⁸²

To operationalise equation (3), y is measured by a country's real per-capita GDP, n is proxied by the fertility rate, h is proxied by the enrolment rate in tertiary schooling, k is proxied by the real investment share of GDP, q is defined as country's ratio of M2 minus narrow money to narrow money. In equation (6), instead, T is measured by country's exports to and imports from the EU15 (in logs of millions USD), Y is given by real aggregate GDP and D is the log of distance (in kilometres) between a country and Frankfurt-am-Main. A complete list of variables, definitions and sources is given in the Appendix. Moreover, the next section will discuss the sensitivity of econometric results to changes in variables definition and construction.

Empirical definition of financial openness and international financial integration

Crucial to the estimation of equations (3) and (6) is the empirical definition of the variable z , the degree of financial openness. This should capture the extent to which a country does not restrict capital movements across borders. At the same time, however, it should not be based on the actual volume of cross-holdings of foreign assets and liabilities, as in this case it would be a measure of international financial integration rather than financial openness. A suitable strategy, indeed rather common in the literature, is to construct an index of capital account liberalisation using the information available from the IMF's *Annual Report on Exchange Arrangements and Exchange Restrictions* (AREAR)¹⁸³. We follow the

¹⁸² The unbalanced panel estimator follows Verbeek and Nijman (1996). An alternative to the 2SLS instrumental variable estimator would be a 3SLS system estimator (see Wooldridge, 2002). In this case, equations (3) and (6) are estimated as a system together with an equation where financial openness is the dependent variable and trade and per-capita income enter as explanatory variables. In fact, a set of estimates from the 3SLS procedure is available from the authors upon request. The qualitative thrust of results does not change relative to the single-equation 2SLS presented in the next section. We prefer reporting the 2SLS and not the 3SLS because the focus of this analysis is more on the estimation of reduced-form equations than on structural models.

¹⁸³ See Miniane (2004) for a survey of various approaches adopted in the construction of such indices.

approach proposed by Chinn and Ito (2002) and construct our variable z as follows.

From the AREAR we define for each country and each year four dummies: (i) R_1 takes value 1 in the absence of multiple exchange rates, (ii) R_2 takes value 1 if current account transactions are not restricted, and (iii) R_3 takes value 1 if capital account restrictions are not restricted, (iv) R_4 takes value 1 in the absence of a requirement of surrender of export proceeds. A variable $SHARE_3$ is then constructed for each year as the average of R_3 in that year and in the four preceding years. Finally, z is obtained for each country and each year as the first standardised principal component of R_1 , R_2 , $SHARE_3$ and R_4 . Thus, z is an indicator of overall cross-border capital liberalisation: higher values denote greater financial openness.

Equations (3) and (6) will also be estimated replacing the indicator of financial openness z by two measures of international financial integration taken from Lane and Milesi-Ferretti (2003):

$$p_{1,it} = \frac{FA_{it} + FL_{it}}{GDP_{it}} \quad \text{and}$$

$$p_{2,it} = \frac{PEA_{it} + PEL_{it} + FDIA_{it} + FDIL_{it}}{GDP_{it}}$$

where, as usual, i denotes a country and t a given year, FA is the stock of foreign assets, FL is the stock of foreign liabilities, PEA and PEL are the stocks of portfolio equity assets and liabilities respectively, $FDIA$ and $FDIL$ are the stock of foreign direct investment assets and liabilities respectively. Thus, the variable p_1 measures the overall volume of cross-holdings for a given country in a given year. The variable p_2 measures instead the volume of cross-holdings in equity.

4. Econometric Results

4.1 Financial Openness and Per-Capita Income-Gaps.

Estimates of equation (3) are reported in Table 11.1. The first column reports the baseline specification without dk . The estimated coefficient on dz is positive and statistically significant: the wider the degree in financial openness between a country and the EU15, the larger the difference in per-capita incomes. The effect holds over and above the impact of differences in financial depth and in factors accumulation. It should be noted that whilst the gap in school enrolment rates has a strong effect on the per-capita income gap, the difference in fertility rate does not appear to matter.

The second column presents the results of estimating the baseline specification on a sample that only includes the formerly planned economies. Because of the

limited number of observations, further splitting the sample to separate new EU member states from CIS countries is not feasible. Moreover, within the subsample of CIS countries, the relatively small variability of the dependent variable would reduce the precision of estimates. The results for the group of formerly planned economies are qualitatively very similar to those reported in the first column for the full sample of countries. In particular, the coefficient on dz remains statistically significant at the 1 percent confidence level. The key policy implication from the baseline specification is therefore quite clear: to catch up with the richer economies in the EU-15, the CIS countries (and all formerly planned economies in general) should liberalise their current and capital accounts and progress on those reform that facilitate the integration of their financial sectors into the global financial links.

The next three columns report some extensions of the baseline specification estimated on the full sample of countries. In column III the gap in the rate of physical capital accumulation is added to the set of regressors. Its impact on the income gap is strong and significant, but the coefficient on dz is practically unchanged. This suggests that financial openness does not affect catching-up only through its impact on the level of the investment rate. The discussion in Section 2 has emphasised other possible channels, including investment-composition effects and productivity/technological spillovers. In Column IV, a country's volume of trade (in percent of GDP) with the EU is included (tEU). The empirical literature on the determinants of economic growth has often reported a positive effect of international trade. Building on this result, one might argue that the more a country trades with the EU15, the smaller its income gap relative to the EU15 average is likely to be. The negative coefficient on tEU confirms this hypothesis while leaving the role of financial openness qualitatively unaffected. In Column V, financial openness is expressed in levels rather than differences vis-à-vis the EU15 (same for domestic financial development). This is therefore a test of the impact of "absolute", as opposed to "relative", financial openness. Not surprisingly, the negative estimated coefficient indicates that, *ceteris paribus*, countries that are more financially open in absolute terms tend to experience smaller per-capita income gaps.

Finally, the last two columns of the table show the effect of differences in the degree of international financial integration, as captured by dp_1 and dp_2 . These results complement those obtained for financial openness: the smaller the degree of international financial integration of a country relative to the average degree of international financial integration of the EU15, the wider the difference between this country's per-capita income and the EU15 will tend to be. It should be noted that the strength of the effect considerably varies depending on which of the two empirical measures of international financial integration is adopted. Moreover, in the specifications with dp_1 and dp_2 , the effect of differences in the investment rate becomes statistically insignificant.

Various robustness checks have been performed, adding new variables to the set of regressors. Drawing on the growth literature, differences in the degree of

institutional development and in the extent of countries' ethno-linguistic fractionalisation have also been entered on the r.h.s. of equation (3).¹⁸⁴ Furthermore, different proxies for human capital accumulation (h) and labour force growth (n) have been tried (i.e. enrolment in secondary school, population and labour force growth rates). Similarly, various indicators of the depth of domestic financial intermediation have been considered (i.e. the M2 to GDP ratio and the domestic credit to the private sector to GDP ratio). In general, the coefficient on dz always remains positive and statistically significant¹⁸⁵.

