

## CHAPTER I

### **Down and up the stairs: paradoxes of Russian economic growth**

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#### **1. Introduction**

Russia's economic performance during the first transition decade was one the worst among transition economies. Output decline was deeper and lasted longer than both in the countries of Eastern and Central Europe and in most of the CIS countries not affected by war. What caused such a bad performance? This paper, following Popov (2000), and Berglof and Bolton (2002), attributes Russian growth failure to the collapse of the government.

Early literature on the subject concentrated on the 'competition' between reform policies and initial conditions as the main determinants of growth during the first transition period. While proponents of the first theory claim that faster reforming countries had stronger growth, their opponents point out to the fact that faster growing countries also had better initial conditions. The emerging consensus of this literature is that initial conditions matter for the depth of initial decline, and depth and speed of the reform progress determines the speed of the recovery (see Berg *et al.*, 1999; Fischer and Sahay, 2000; Campos and Coricelli, 2000 and so on). Some CIS countries, such as Uzbekistan, still do not fit in the story. Zettlemeyer (1998) attributes Uzbekistan success to favourable initial conditions, such as natural resource abundance (cotton, some non-ferrous metals), and self-sufficiency in energy but Spechler *et al.* (this volume) attribute it to better, though non-conventional policies. Russia has oil, and also is self-sufficient in

energy, so it is not clear, if based on initial conditions why output decline should be larger and longer in Russia than in Uzbekistan.

Recently, a number of researchers pointed out to the institutional performance as an explanation for differences in growth rates among transition economies. Popov (2000) suggests that one of the main explanations of stronger output decline in Russia was the bad performance of government institutions. He shows that countries, which were able to keep the level of budget expenditure close to pre-transition levels performed better during the transition than countries, where budget finance collapsed. Berglof and Bolton (2002) show that the 'great divide', that is the division of transition countries into those with good growth performance and good financial system, and those with slow growth and bad financial system, corresponds to the division according to fiscal performance of countries' governments. Sonin (1999) arrives at a similar conclusion and argues that bad quality of the government manifested itself in rent seeking behaviour and inability or unwillingness to protect property rights.

The question, which remains open, is why government institutions collapsed in Russia and some other CIS countries, while other countries managed to keep or create stronger institutions. Theories explaining this phenomenon can be divided into several groups. Roland and Verdier (1999), and Roland (2000) point out to the effect of expectations. This effect could explain quite well the difference between CEE and other transition economies: the desire of the Eastern European and Baltic countries to become part of the Europe worked as a coordination mechanism for formation of market and governmental institutions. It is more difficult to use this theory as an explanation of the failure of Russian growth in comparison to some other CIS countries.

Castanheira and Popov (2000) blame improper reform sequencing for government collapse in Russia. They claim that most of the countries in the world first developed rule

of law, and only later on introduced democracy. According to this theory, strong governments are observed under strong democratic regimes of Eastern and Central Europe, which developed rule of law before the World War II, an initial condition, and managed to return to it at the beginning of transition, and under strong authoritarian regimes, like China and Vietnam, which started developing rule of law in their countries, while keeping the communist party ruling, a policy decision. Illiberal democracies, or weak democratic states like Russia and some Latin American countries, switched to democracy without having developed rule of law, and, therefore, ended up with weak governments. This reasoning leaves several issues unexplained. For example, it is unclear whether rule of law in the western sense can be viewed in China and Vietnam, which definitely managed to guarantee security of property rights with their bureaucratic systems.