4.2 Financial Openness and Trade in Goods and Services.

Estimates of the gravity equation (6) are presented in Table 11.2. The first column reports the most parsimonious specification, where W only includes financial openness and development of domestic financial intermediation. The coefficient on z is positive and significant at the 10 percent confidence level. There is thus evidence, albeit statistically not particularly strong, that more financially open countries enjoy better trade integration with the EU15.

In column II, the gravity equation is estimated only on the sample of formerly planned economies. Again, splitting this sample to separate the CIS economies from the others would result in a too small number of observations available for estimation. The results in column II are most interesting: the estimated coefficient on z is considerably larger than in the full sample case and it is now statistically significant even at the 1percent confidence level. This means that financial openness has a particularly strong effect on the trade integration of transition (or post-transition) economies with the EU-15.

¹⁸⁴ A growing body of empirical research suggests that institutional development and ethnic fractionalisation affect per-capita income and growth (see, *inter alia*, Keefer and Knack, 1995; Kaufmann and Kraay, 2002; Alesina et al. 2003). Therefore, to some extent, the income gap between EU and formerly planned economies might be driven by differences in the stage of institutional development and/or in the degree of ethnic fractionalisation. The sensitivity analysis accounts for this effect by adding two variables to the set of regressors in equation (3). The variable *Dinst* is the difference between EU and formerly planned economies in the aggregate index of institutional quality drawn from Kaufmann and Kraay (2002). Here, institutional quality is obtained from the aggregation of subjective indicators of governance (i.e. control of corruption, regulatory burden, government effectiveness, rule of law, etc...). The variable *Dethnic* is the difference between EU and formerly planned economies in the index of ethnic fractionalisation of Alesina et al. (2003). The index of fractionalisation is defined as one minus the probability that two randomly selected individuals living in a given country are members of the same ethnic group.

¹⁸⁵ Results from all robustness checks are available from the authors upon request.

Column III expands the set of variables in W including: (i) the product of log per-capita incomes in country i and EU15 average ($y_i y_j$), (ii) a dummy variable taking value 1 if country i shares a land border with any EU15 member (*border*), (iii) a dummy variable taking value 1 if country i is landlocked (*locked*), and (iv) a dummy variable taking value 1 if country i and the EU15 have a preferential trade agreement (*fta*). The coefficients on these variables conform to prior expectations: richer countries in per-capita income terms tend to trade more, trade is facilitated for countries that share a common border with the EU15 and which benefit from preferential treatment. The coefficient on *locked* instead is generally found to be negative in the literature, denoting the difficulties of landlocked countries to access trade routes. However, this does not seem to be the case in our sample. Above all, the coefficient on financial openness in this specification remains very similar to that estimated from the parsimonious model. Notice also that the degree of domestic financial development is largely irrelevant in all regressions.

In the last two columns, measures of international financial integration are used in place of financial openness. It is clear that there is a positive impact of financial integration on trade integration, while the coefficients on all the other variables maintain their sign and level of significance. The only exception is q , which now becomes statistically different from zero.

Robustness checks analogous to those performed for equation (3) are carried out for the gravity model (i.e. changes in the definition of q and inclusion of measures of institutional quality on the r.h.s.). Furthermore, the variable D , distance, has been re-computed using different cities as the EU15 reference. Overall, results on financial openness and financial integration are qualitatively unchanged.

5. Conclusions and Directions of Future Research

The basic result emerging from the empirical analysis is that financial openness promotes economic integration in terms of both trade in goods and services and per-capita income catching up vis-à-vis the EU15 average. The result holds for both the entire sample of countries (including advanced industrial economies and emerging countries) and the sub-group consisting of formerly planned economies (including the CIS). For those latter ones, the trade-promoting effect appears to be particularly strong.

Thus, our results add to the list of potential benefits of capital account liberalisation. More specifically, they indicate that financial autarky causes poorer economies to fall further behind the richer Western Europe and hence financial openness ought to be a component of any feasible development strategy for CIS countries. In fact, some qualifications are necessary. First, with respect to per-capita income convergence, the regressions show that even if a country were to achieve the same degree of financial openness as the EU15, the gap in per-capita income levels would persist as long as there are differences in technology and in

the rates of factors accumulation, and particularly in human capital accumulation. Hence, financial liberalisation is only one of the several policies that countries need to implement in order to sustain income catching-up. Similarly, with respect to international trade, the empirical evidence indicates that financial openness ought to be embedded in a broader context of policies for trade facilitation. Those policies should be aimed at abating tariff and non-tariff trade barriers (i.e. inefficient custom procedures, inadequate transport infrastructures) that still place a high burden on the trade potential, especially of poorer countries.

Possibly, the most crucial qualification concerns the possible side-effects and downward risks of financial openness. While our empirical analysis emphasises the benefits of free international capital movements for the process of economic integration, the experience of several emerging economies worldwide calls for careful design and implementation of financial and capital account liberalisation.¹⁸⁶ The CIS countries (and other poorer formerly planned economies) therefore need to manage the increased economic vulnerability that is associated with integration into global financial links by combining capital account liberalization with: (i) domestic financial sector reforms to strengthen regulation and supervision, enforce sound and prudential lending practices, and achieve high-standards of governance of banks and other financial institutions; (ii) trade policy and competition policy reforms to eradicate distortions that financial openness might exacerbate; (iii) implementation of a coherent macroeconomic policy mix characterised by low inflation and fiscal stability; and (iv) design of redistributive tools to shield the most vulnerable socio-economic groups against the potential damages of increased volatility. Finally, in the transition towards financial liberalization, temporary and market-based capital controls might eventually be considered to tilt the composition of inflows towards longer term maturities and so prevent a maturity mismatch between investment projects and financing.¹⁸⁷

A number of issues deserve investigation in future research. One concerns a better understanding of the channels through which financial openness affects the extent of per-capita income catching up. Several theoretical possibilities exist and our empirical analysis indicates that financial openness does not produce its impact only through the development of domestic financial systems and a faster accumulation of physical capital. A more structural model is therefore needed to disentangle between other possible transmission mechanisms. Future work should also consider whether, in addition to the two considered in this chapter, financial openness affects other dimensions of economic integration, such as the sustainability of fixed exchange rate regimes and the rate of nominal convergence.

¹⁸⁶ See for instance the discussion in Johnston et al. (1997), Dailami (2000) and Daianu and Vranceanu (2002).

¹⁸⁷ Successful experiences with those type of controls are reported for Chile and other Latin American and East Asian economies. See, *inter alia*, Edwards (2002) and World Bank (2000).

Finally, it would be interesting to assess how the effects of financial openness on economic integration change across different clusters of countries (bearing in mind the data limitations indicated in section 4). This requires re-estimating the econometric model on a sample of countries selected from different criteria (i.e. membership in a given regional economic community, initial level of per-capita income, etc.) to see how the estimated coefficients change.