Mukand and Rodrik (2002) and Rodrik (2000) address some of these questions. They notice that economic performance of transition economies follows a U-shape pattern: countries closest to the EU perform well; as distance to the EU increases, countries' growth performance deteriorates; and then starts improving again. Mukand and Rodrik explain this U-shape pattern using imitation-experimentation paradigm. They model the choice of a periphery country of its economic policy. The further away the country is from the leader, the more different its policy should be in order to be successful. So, the best economic policy requires experimentation and choice of the policy best suited for this particular country. However, the governments can be corrupt, and the honest government can decide to imitate leader's policy because this policy appears to be the most transparent for the electorate. In countries located close to the leader, both honest and corrupt governments will choose to imitate, because benefits of imitation are quite large. In the remote countries, imitation is completely inefficient, and governments will

experiment, some of them successfully. The worst case scenario takes place in the countries in the middle: in order to look transparent, honest governments in such countries choose to imitate, even though imitation policy may not be welfare improving. According to this theory, Russia and Ukraine became victims of this forced imitation effects: they chose to imitate policies common to Western countries, which jeopardized their growth performance.

Yet different interpretation can be derived from ‘transplant effect literature’, pioneered by Berkowitz *et al.* (2000) and Polterovich (2001). Berkowitz *et al.* (2000) claim that the level of legality in a country is very closely related to the transplant effect, that is to the level of adaptation of the law and familiarity of population with the law. They notice that most of countries in the world have not developed the law internally, but rather transplanted the law from other countries. The level of law enforcement depends on how well citizens of the country understand the law. The level of understanding is higher in those countries, where a large share of population was familiar with the law before it was introduced, because, for example, they were emigrants from the country of origin. Additionally, the understanding of the law depends on the degree to which the law was adapted to local conditions after transplantation. As far as transition countries are concerned, a large number of them (mostly CIS countries) did not have modern commercial law before the communism, so they had to transplant the law after the beginning of transition. Transplantation was done very quickly, and the level of adaptation was really minor. Therefore, all these new transplants by definition belong to the unreceptive transplantation group.<sup>1</sup> Some Central and Eastern European countries, on the other hand, went through the process of law adaptation in the between the war period, and therefore can be classified as receptive transplants. As the expectation hypothesis of Roland and Verdier (1999) and Roland (2000), this hypothesis provides good explanation

for the differences between CEE and CIS countries, although the nature of explanation is different: it is history of the law, not expectations, which determines differences in growth performance.

In this paper we empirically test the importance of different factors in explaining weakening of the government at the beginning of transition. In particular, we test whether it is expectations, or history, which is important for development of good institutions. The dependent variable is the index of quality of the government, constructed by Kaufman *et al.* (1999), and the lists of independent variables includes proxies for the factors, suggested in Shleifer and Vishny (1998) and several other paper. The results are inconclusive: it turned out that expectations and history are highly correlated, so it is impossible to evaluate their relative importance.<sup>2</sup>

We also discuss the importance of initial conditions, macroeconomic policies and structural reforms for Russian economic development. We demonstrate that during the stage of decline, initial conditions played the most importance role: exporting regions experienced significantly smaller output decline than other regions. During the fixed exchange rate period of 1996–1998, and particularly during the recovery after the 1998 crisis, regions, that were more active in their economic reforms earlier on started to get benefits in terms of better growth performance. Investment growth, particularly the growth of foreign direct investment, is also faster in the regions with higher reform progress.

The paper is organized as follows. Section 2 discusses political economic aspects of Russian transition. In particular, it seeks explanations for collapse of the government in Russia, and how the poor functioning of the government and natural resource abundance could explain such peculiarities of Russian performance as barter and export of capital. Section 3 shows how macroeconomic policies and structural reforms can explain

differences in inter-regional performance. Section 4 concludes.