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Appendix

Tables

Table 11.1 Income gap equation

	I	II	III	IV	V	VI	VII
<i>Constant</i>	0.1	1.3***	0.2	-0.6**	3.8***	-0.6	-0.8*
<i>Dh</i>	0.9***	1.0**	1.3***	2.0***	2.3***	2.0***	2.5***
<i>Dn</i>	0.1	-0.3	0.2	1.2***	1.2***	-0.1	0.2
<i>Dz</i>	0.6***	0.3***	0.7***	0.4***	..	..	..
<i>Dq</i>	1.1***	1.0***	1.2***	0.7***	..	0.6***	0.8***
<i>Dk</i>	..	..	2.9**	0.8	0.1	-1.9	-1.4
<i>TEU</i>	..	..	..	-0.7***	-0.7***	..	-
<i>Q</i>	..	..	..	..	-0.7***	-0.4	0.7***
<i>Z</i>	..	..	..	..	-0.3***	..	..
<i>dp₁</i>	..	..	..	..	..	1.2***	..
<i>dp₂</i>	..	..	..	..	..	..	0.5***

Note: The dependent variable is the difference between (log) per-capita income in the EU15 and log per capita income of country *i*. For variables definition, see the Appendix, Table 11.3. * denotes statistical significance at 10 percent confidence level, ** denotes statistical significance at 5 percent confidence level, *** denotes statistical significance at 1 percent confidence level.

Table 11.2 Gravity equation

	I	II	III	IV	V
<i>Constant</i>	-	-	-	-	-
	14.9***	21.8***	17.3***	16.0***	14.6***
$Y_i Y_j$	0.8***	1.0***	0.7***	0.7***	0.7***
<i>D</i>	-0.2***	-1.0***	-0.1***	-0.1***	-
<i>Z</i>	0.1*	0.2***	0.1*	..	0.12***
<i>q</i>	0.0	0.1	0.0	0.0***	0.0
<i>border</i>	..	..	0.5***	0.7***	0.7***
<i>fta</i>	..	..	0.8***	0.5***	0.5***
<i>locked</i>	..	..	0.1	0.0	0.0
$y_i y_j$	..	..	0.1***	0.1**	0.1**
p_1.....	..	..	..	0.0**	..
p_2.....	..	..	..	..	0.1***

Note: The dependent variable is the log of trade (in millions of USD) between country *i* and the EU15. For variables definition, see the Appendix, Table 11.3. * denotes statistical significance at 10 percent confidence level, ** denotes statistical significance at 5 percent confidence level, *** denotes statistical significance at 1 percent confidence level

Table 11.3 Variables description

Variables	Definition	Source
dy	Per-capita income gap. Difference between EU average log per-capita income and country's log per-capita income	WDI
dn	Difference between EU average log fertility rate and country's log fertility rate	WDI
dh	Difference between EU average tertiary school enrolment rate and country's tertiary school enrolment rate	WDI
dk	Difference between EU average real investment share of GDP and country's real investment share of GDP	WDI and PWT
q	Index of domestic financial development: country's ratio of liquid liabilities to narrow money. Alternative definitions used for sensitivity analysis: domestic credit to private sector to GD ratio and liquid liabilities to GDP ratio.	IFS
dq	Difference between EU average q and country's q	IFS
tEU	Country's exports to and imports from EU. It is expressed in percent of GDP in Table 1 and in logs of million USD as dependent variable in Table 2	DoTS
$Y_i Y_j$	Log of country's aggregate GDP times EU's aggregate GDP	WDI
$locked$	Dummy variable taking value 1 if country is landlocked	CIA World Factbook
$border$	Dummy variable taking value 1 if country shares a land border with any EU-15 member	CIA World Factbook
fta	Dummy variable taking value 1 if country has a preferential trade agreement with the EU-15	WTO website
D	Log of distance (in kilometres) between country and Frankfurt-am-Main	CIA World Factbook
$y_i y_j$	Log of country's per-capita GDP times EU's per-capita income	WDI
Z	Index of capital account openness	See Section 3
P	Index of international financial integration. Two versions are proposed: p_1 and p_2	See Section 3
dz	Difference between EU average <i>open</i> and country's <i>open</i>	
dp	Difference between EU average <i>integr</i> and country's <i>p</i> . Two versions are computed: dp_1 uses p_1 and dp_2 uses p_2 .	

Note: WDI is *World Development Indicators Database 2004*, World Bank; IFS is *International Financial Statistics Database June 2004*, International Monetary Fund; PWT is Heston A., Summers L., Aten B. *Penn World Tables* Version 6, CICUP, October 2002; DoTS is *Direction of Trade Statistics 2004*, International Monetary Fund.

Chapter 12

Debt Sustainability in the Wider Eastern European Region: The Long Shadow of the EU

Lúcio Vinhas de Souza and Natalya Selitska¹⁸⁸

1. Introduction

This chapter aims to briefly study the question of debt sustainability in the wider Eastern European region¹⁸⁹ and the role of “institutions” –broadly defined- on the different levels of debt that are sustainable among different sub-regions.

This is a region of the planet that has experienced truly sweeping change in the last decade, from the collapse of the Soviet Union and the corresponding end of centrally planned economic systems, the subsequent re-introduction of market-allocation mechanisms and economic re-orientation towards Western Europe, which culminated in the European Union Eastern Enlargement of May 2004. This area shares some features with other less developed regions of the globe (Latin America, Africa, much of Asia), as, for instance, lower per capita GDP, higher dependency of the economy on natural resources, but also has marked differences: higher level of human and physical capital, proximity to developed markets and, essentially, the pulling power of the European Union, with its unique process of “framework exporting” through its successive Enlargement waves.

Debt distress episodes have been widespread among emerging economies throughout the 1980s and 1990s (Detragiache and Spilimbergo, 2001).

¹⁸⁸ We would like to thank all the participants at presentations in the University of Kiel and at the EU-SA 2005 Meeting for their helpful comments, and also Francesca di Mauro for her insightful and comprehensive comments. All usual disclaimers apply.

¹⁸⁹ This study will define this large area as including the Eastern European New EU Member States (NMS), i.e. the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia, the remaining EU Accession Countries (Bulgaria, Croatia, Romania), the remaining South-Eastern European countries (SEE: Albania, Bosnia and Herzegovina, FYR Macedonia -FYRM, Serbia and Montenegro), the CIS (Community of Independent States, the loose successor of the Soviet Union, minus the Baltic Republics) countries (i.e., Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyz Republic, Moldova, Russian Federation, Tajikistan, Turkmenistan, Ukraine, Uzbekistan).

Nevertheless, especially Central Eastern Europe has a somewhat different experience, when compared to other emerging regions, even neighbouring ones, as it seems to have been much less crisis-prone than, for instance, the CIS, not to mention Asia or Latin America. A possible explanation for this is that developments in this region must be understood in terms of the process of Accession to the European Union.¹⁹⁰

The EU integration process implies legally binding, sweeping liberalization measures, implemented in parallel to the development of a highly sophisticated regulatory and supervisory structure, again based on EU standards. This whole process happened also with the EU's technical and financial support, through specific programs –like the PHARE one, for these former Accession Countries (ACs), and the TACIS, for the former Soviet Union ones- and direct assistance from EU institutions, like the European Central Bank (also, on a very early stage of the transition process, the influence of the IMF in setting up policies and institutions in several countries in the region –an intervention widely considered to have been successful- was very important: see Hallerberg et al., 2002).