## **2. Political and legal transition in Russia and the collapse of the Russian government**

It is a tradition in the transition literature to consider 1992, the year when such reforms as price liberalization, exchange rate unification and privatization started, the beginning of Russian transition. Although we will stick to this tradition, one should bear in mind that this dating is not absolutely correct. The 1992 reforms were preceded by 6 years long Gorbachev's perestroika period, marked with some market-oriented reforms, and dismantling of Soviet economic and, particularly, political system. On the economic side, Gorbachev's reforms were initially yet another attempt, to break the tradition of Soviet extensive growth through the modernization of existing industrial capacities. This attempt was rejected by the system it tried to improve. Tons of expensive imported equipment bought out of external loans were, either never installed, or of little use due to lack of technical documentation or trained personnel. Perestroika also brought in some elements of economic liberalization. It was aimed at limiting the scope of central planning, and creating of incentives for the enterprises to develop themselves. In a failed attempt of mimicking Chinese reforms, small cooperatives and self-employment were legalized. Worst of all, macroeconomic policy during perestroika years was extremely irresponsible and led to the accumulation of monetary overhang. The latter undermined the whole mechanism of economic stimulus exactly at a time when these stimuli were supposed to replace the directive planning as the major mechanism of the allocation of resources. As a result, the decline actually started in 1990 and continued in 1991, when the USSR was still in place and the centrally planned economy was still dominant.

On the political side, perestroika resulted in weakening of the role of the communist

party, and rise of democratic, and, even more importantly, nationalistic movements. The latter process led to the break down of the Soviet Union, and formation on its territory national states, including Russia.

Russia started its economic and political transition with a very weak federal government. Yeltsin was very popular among the general public, which allowed him to appoint a reform-oriented government, but he was not supported by the communist dominated parliament. Russian budget was in deep deficit, and the bureaucrats of middle and low levels often sabotaged the newly appointed top level of the federal government. In order to prevent the breaking down of Russia into smaller states, and to get political support of the regions, Yeltsin granted generous independence to the regions, which further weakened the position of the federal government.

The initial reform plan was quite ambitious; it included price liberalization and mass privatization. The model for the first part of this plan was Poland, where shock therapy policy resulted in quick return to growth. The second part of the reform package was unprecedented privatization program, and its goal appears to have been the building of support for the government by the new class of property owners. Both parts of the reform package failed: price liberalization, combined with budget deficit and inconsistent policies of different branches of the government, resulted in high inflation. Mass privatization without proper system of property rights protection ended up in rent-seeking behaviour on the part of the enterprise managers and numerous wars for control over the most lucrative enterprises. Neither of these measures improved the support for the government, but rather weakened it, since they reduced the popularity of Yeltsin. The desperate attempt to improve the powers of the executive branch was undertaken in 1993, with the adoption of the new Constitution. The Constitution granted to the President excessive powers in comparison with those granted to the Parliament. This attempt,

however, did not reach its goal either: since the President received a veto power over the decisions of the Parliament, the latter lost all incentives to perform constructively. In a situation when most of the Parliament members were still opposed to the reforms, the new Constitution provided them with no incentives to seek compromises, and, as a result, they turned to populism aimed at increasing their re-election probability. The president, on the other hand, had too much discretion. No mechanisms of checks and balances over the President's actions were envisaged. Hence, he had little incentives to promote long-term policies including those aiming growth, and concentrated instead on short-run gains, such as getting re-elected.<sup>3</sup> Reforms slowed down and the economy continued its free fall. The regional-federal inter-budgetary relationship also contributed to the poor Russian growth performance in the mid-1990s: regional, and particularly local governments lacked incentives to implement pro-growth policies, and instead were involved in rent-seeking behaviour and competition over transfers from the governments at the upper levels (Zhuravskaya, 1998).

Thus it seems that government weakness have been instrumental in the failure of Russian reforms and growth throughout the 1990s. Therefore, it is interesting to further examine the causes of this weakness and discuss whether a better strategy was feasible.

There are two strands of the literature, which search for the explanation of weakness of the Russian government. The first one compares Russia to the countries of Central and Eastern Europe, and tries to explain why Russia was unprepared for proper functioning of democratic institutions and for the implementation of market reforms. The second one, exemplified mainly by Castanheira and Popov (2000), compare Russia to such fast growing countries as China and Vietnam, or better performing Uzbekistan and Belarus, and ask a more fundamental question of whether it was appropriate for Russia to introduce democratic institutions at such an early stage of transition at all, and whether it



would have been better for Russia to limit itself initially only to economic reforms. We will start with a short discussion of the second idea, and then proceed to the first one.