Additionally, EU membership in the near future seemed to act as an anchor to market expectations (see Vinhas de Souza and Hölscher, 2001), limiting the possibilities of self-fulfilling crises and regional contagion (see Linne, 1999), which had the observed devastating effects in both Asia and Latin America (even a major event, like the Russian collapse of 1998, had very reduced regional side effects). For instance, several regional episodes of financial systems' instability did happen (see Vinhas de Souza, 2004), but none with the prolonged negative consequences observed in other regions.

This study's main aim is to test the importance of institutions for the occurrence of debt distress episodes. Institutions are, of course, only the accumulation of past policies, but that does not mean that the timeframe necessary for its construction is always long: the instant "credibility import" associated, for instance, with a hard peg to a stable currency, can be reproduced for a larger set of the institutional framework of any country, under certain circumstances, and the implications of this are non-trivial. Therefore, an underlying hypotheses of this work is that the existing regulatory and institutional framework in Eastern Europe, plus a more sustainable set of macro policies, played an important role in generating a higher "debt tolerance" in the sub-region. Such an "anchoring" role of the European Union in the New EU Member States (NMS), through the process of EU membership, and through the effective imposition of international

¹⁹⁰ In March 31, 1998, the European Commission launched official Accession processes with Bulgaria, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia (see Vinhas de Souza et al., 1999). All those Eastern European countries –bar Bulgaria and Romania, for which the expected date is 2007- have become members of the European Union in May 2004.

standards, may indicate that, beyond multilateral organizations like the IMF or the OECD, a greater, pro-active regional stabilizing role in emerging markets by regional actors, may also be welfare enhancing for other “emerging” regions. For instance, NAFTA, Mercosur or the CIS (where the Russian Federation has comparatively more robust institutions than some of its neighbours: one may refer here to debate concerning monetary unification between Belarus and Russia, see Gulde et al., 2004) may have a role to play.

This chapter will start in Section 2 with a brief overview of the institutional setting and economic situation of the recent years. Section 3 will provide an analysis of the external debt dynamics, including a study of the volatility of debt-creating flows. The empirical analysis will be presented in sections 4 and 5. Section 6 concludes.

2. Overview of Institutional Setting and Economic Situation

Of the regional groupings covered in this chapter, clearly the one formed by the NMS, and the EU candidate countries, is the one with the highest level of external liberalization (i.e., in terms of capital account and trade). For those, external liberalization happened rather swiftly: by the mid 1990s, all but Bulgaria and Romania had been declared Article VIII compliant (for those two countries, this happened in 1998: see table 12.1 below). One of the main driving forces behind this was the process of European Integration, for which external liberalization is a pre-requisite. In the early to mid-1990s, all the countries had signed Association Agreements with the European Union (usually with a transition period given to the countries to prepare for their full implementation) and formally applied for EU membership. Another additional factor supporting liberalization was the early membership to other “international framework providers”, like the IMF, the WTO and the OECD.

On the other hand, none of the SEE or CIS countries is a OECD member, and very few are WTO members. Only three SEE economies –not counting Bulgaria and Romania- are WTO members –Albania, since September 2000, Croatia, since 30 November 2000 and Macedonia, since April 2003, and only four CIS members belong to the WTO –Armenia, since February 2003, Georgia, since June 2000, Kyrgyz Republic, since December 1998, and Moldova, since July 2001. Of them, only Croatia and FYRM have the status of a EU candidate country. For this subset of countries, the closest organizations capable of fulfilling the role of “multilateral framework providers” are the IMF and perhaps the World Bank (WB).

Table 12.1 External Liberalization

Countries	EU Association Agreements: Date of entry into force	Article VIII Compatibility	OECD/WTO Membership
Bulgaria	Europe Agreement: 2/95 (signed 3/93). EU application: 12/95	IMF entry: 25/9/90. Article VIII: 24/9/98.	WTO:1/12/96
Czech Rep.	Czechoslovakia break-up: 1/1/93. (New) Europe Agreement: 2/95 (old one signed in 12/91, new in 10/93). EU application: 1/96.	IMF entry: 20/9/90 (as Czechoslovakia, and, since 1/93, as separate states). Article VIII: 1/10/95.	-12/95: OECD membership. WTO: 1/1/95
Estonia	Independence: 20/8/91 Europe Agreement: 2/98 (signed: 6/95). Trade agreement with the EU signed in 7/94. EU application: 11/95.	IMF entry: 25/5/92. Article VIII: 15/8/94.	WTO: 13/11/99
Hungary	Europe Agreement: 2/94 (signed: 12/91). EU application: 3/94.	IMF entry: 05/06/1982. Article VIII: 1/1/96.	-5/96: OECD Membership. WTO: 1/1/95
Latvia	Independence: 21/8/91. Europe Agreement: 2/98 (signed: 6/95). Trade Agreement with the EU signed in 7/94. EU application: 10/95.	IMF entry: 19/5/92. Article VIII: 10/6/94.	WTO:10/2/99
Lithuania	Independence: declared in 11/3/90, only accepted by URSS in 6/9/91. Europe Agreement: 2/98 (signed: 6/95). Trade agreement with the EU signed in 7/94. EU application: 12/95	IMF entry: 29/4/92. Article VIII: 3/5/94.	WTO: 31/5/01
Poland	Europe Agreement: 2/94 (signed: 12/91). EU application: 4/94.	IMF entry: 06/12/86. Article VIII: 1/6/95.	-11/96: OECD Membership. WTO: 1/7/95
Romania	Europe Agreement: 2/95 (signed in 2/93). EU application: 6/95	IMF entry: 15/12/72. Article VIII: 25/3/1998.	WTO: 1/1/95
Slovakia	Czechoslovakia break-up: 1/1/93. (New) Europe Agreement: 2/95 (signed: 10/93). EU application: 6/95	IMF entry: 20/9/90 (as Czechoslovakia, and, since 1/93, as separate states). Article VIII: 1/10/95.	-8/00: OECD Membership. WTO: 1/1/95
Slovenia	Independence: 25/6/91. Europe Agreement: 2/99 (signed 6/96). EU application: 6/96	IMF entry: 14/12/92. Article VIII: 1/9/95.	WTO: 30/6/95

Source: Vinhas de Souza, 2004.

A rise in world economic activity in 2003-2005, along with a corresponding

revival of international financial markets after the decline observed in late 1990s, was one of the reasons for the steady growth observed in the countries of the NMS, SEE and CIS. On average, the NMS growth rate decelerated from 5.1 percent in 2004 to a forecasted 4.2 percent in 2005 (still substantially above the EU one, and even more above the euro area rate). The SEE also saw their growth rate fall, from 6.5 in 2004 to 4.8 in 2005. The CIS countries also saw the fall of the speed of their expansion from 7.9 percent in 2004 to a still very impressive expected 6.2 percent in 2005 (a significant part of this was driven by oil prices, as the oil exporting countries are responsible for roughly three quarters of the aggregate GDP of the CIS).