The defendants of the idea that economic reforms should precede the political ones claim that proper development requires first building the rule of law under autocratic order, and only then introducing democracy. In illiberal democracies, where the rule of law is not supported, governments are weak, and prone to sacrificing pro-growth policies for policies with short-run gains. Certainly, Russia during the 1990s falls into this category of illiberal democracy. It is unclear, however whether this was a result of policy mistakes or of constraints that limited the policy options. Taking the lead in the country as the head of the anti-coup coalition, Yeltsin was supported by the democrats, was considered to be a democrat, and was expected to implement democratic policies. A non-democratic regime was therefore politically non-feasible for him. Moreover, even if feasible, Yeltsin lacked the needed tools to support an authoritarian state. In the CIS countries, that introduced authoritarian regimes after the breakdown of the Soviet Union, the head of the state was often the former communist party head, who relied on strong within-party relationships, supported by strong traditions of family ties. Additionally, in the CIS countries, where authoritarian regimes were successful, the leading group also had full control over the main natural resource (cotton in Uzbekistan, oil in Kazakhstan). Yeltsin had none of these: Russia did not have its own communist party in the Soviet Union, and, in any case, Yeltsin placed himself as a major enemy of the communists, so he could not rely on the party apparatus. Family clans were not as strong in Russia as in the Central Asia even before the Revolution, and migration during the 1930–1950s broke them even further. Finally, as an outsider to the production system, Yeltsin could not gain control over the energy resources prior to the transition.

The remaining question is whether the mistake was made already by Gorbachev,

who initiated political reforms too aggressively. Actually Gorbachev did try initially to follow a proper sequencing of the reforms: He planned to first introduce in the Soviet Union economic reforms of a 'Chinese type', combined with the imposition of a strong rule of law (pravovoe gosudarstvo). Whether these partial reforms failed because of inability of CPSU to reform itself due to policy mistakes or because reforms suitable for China, did not properly address Russia's problems (Mukand and Rodrik, 2002), is a question, which still remains to be answered.

The question of why Russia was less successful than the East European countries is much better understood. The initial weakness of the government can be explained on the basis of differences in the political processes. Shleifer and Vishny (1998) point out to the fact that what is really crucial for success of economic development during the transition is the level and quality of human capital of politicians. Market economy requires different skills from politicians than those they have acquired under socialism. Many East-European countries had elite groups with some of the required skills outside the government and the communist party, like Solidarity in Poland, Charter 77 and other groups in Czechoslovakia and similar quite well organized opposition groups in other countries. Some members of these groups, worked in business like activities prior to transition and later on entered the government. Russia did not have such an elite or any kind of well-organized opposition or a dissident's movement (Bunce, 1999). It may be argued that the existence of such organized opposition was especially advantageous in cases where reforms have been carried out by opposition parties and were of shock therapy type (Eastern Europe). On the contrary, if reforms were carried out by existing communist leaders, like in China, and were more or less gradual, the existence of the old state apparatus and the weakness of the opposition were assets rather than liabilities.

Most FSU states, with the possible exception of the Baltics, were in this regard at a

disadvantage — they did not have either organized political opposition or existing powerful state apparatus. State institutions in countries where opposition leaders took power after the collapse of the Soviet Union (Baltics, Caucasus, Moldova, Ukraine, Belarus, Kyrgyzstan) and that tried to introduce shock therapy type reforms, suffered from the organizational weakness of the opposition forces. On the other hand, countries like Uzbekistan, Turkmenistan and Kazakhstan, where reforms were carried out by former communist regimes/leaders and their immediate successors, did not have full-fledged governments in Soviet times and had to create many layers of their public service from scratch, which became a source of their institutional weakness.

Russia, similarly to Czech Republic and in contrast to other FSU countries, did not have its own governmental institutions prior to transition. There was no communist party of Russia (only the Communist party of the Soviet Union and Communist parties of other Soviet Republics) and the Russian (RSFSR) government and ministries were weak. True, being the legal assignee of the Soviet regime, Russia inherited all Soviet ministries and government bodies, including Soviet embassies abroad, which could have been an advantage, had reforms been carried out gradually by Gorbachev or his communist successor. But this Soviet heritage turned out to be of limited value, since reforms were carried out by Yeltsin-led opposition and were modelled on Polish-style shock therapy. Following this logic, Czech Republic would probably do well under either scenario — under opposition-led shock therapy reforms (because she had relatively well organized opposition beforehand) and under communist-led gradual transition (because she inherited the state institutions of Czechoslovakia).

While lack of human capital can serve as a good explanation for the weakness of the government during the first years of transition, it is difficult to imagine that this factor persisted beyond the few early years. Some more fundamental difficulties should have

undermined the strength of the Russian government. We divide the proposed explanations into two sets of factors: those related to expectations and incentives, and those related to historical legacies.

The desire to become a part of the European Union and to escape from the Russian orbit is often considered as an important explanation of success of institutional reforms in Eastern and Central Europe. These countries had a clear model of the needed institutions, which they wanted to build, and which their populations were ready to bear the costs that were involved. Being a centre of the disintegrating communist empire, Russia had no one to run away from, and thus no incentives for the society to reach an agreement on the speed and costs of reform. The society was much more divided and split up compared to most East European countries. In Russia the communists and the nationalists were stronger and the communists didn't show any tendency to turn to 'social democrats' as in Eastern Europe; moreover there were additional deep contradictions between major industrial groups (namely, agriculture, defense and machine building, and energy and natural resources) on the issue of how to finance the economic reforms. Clearly, these factors did not help in implementation of the government reform strategy. The preserved mentality of Russia as a superpower and the perceived large military potential contributed to the inclination to shift some costs of the reforms to other countries.

The set of historical explanations builds on the fundamental differences in the state of development of the rule of law and democratic traditions in Russia and Eastern European countries. For a number of reasons, even before the 1917 Revolution, the rule of law and elements of democracy were less developed in Russia than in Eastern European countries, including Poland, which at the time were parts of the Russian Empire.<sup>4</sup> At the beginning of the transition, Russia was characterized by poor legal culture, and weak and corrupt institutions responsible for enforcement of the law.

Another problem was the absence of key market oriented laws. Many Eastern European countries adopted market economy legislation during period between the two World Wars and were able to switch back to this legislation at the beginning of the transition. However unfit and old was such legislation in comparison to the one functioning in developed countries, it was adapted to current national conditions, and well understood by the population. Russia, in contrast, was lagging behind developed countries in the introductions of such common laws even before the Revolution,<sup>5</sup> and for this reason lacked market economy legislation prior to transition. The laws, introduced in the early 1990s, were mostly pure transplantations from foreign countries and languages, and were little adapted to the Russian situation or understood by the population. Even worse, a number of laws, and much of the accompanying regulations, have not been implemented or enforced.<sup>6</sup> As Pistor *et al.* (2000) showed Russia is not unique in this: enforcement of law is weak in all new or unreceptive transplant countries.

We tested empirically the relative importance of some of the explanations of the weakness of the Russian government.<sup>7</sup> Regressions are estimated for the group of transition economies. As dependent variables, we use the 1997–1998 index of government effectiveness, taken from Kaufman *et al.* (1999)<sup>8</sup>.

Our main goal was to test the relative power of the expectations (EU accession) vs. the historical (adaptation of the law) hypotheses. We use a dummy for EU accession countries as classified by the World Economic Outlook of the IMF as a proxy for the first hypothesis, and the new transplant and unreceptive transplant dummies as in Pistor *et al.* (2000) as proxies for the second hypothesis. The choice of additional control variables depended on theoretical relevance and data availability. Their list is as follows:

1. The level of economic liberalization prior to the transition. In addition to its direct effect, this factor can have also an indirect one, which is related to the availability of

human capital experienced in working in a market economy. We used two proxies of this concept: the 1989 Liberalization Index, developed by De Melo, Denizer and Gelb (World Economic Outlook, October 2000), and the share of private sector in 1990 as reported in Berg et al. (1999).