Domestic demand was the main contributor to real GDP growth in 2005 in many NMS. In particular, gross fixed capital formation was the key driver of output growth. Growing industrial confidence, a high degree of capital utilisation and an improved demand outlook contributed to the recovery in investment in many of the NMS. In many of the NMS, particularly in the Baltic States, the robustness of domestic demand also reflected the significant growth in private consumption, which was supported by gains in real disposable income associated with vigorous wage increases and improvements in the labour market. Especially in the Baltic States and Hungary, household spending was also backed by high and, in some cases, increasing credit growth to the private sector. In addition, in most of the NMS, expectations of price rises, stemming from changes in taxation and regulated prices related to EU accession stimulated consumption spending in the first half of 2004. Finally, in some countries, the fiscal stance remained relatively loose. Turning to external demand, the contribution of net exports to real GDP growth varied significantly across the NMS. While external demand significantly supported output growth in Poland, it acted as a drag on growth in most of the NMS. Despite this, it is important to note that export and import growth remained relatively strong in 2005, especially in the NMS. In particular, goods and services trade volumes were spurred by the removal of barriers to trade on EU accession, by higher demand in trading partner countries and by further gains in productivity. As a result of the recovery in economic activity, sizeable foreign direct investment inflows received in the last few years and ongoing structural reform, the labour market situation gradually improved in most NMS throughout 2005, particularly in the Baltic States. Employment growth, however, tended to be rather subdued in most of the NMS, due to earlier increases in wage costs in some countries and a structural skill mismatch between labour supply and demand. In some countries unemployment rates remained very high.

On the other hand, the CIS economies continued to grow strongly in 2005, after the rather impressive performances observed since 1999 (a yearly average of almost 7 percent), indicating the regional recovery from the 1998 Russian crisis. The whole CIS region, including its largest economy, Russia, continued to benefit from the strong increase in world commodity prices, particularly oil and natural gas, coupled with a more robust macro policy framework.

At the same time, several years of strong output growth have been associated with a surge in domestic demand, especially private consumption. In many countries, fixed investment has also recovered, most of it in extractive industries. Macroeconomic policy in many CIS economies has also been and is expected to continue to be expansionary, leading in some cases to a deterioration of fiscal balances and to a reduction of the speed of disinflation. The currencies of most commodity exporting economies are also under growing pressure to appreciate, as a result of their surging exports revenues. The symptoms of the “Dutch Disease” seem to be beginning to appear in some economies, putting monetary management under considerable strain. Growth in the CIS is forecasted to continue in 2006, albeit at a somewhat slower rate of around 6 percent. Decelerating growth rates are expected in all the larger CIS economies – Belarus, Kazakhstan, Russia and Ukraine – due to external factors such as the reduction in commodity prices’ growth and slacker demand in the region’s main markets (including the expected continued slow growth in the EU and a slackening of growth in China), albeit domestic demand should generally remain strong.

3. Debt Dynamics

After 1994, the NMS, SEE and CIS attracted substantial amounts of infrastructure financing, as candidate countries opened up their infrastructure markets for accession to the European Union. For 1997–2003, infrastructure finance to the region more than tripled to an annual average of USD 10 billion (from USD 3 billion during 1990–96). The share of the region in total developing-country infrastructure finance increased from 9 percent to 19 percent during the period. On the other hand, FDI flows increased in 2004 (to USD 56 billion from USD 38 billion in 2003) and are expected to increase in coming years, albeit privatisation activity has greatly slowed down, especially in Russian Federation (mostly in oil and gas sectors). On average, net portfolio flows to the region rose significantly.

During the last 10 years the total debt stock increased considerably by 80 percent or USD 255 billion (mostly due to accumulation of long term debt). As the greater part of the debt was generated in the 1990s, the rise in 1999–2003 is a mere 17 percent. However, in GDP terms, the share of total debt in GDP slightly decreased, from 57 percent GDP in 2000 to 53 percent GDP in 2004.

There is a rising presence of the private sector, in both lending and borrowing activities. The share of debt owed by private borrowers grew from 18 percent in 1995 to 44 percent in 2003 of total debt stock, while the share of debt owed to private creditors in the total debt stock increased from 55 percent in 1995 to 71 percent in 2003.

Net private debt flows to the region rose markedly in 2003 and suppressed the net equity flows for the first time since 1999. Net private debt flows to the region reached USD 36 billion in 2003 compared to USD 27 billion in 2002. The increase reflects the improving credit quality. Demand from specific countries in

the region, Russia, Bulgaria, Estonia, and Kazakhstan for corporate borrowing significantly increased. On the other hand, the stock of international bank lending (entirely lent by European lenders) to “emerging Europe” has surged from USD 119 billion in 1997 to USD 222 billion in September 2003. Driven by favourable global conditions and strong domestic performance at home, the strong recovery of capital flows to developing countries that began in 2003 carried over to 2004 and 2005, albeit at a reduced pace.

Net private (debt and equity) flows to the region increased from USD 99.3 billion in 2003 to a record USD 103.4 billion, up significantly from the USD 50 billion level recorded in 1999-2000. Private debt flows totalled USD 62.3 billion in 2004, down slightly from USD 63.1 billion in 2003, but up significantly from the previous years. The composition of private debt flows changed significantly in 2004, however, with a large shift from bank to bond financing. Net medium- and long-term bond flows surged by USD 20.6 billion as net medium and long-term bank lending declined by USD 18.3 billion.

The external burden of some countries in the region has increased significantly over the past few years. Moreover, the portion of external debt maturing within a year has increased, making countries in the region more vulnerable to sharp increases in interest rates. In addition, the capacity to service external debt has deteriorated as debt service payments has increased from 12 percent to 20 percent of exports since 1997. There is also concern about public debt in some countries.

Stability of debt-creating flows

Volatility (instability) of debt flows is generally higher than volatility of FDI but lower than volatility of portfolio investment, as can be seen from the relatively high standard deviations. The average volatility of short-term debt flows is 40-60 percent higher than volatility of long-term debt flows (see Table 12.2).

The volatility of debt flows into the wider Eastern Europe region is different across time periods. It was quite high in 70s, then lowered in 80s, and reached maximum in 90s. Figures show that in the 1990s, long-term debt flows were as instable as short-term debt flows. The highest distance between volatilities of short term and long-term debt was observed in the 1970s, while in the 1990s the difference was almost reduced.

As can be seen in Table 12.3, the most volatile debt flows are to Belarus, Bulgaria, Poland, Macedonia, Hungary, Albania, and Russia. Armenia, Croatia, Romania, Azerbaijan, and Ukraine receive the most stable debt flows

In grouping terms, the EU-candidates average (in standard values) tends to be the smallest for most of the indexes in terms of total flows, being above the CIS's volatility in terms of long term flows (which is partially explained by the limited access that several CIS countries have to long term capitals in the first place), but below the one for the SEE countries. The NMS' volatility concerning short run flows is clearly the smallest one among the sub-groupings (see Box 12.1 for an explanation of the estimation procedure for volatility).