2. Political independence before the transition. According to most researchers, this factor should strengthen government institutions. An alternative hypothesis is that it is often easier to build new institutions than to reform the old ones. We use the respective dummy to test which of the two effects dominates (political independence for FSU= 0).

3. Abundance of Natural resource can weaken the government by creating more opportunities for rent-seeking behaviour. We test this hypothesis through a dummy for natural resource rich country, and the share of natural-resources capital in total wealth (both are taken from Campos and Coricelli (2000) dataset).

4. It is often argued that high share of agriculture at the outset of the transition was associated with poor growth performance. We test whether the share of agriculture in total labour force (from Campos and Coricelli, 2000) had any effect on the quality of the government (for example, via the quality of human capital).

5. Finally, we include distance from Duesseldorf in order to check its effect after controlling for expectation or adaptation of institutions effect.

Unfortunately, we were unable to separate EU the accession and adaptation of institutions from one another, as the correlation coefficient between the proxies for these two effects is higher than 0.9 in our final sample. When both were included in the regression simultaneously, they had the predicted sign, but none of them was significant.

Although EU accession and adaptation of institutions explanations cannot be separated, these two hypotheses together explain most of the variance in the differences in quality of governments between CEE and FSU transition economies. The results for

the rest of the variables are the following. In countries, which had independent state before the transition, governments are significantly less efficient than in other countries. The 1989 liberalization index is positively correlated with both measures of the quality of the government, suggesting the importance of the pre-transition reforms for the quality of the government. Distance to Düsseldorf is insignificant when the historical factors are controlled for. Other initial conditions, such as the share of agriculture or natural resource abundance are insignificant. The latter result is particularly important, because it says that natural resources can have positive or negative effect on growth depending on the quality of the government, but they do not have a direct effect on the government after other factors are controlled for. The residual analysis shows that in almost all specifications the actual data on Russian government effectiveness lies from 1 to 40 percent above the corresponding fitted values.

### **3. Do initial conditions, macroeconomic policies, and reforms matter?**

Russia started the transition with deep distortions in its industrial structure. The share of industry in GDP stood at 48 per cent compared to an average 41 per cent in countries with similar income level.<sup>9</sup> At the same time, the average age of the industrial capital stock was quite old: in 1989 it was about 10 years old.<sup>10</sup> Russian managers, who have been for decades stuck with a single goal of plan fulfilment, were not used to adjust their production to the tastes of consumers; this problem was deeper in Russia than in CEE countries, which spent fewer years under communism. An enormous share of the military sector (much larger than 7 per cent of GDP suggested by official Soviet statistics and probably as high as 15–17 per cent; see Steinberg, 1991; CIA, 1978; Aslund, 1989, p. 15),<sup>11</sup> barely-alive agriculture, eating away one third of all budget spending, and a quarter

of all capital investments, and poorly developed service sector — this is the economy structure of the country in 1989–1991. Compared to other countries of the former Socialist camp at the outset of transition, almost no signs of liberalization could be observed: De Melo *et al.* (1997a) index in 1989 was equal to 0.04 as compared to 0.41 in Slovenia and 0.34 in Hungary; in 1991, it was still only 0.10.

**[Figure 1 about here]**

In order to test the importance of the initial conditions, macroeconomic policy and the reform progress for economic growth in Russia we use regional data. Russia consists of 77 regions,<sup>12</sup> which, while sharing similar cultural and historical background differ substantially from one another in terms of growth patterns during the 1990s, the extent of initial structural disproportions, regional policies and the strength of regional governments. Therefore, cross-regional regressions can give a better answer to the question of the effect of different policies on growth than the cross-country ones.

Depending on availability, three variables were used as independent ones: the growth of industrial production during 1992–1995, the growth rate of nominal Gross Regional product (GRP) deflated by Product Price Index (PPI) during 1995–1998, and the growth rate of real GRP as computed by The Russian Statistical Bureau (Goscomstat) since 1997. As a control variables, we used the following indicators:<sup>13</sup>

1. Initial conditions.

a) Level of development and the industrial structure:

- Industrial production in 1990 and in the 1992–1995 regressions or GRP per capita in 1994 in other regressions.
- Export potential: the first principle component<sup>14</sup> of the production of oil in 1995, production of gas in 1995, production of ferrous metals in 1993 and share of export in GRP in 1994.



- Disorganization, computed as a multiple of complexity of the industrial sector, computed by Blanchard and Kremer (1997), and the industrial production structure of the regions.

b) Geographical variables that capture the size of demand in the region:

- The proportion of the population living in cities with more than 500 thousand people in 1996.
- The first principle component of highway density in 1991, railway density in 1991 and distance to Moscow.

c) Education: the proportion of population with secondary education among the population above 15 years of age.

2. Initial attitude to reforms: the first principal component of the proportion of votes for Yeltsin and for Ryzhkov, the communist party candidate, in the elections of 1991 ('no reform in 1991')

3. Economic reform progress in the region.

a) Reform progress by the middle of the 1990: the first principle component of employment share in private small business in 1995, production subsidies in budget spending in 1995, budget subsidies per 100 rubles of agricultural production in 1995, privatisation of trade in 1995, catering and household services in 1996, proportion of goods and services with regulated prices in the first quarter of 1996, the degree of regulation of food prices in 1996, the share of privatised firms in the total number of firms in 1995, and the share of private sector in construction in 1995.

b) Economic liberalization: index of development of regional economic legislation and its enforcement, constructed by Petrov (2001).

3. Measures of the quality of the government.

a) Corruption index from Petrov (2001).

b) Index of democratisation of the region: the first principal component index of regional political arrangements (balance of power between different branches of the regional government, elected/appointed authorities, independence of judges, civil rights), openness of political life, democratic elections, political pluralism, independence of the press, development of civil society, the quality and variety, and the rate of change of local elites, local self-governance (all from Petrov, 2001).

c) Tax collection ability of the government: the first principle component of tax collected in the region to GRP ratio in 1996, share of taxes collected in cash, and the ratio of planned to actual regional budget expenditures (with the minus sign) in 1997.

d) Other measures: share of the shadow economy in GRP, the share of the economy controlled by organized crime groups (Argumenty i Fauty, 1996).

The average growth rate of industrial production or GRP during the corresponding period is used as a depended variable. We divide the entire period into 3 segments: the high inflation period (1992–1995), the period with a stable ruble and an overvalued exchange rate (1996–1998), and the period of economic recovery (1999). We estimate all the equations by OLS. In those cases where the heteroscedasticity test failed, we report t-statistics based on robust standard errors. The results are presented in Tables 1, 2.

**[Table 1 about here]**

**[Table 2 about here]**

Initial economic distortions serve as one of the explanations for the decline of output in transition economies. The Russian specificity in this regard was that in the initial transition period the decline of output was the smallest in the exporting firms, operating mainly in natural resource extracting industries, and thus the corresponding regions.<sup>15</sup> However, It was shown by Popov (2000), that the effect of initial conditions becomes much less important in explaining Russia's output pattern when the strength of the

government is controlled for. The advantage of the government collapse over that of the initial conditions in explaining the Russian output decline is also demonstrated, indirectly, by the small amount of FDI coming in and the large flow of capital flight (Fischer and Sahay, 2000; Garibaldi *et al.*, 2002). Countries with extreme structural disproportions should be able to attract much FDI to finance economic restructuring. The Czech Republic or Slovakia, whose level of industrial distortions were almost as large as Russia's were among the most successful in attracting FDI... This failure of Russia can only be explained by inability of the government to guarantee protection of property rights to foreign investors.<sup>16</sup> Clearly, the inability of Russia to attract foreign capital, and inability to diminish the capital flight cost Russia dearly in terms of growth.