Table 12.2 Volatility of debt stocks and flows, 1971-2001

	1971-2001		1972-1981	
	Index 1	Index 2	Index 1	Index 2
External debt total, flows USD	117.0	140.3	84.52	36.75
Long term debt, flows USD	125.4	152.1	61.96	39.65
Short term debt, stocks USD	190.9	195.6	278.79	139.98

Source: estimations by the Authors.

Table 12.3. External Debt Volatility: Total, Medium, Long and Short term

Country	Total		Medium & long term		Short term	
	Index I	Index II	Index I	Index II	Index I	Index II
Albania	308.4	327.0	103.5	38.6	-735.1	-864.8
Armenia	43.5	46.4	34.5	29.6	230.6	55.4
Azerbaijan	95.8	34.8	89.2	58.7	506.1	50.4
Bulgaria	-822.6	-938.7	-374.0	-354.0	-872.0	-1082.2
Belarus	-2728.1	-1482.9	-1050.3	-563.8	555.6	513.0
Czech Republic	162.8	149.8	232.3	223.6	181.0	157.9
Estonia	153.7	154.8	169.2	188.3	359.0	393.9
Georgia	237.4	179.0	77.4	59.4	3749.1	1494.9
Croatia	76.7	86.4	72.2	83.4	747.2	481.9
Hungary	358.7	336.7	410.5	380.1	517.1	360.3
Kazakhstan	121.8	59.3	135.6	67.1	239.9	160.5
Kyrgyz Republic	100.0	68.9	95.2	101.7	840.6	138.9
Lithuania	113.4	132.7	106.8	88.5	191.5	231.9
Latvia	72.2	84.9	91.6	77.8	118.4	74.8
Moldova	102.3	40.5	102.0	52.5	655.1	439.6
Macedonia, FYR	897.7	498.5	641.5	608.0	-1212.0	-1123.9
Poland	502.4	595.8	362.4	423.7	-584.7	-578.2
Romania	73.9	43.6	79.4	73.5	-653.4	-653.2
Russian Federation	230.3	283.8	235.8	281.9	517.6	496.5
Slovak Republic	182.4	193.0	212.8	170.9	401.6	329.6
Tajikistan	144.0	133.9	156.2	161.6	463.0	424.1
Turkmenistan	104.6	0.0	102.3	0.0	-2119.7	0.0
Turkey	110.9	76.4	76.4	62.4	984.7	710.9
Ukraine	79.8	59.7	103.8	99.8	574.3	622.1
Uzbekistan	119.0	52.1	105.3	56.6	683.8	200.1
Average-Total	33.64	48.66	94.86	98.80	253.57	121.38
Average-EU	87.36	83.90	136.32	135.58	40.57	-28.33
Average-CIS	-112.47	-43.71	15.58	33.76	574.67	382.96
Average-SEE	603.05	412.75	372.50	323.30	-973.55	-994.35

Source: Estimations by the Authors

Box 12.1 Measures of the Debt Flows Volatility

Following Osei, Morrissey, and Lensink (2002), we compute and compare two different measures of instability for each type of capital flow to each region. The first (Index I) is the standard deviation around a simple time trend. The second measure (Index II) is the standard deviation around a forecast trend. The forecast is based on adaptive expectations such that in principle it captures the trend value that would be predicted using past values as a guide.

There is no strong reason to favour one index over the other. If one believes that a agent (government or investor) bases expectations on a simple time trend, index I is appropriate. If the planner uses past values to form a forecast, then index II is appropriate.

Index I: We calculate this Index as the normalized standard deviation of the residuals from a time trend¹⁹¹. For a given capital flow y we estimate the trend equation as

$y_t = \alpha + \beta T + \varepsilon_t$, where α and β are parameters, T is the time trend, and ε_t is the deviation of the actual series from the linear time trend. Given that the number of parameters to be estimated is two, the minimum period average one can calculate for the index is three (which happens to maximise the degrees of freedom for the annual series in this case). The index is then calculated as (where \bar{y} is the arithmetic mean of y):

$$\frac{100}{\bar{y}} \sqrt{\frac{1}{n-3} \sum_{t=1}^n \varepsilon_t^2}$$

Index II: This index is calculated as normalised standard deviation of residuals from the forecast (expected) values. This is quite similar to the first index except that the deviations are from some expected (forecast) values (from an autoregressive model). It is calculated as (where $\mu_t = y - \hat{y}$ and \hat{y} is estimated from a simple AR(p) model):

$$\frac{100}{\bar{y}} \sqrt{\frac{1}{n-p} \sum_{t=1}^n \mu_t^2}$$

Given that most of the series are non-stationary we estimate the model in first differences and then recalculate the forecast values in levels to make it comparable to index I. For an I(1) series (which is true for majority of the series) we calculate an autoregressive process (of order 3) by estimating the equation: $\Delta y_t = \eta_0 + \eta_1 \Delta y_{t-1} + \eta_2 \Delta y_{t-2} + k_t$

Having obtained estimates for η_t 's we can calculate the forecast values of y_t by rewriting the equation as: $\hat{y}_t - y_{t-1} = \hat{\eta}_0 + \hat{\eta}_1 (y_{t-1} - y_{t-2}) + \hat{\eta}_2 (y_{t-2} - y_{t-3})$,

we get the level forecast of y_t as

$$\hat{y}_t = \hat{\eta}_0 + (\hat{\eta}_1 + 1)y_{t-1} + (\hat{\eta}_2 - \hat{\eta}_1)y_{t-2} - \hat{\eta}_2 y_{t-3}$$

We now obtain the μ_t as the difference between the actual and the level forecast values.

¹⁹¹ Although a quadratic trend is used in that study, our initial estimates suggest that a quadratic time trend does not improve the fit.

4. Empirical Analysis

The debt crisis literature is related to the currency crisis one, and as this, has its roots on the set of distress episodes observed during the 1980s (the 1990s episodes are comparatively less studied). It is also conceptually linked to the “original sin” literature (Hausmann and Eichengreen, 1999), defined as a country’s inability to borrow abroad in its own currency, and the “fear of floating” one (see Calvo, G., and Reinhart, C.), which states that if policy makers in countries with dollarised liabilities fear the contractionary effects of currency depreciation, then they might try to limit it by manipulating monetary policy.

Early works on currency crises, like McFadden et al. (1985), construct an indicator of debt servicing difficulties based on arrears, rescheduling, and IMF support for 93 countries for the period 1971-1982. They find that the debt burden, the level of per capita income, real GDP growth, and liquidity measures such as non-gold reserves are significant predictors of debt distress, while real exchange rate changes are not. Another early reference, Cline (1984), focuses primarily on financial variables as determinants of debt servicing difficulties, while Berg and Sachs (1988) emphasize “deep” structural factors such as income inequality and a lack of trade openness as determinants of debt servicing difficulties among middle-income countries. Lloyd-Ellis et al. (1990) model both the probability of debt reschedulings and their magnitude, again emphasizing financial variables.

Another branch of the literature looks at non-linearities in the relationship between debt burden indicators and either default or market-based risk indicators. Cohen (1996) finds that the likelihood of debt default increases substantially above a threshold of 200-250 percent of debt-to-export ratio. Detragiache and Spilimbergo (2001) study the importance of liquidity factors such as short-term debt, debt service, and the level of international reserves in predicting debt crises. Reinhart, Rogoff, and Savastano (2003) stress the historical determinants of “debt intolerance”, a term they use to describe the vulnerability of emerging markets to debt levels that seem sustainable for developed economies. Manasse, Roubini and Schimmelpfennig (2003), again extending an earlier literature, this time the one initially created to develop early warning systems (EWS) for currency crises (see Linne, 1999), use logit and binary recursive tree analysis to identify macroeconomic variables that can be used to predict debt crisis. Kraay and Nehru (2003) use probit models to the same effect.

On an explicit policy perspective, Allen and Nankani (2004) derive operational guidelines for multilateral institutions on how to deal with indebted low-income countries from the previous set of studies. As a result, in April 2005, a debt sustainability analysis (DSA) framework has been adopted by IMF and the World Bank, whereby countries are constrained in their ability to borrow according to their indebtedness and level of performance (which is linked to a qualitative ranking of policies and institutions). Vinhas de Souza (2004) analyses the importance of institutions for the NMS, in enabling them to derive the expected welfare-

enhancing effects from financial integration. His conclusion is that an institution-building process can correct some of the “non-linearities” in emerging markets.

A priori, there is no single “correct” definition of what should be defined as a “debt crisis”. In this work, we will define episodes of debt distress as years in which arrears on interest (1184 country/years episodes in the whole dataset, 220 for the countries of interest to us), principal (1130, 171) or their sum (823, 130), both for private and official creditors, are significantly different from zero.¹⁹² The data on arrears and debt are taken from the World Bank’s Global Development Finance (GDF) dataset, which includes series of arrears to all creditors (official and private) on long-term debt outstanding for low and medium income countries. Our dataset includes all the countries that are part of the GDF dataset, plus Cyprus and Slovenia (140 countries in total), for the period 1990-2001,¹⁹³ as only after 1990 one can assume that the debt flows that went into the countries that are of interest to us can be analysed meaningfully from an economic point of view. We will model the probability of debt distress using the following probit specification:

$$P[D_{i,t}] = \Phi(\alpha' X_{i,t}) \quad (1)$$

where $D_{i,t}$ is an indicator value taking on the value of one for debt distress episodes, and zero otherwise, for country i at time t ; Φ denotes the normal distribution function, $X_{i,t}$ denotes a vector of determinants of debt distress; and α is a vector of parameters to be estimated. Our sample consists of an unbalanced panel of observations of distress and normal times.

We will use as our explanatory variables the “usual suspects” in this sort of work. We consider a number of indicators: total debt service obligations as a share of exports, the face value of debt relative to exports, debt service relative to current GNI, and debt service relative to reserves. Additional variables will include the average maturity of the debt, a set of macro control variables including devaluation (nominal and as percentage), current account balance, GDP growth rate, the current account balance as GDP share and CPI inflation. All data for these variables is taken either from the GDF or from the World Bank’s World Development Indicators (WDI) databases. A second group of explanatory variables is intended to proxy the quality of policies and institutions in the country. In our estimations we will rely on the International Country Risk Guide

¹⁹² One must note that countries that are unable to service their external debt need not necessarily fall into arrears; they can also obtain balance of payments support from the IMF and, in addition, seek debt rescheduling or debt reduction from the Paris Club.

¹⁹³ The GDF includes what the World Bank classifies as middle-income countries (those developing countries with GNP per capita higher than USD 755 in 1999) and low-income countries (those below that level). Of our sample of NMS, Cyprus and Slovenia are above this benchmark, so their data was taken from the WDI.

(ICRG) ratings and dummies for the CIS, SEE and EU's NMS and candidate countries (here, this dummy codes the official EU membership application year).

The results of the estimations are shown below, for our three measures of debt distress (namely, arrears on interest, principal and the sum of both), and four different measures of direct "debt pressure" (interest as a share of GNI, debt as share of GNI, interest as a share of exports and debt as a share of exports, called, respectively, Models 1 to 4).

When using episodes of *arrears on interest* as the indicator of "debt distress" (Table 12.4), most of the variables have the expected signs. As one can also see, from the variables from the macro control set, the one more systematically significantly associated with an increase in the probability of undergoing a debt distress episode is an increase in lagged CPI inflation, a standard measure of macro stabilization.

Table 12.4 Dep. Var.: Arrears on Interest.

	Model 1	Model 2	Model 3	Model 4
CAB as a % of GNI	0.36	0.45	1.541	2.15
GNI Growth (-1)	-0.02	-0.02	-0.015	-0.01
Inflation (-1)	0.00**	0.001*	0.001**	0.001**
Devaluation	0.00	0.00	0.003	0.00
Av. Maturity of debt	0.00	-0.00	0.011	0.01
Openness	-0.00	-0.04	0.003	0.03
Interest as a % of GNI	0.16**			
Debt as a % of GNI		0.04*		
Interest as a % of exports			0.05**	
Debt as a % of Exports				0.01***
ICRG	-0.01*	-0.01	-0.01	-0.01
SEE	2.37*	1.97*	0.60	1.882*
EU	-2.72*	-2.30*	-2.49*	-1.23*
CIS	-1.47*	0.53	0.58	-0.05
Const	2.01*	1.40**	1.53**	-2.00
Pseudo R ²	0.62	0.64	0.66	0.65

*, significant at the 1% level, **significant at the 5% level, *** significant at the 10% level.

The direct measures of debt pressure also have the expected signs and are significant (namely, an increase in the share of interest to exports and debt to GNI significantly increase the probability of undergoing a "debt distress" episode). Nevertheless, the variable with the largest systematically significant coefficient is the EU Accession dummy: being a potential EU member massively reduces the

likelihood of suffering a debt distress episode¹⁹⁴ (on the other hand, being located in the Balkans substantially significantly increases it¹⁹⁵). As one may see, the pseudo R-square is substantially high.

When using episodes of *arrears on principal* as the indicator of “debt distress” (Table 12.5), the variables from the macro control set more systematically significantly associated with an increase in the probability of undergoing a debt distress is a decrease in the current account balance (CAB) and the trade openness level. The direct measures of debt pressure, on the other hand, do not perform as well as before. The EU Accession dummy is mostly significant, albeit CIS membership also seems to perform a similar significant stabilizing rule in those estimations¹⁹⁶. The institutional proxy, the ICRG Index, is now mostly significantly and with the expected sign. The R² is still high.

Table 12.5 Dep. Var.: Arrears on Principal

	Model 1	Model 2	Model 3	Model 4
CAB as a % of GNI	-2.88**	-2.919**	-2.85**	-2.83**
GNI Growth (-1)	-0.01	-0.005	-0.01	-0.00
Inflation (-1)	0.00	0.00	0.00	0.00
Devaluation	0.00	0.00	0.00	0.00
Av. Maturity of debt	0.00	-0.01	-0.00	-0.01
Openness	-0.03*	-0.03*	-0.03*	-0.01
Interest as a % of GNI	-0.06			
Debt as a % of GNI		0.01*		
Interest as a % of exports			-0.04***	
Debt as a % of Exports				-0.00
ICRG	-0.02*	-0.01	-0.02**	-0.01**
SEE	-0.78	-0.37	-0.89	-0.87
EU	-0.39	-0.39	-0.60***	-0.80**
CIS	-0.79***	0.03	-0.81***	-0.82***
Const	3.69*	2.15*	3.74*	2.58*
Pseudo R2	0.54	0.53	0.54	0.53

*, significant at the 1% level, **significant at the 5% level, *** significant at the 10% level.

¹⁹⁴ Among other things, being a EU member implies eventually entering the euro area. That would mean that exchange rate risk would end, thereby increasing the level of sustainable debt in any given economy.

¹⁹⁵ Of course, the long series of wars sparked by the break up of the former Federal Republic of Yugoslavia is also responsible for this result.

¹⁹⁶ Perhaps due to i) the effectively very limit access of some CIS countries to market-based capital flows and ii) also due to revenues from commodity energy products, which have made other CIS members show persistent substantial current account surpluses since the late 1990s.

When using episodes of *arrears on interest and principal* as the indicator of “debt distress” (Table 12.6), the variable from the macro control set more systematically significantly associated with an increase in the probability of undergoing a debt distress is again lagged CPI. The direct measures of debt pressure, on the other hand, are only significant with the expected sign when we use debt as share of GNI. Again EU Accession and a high ICRG Index reduce substantially and significantly the probability of experiencing a “debt distress” situation. The pseudo R-square is again high.

Several “robustness checks” of the results above were performed. To test the effect of the volatility of flows, a variable with the two-years standard deviation of long, short and total inflows was introduced in the regression above. This variable was always non-significant, and did not change the results qualitatively or quantitatively. Also, given the dependency of several major CIS countries on revenues from commodity energy products (or related revenues, like transit fees), a variable with changes in the price of the Brent crude was added: it also does not change significantly the results from any of the specification here used. To test for alternative measures of “quality of institutions”, we also used the Heritage Foundation economic and political “Freedom Indexes”: again, this also does not change significantly the previous results.

Table 12.6 Dep. Var.: Arrears on Interest and Principal

	Model 1	Model 2	Model 3	Model 4
CAB as a % of GNI	-0.33	0.48	-0.59	-0.026
GNI Growth (-1)	-0.01	-0.01	-0.01	-0.009
Inflation (-1)	0.00**	0.00**	0.00**	0.000**
Devaluation	0.00	0.00	0.00	0.002
Av. Maturity of debt	0.00	-0.01	0.01	0.000
Openness	-0.00	-0.01**	-0.01	0.002
Interest as a % of GNI	0.08			
Debt as a % of GNI		0.01*		
Interest as a % of exports			-0.03	
Debt as a % of Exports				0.000
ICRG	-0.02*	-0.01**	-0.03*	-0.024*
SEE	0.19	1.16	-0.26	0.347
EU	-2.28*	-1.00*	-2.45*	-2.242*
CIS	-0.39	0.57	-0.98	-0.464
Const	1.14**	0.41	2.04*	1.056*
Pseudo R2	0.59	0.59	0.60	0.60

*, significant at the 1% level, **significant at the 5% level, *** significant at the 10% level.

Risk-Sharing Versus Development Capital Flows

It is a observed feature of more mature economies the importance of a “risk-sharing” (RS) component on capital inflows, as opposed to more “investment” oriented inflows. To test the hypothesis that the NMS should have a degree of “risk-sharing” inflows more similar to the ones observed in mature economies than the one in other European “emerging markets”, we estimated a variable that is a equivalent of a Grubel and Loyd intra-industry trade index, using long term inflows to proxy for the “investment” type of inflows more traditional for emerging markets and short-term inflows to proxy for “risk-sharing” inflows, and interacted this variable with the regional dummies¹⁹⁷. Below we present those estimations, using episodes of arrears on interest and principal as our indicator of “debt distress”. As one might see, the significant variables of the macro control set tend to be the same (CAB and openness), and the point estimates of the debt pressure variable are rather similar. As one might see, the dummy for the new EU member states is correctly signed and is significant. The CIS and SEE interaction dummies, on the other hand, are also “correctly” signed (i.e., a low component of “risk-sharing” flows), and they are significant for the CIS.

Table 12.7 Dep. Var.: Arrears on Interest and Principal

	Model 1	Model 2	Model 3	Model 4
	Coef.	Coef.	Coef.	Coef.
CAB as a % of GNI	-2.58***	-2.95**	-4.18*	-3.62*
GNI Growth (-1)	-0.01	-0.00	-0.01	-0.01
Inflation (-1)	0.00	0.00	0.00	0.00
Devaluation	0.00	0.00	0.00	0.00
Av. Maturity of debt	-0.00	-0.01	-0.01	-0.004
Openness	-0.02*	-0.00	-0.03*	-0.02*
Interest as a % of GNI	-0.10			
Debt as a % of GNI		-0.00		
Interest as a % of exports			-0.06*	
Debt as a % of Exports				-0.00**
ICRG	-0.009	-0.01	-0.01**	-0.01***
SEE*RS	0.70	0.74	0.93	0.63
EU*RS	-0.16**	-0.14***	-0.18**	-0.16**
CIS*RS	0.60***	0.68***	0.81**	0.57
Const	3.01*	2.32*	4.13*	3.07*
Pseudo R2	0.59	0.59	0.60	0.60

*, significant at the 1% level, **significant at the 5% level, *** significant at the 10% level.

¹⁹⁷ We thank Prof. Maurice Obstfeld for this suggestion.

6. Conclusions

This underlying assumption of this study was to a degree supported by a series of probit estimations: “institutions” can substantially reduce the occurrence of debt distress episodes. A “credibility import” from external regional groupings, like the European Union in the New EU Member States (NMS), plus a perceived credible possibility of eliminating the external constraint through the process of EU membership and consequent eventual euro area membership, can lower the debt sensitivity of those countries to levels more similar to the ones observed in mature market economies, therefore helping to support sustainable and stable growth for the countries in question.

The policy implication of this for the other countries in the wider Eastern European region is that such a credibility/institutions import, perhaps via multilateral “framework providers” like the IMF, the OECD or the WTO, or even other regional actors, like the CIS, *could* produce somewhat similar effects, helping to make the regional growth upswing more sustainable in the long run, albeit none of those “framework providers” even approaches the degree of comprehensiveness of the EU’s “*acquis communautaire*”. On the other hand, for the Eastern European countries who are not likely candidates for an eventual EU membership, it is open to question if the new ENP (European Neighbourhood Policy) would have the same degree of effectiveness of an Accession framework, given the lack of the membership “carrot” to lock in deep structural reforms.

Of course, the endogenous construction of “good institutions” is obviously possible (one just have to look at the case of Chile, which has completely decoupled itself from the rest of Latin America, in terms of market perceptions), but an “institution import”, if possible, would imply a faster (Chile took almost a generation to become as credible as it is today) and less costly process.

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