Many economists claim that macroeconomic policies as the elimination of inflation were the key to reach stable economic growth in transition economies as well as elsewhere (Fischer *et al.*, 1996; Aslund *et al.*, 1996; Berg *et al.*, 1999; Fischer and Sahay, 2000 and so on). Political scientists emphasize that that macroeconomic policy is endogenous, the outcome of political bargaining of different groups with conflicting vested interests (Shleifer and Triesman, 1999). This kind of political reasoning may explain why Russia chose the development of a debt system, instead of the reduction of government spending, as its macroeconomic stabilization policy.

To the extent that macroeconomic policy was driven by political factors, one have to turn to these original forces in order to explain the overall (GDP) growth trends in Russia. However, it may well help to explain the relative performance of individual sectors. At the beginning of the transition, when the exchange rate was undervalued, exporting sectors took the lead. During the period of fixed exchange rate, when the real exchange rate quickly appreciated, Russian export started to loose its competitiveness and those industries oriented on domestic demand and enterprises close to large domestic markets

get a better chance to develop. As indeed the cross-regional regressions, reported in Table 1 show. During this period regions with small transportation costs or small distance to Moscow grew faster than others. At the same time, sectors enjoying high local demand, such as food processing declined relatively less than others and attracted some foreign and domestic investment. Yet even they suffered from an overvalued exchange rate (as can be learned from their very strong recovery following the crisis of 1998).

The combination of weak government and tight monetary policy produced such a puzzling economic phenomenon, specific to Russia and a few other CIS countries, as barter.<sup>17</sup> Prior to the 1998 depreciation, the share of barter in total sales in Russia was above 50 per cent. While barter was known in other transition economies, the nature of Russian barter seems to be uniquely different. As it is shown in Table 3, the share of barter in Russia was higher than in most of other transition economies, with the exception of Ukraine, Moldova and Kazakhstan.<sup>18</sup> Its structure was also different from that in Ukraine and Central and East European countries: in Russia barter concentrated mainly in rural areas and around large monopolies, especially in the energy and other natural resources (Carlin *et al.*, 2000).

**[Table 3 about here]**

Dalia Marin in a number of co-authored papers argues that barter is a way of solving the disorganization problems in firms. Given the absence of contract enforcement, there is a hold-up problem on the part of buyers in trade credit deals, and barter is a way of collateralising such deals using output of the buyer. Marin *et al.* (2000) tests this hypothesis on Ukrainian data, and show that it is the best explanation for barter in Ukraine. Since disorganization is a problem in Russia as well as in Ukraine, similar logic can be applied to the Russian firms.

Gaddy and Ickes (1999) proposed a 'virtual economy' theory of barter, which states

that barter is a way of state support for value destructing firms. Marin et al. (2000) questioned the theory by claiming that they do not find confirmation of it in the Ukrainian data. It is possible, though, that for virtual economy to exist, a large non-virtual economy is needed, supposedly in the natural resource extraction industry, which provides enough rents to support the virtual economy. Therefore, virtual economy theory may not be supported by data from resource poor Ukraine but be well founded in Russia. The ‘curse of oil’, which we discuss in more details later, can be one of the causes of barter, according to the virtual economy theory.

The list of explanations of barter in Russia also includes liquidity crunch due to tight monetary policy and high yields of government bonds (GKO), price discrimination by natural monopolies, tax evasion and artificial attempts by the government to show lower fiscal deficit through wage arrears to its employees. Notice, that all existing explanations of barter imply weakness of the government. Inability of government to provide contract enforcement mechanism is needed for both the disorganization and the virtual economy explanations to be true. Institutional collapse is needed for inflation and liquidity crunch to result in barter (Woodruff, 1999; Guriev and Popov, 2001; Popov, 2002).

What effect can this massive use of barter have on future development of the Russian economy? First of all, as shown in a number of papers (Guriev and Ickes, 2000; Carlin et al., 2000 and others), barter delays restructuring of firms. Firms, involved in barter, have little incentives to improve the quality of their products, and to increase productivity. Instead, they can get involved into counter-productive restructuring, needed to make barter deals as efficient as possible. Additionally, as argued by Haizhou et al. (2001), barter could have slowed down the development of Russian banking sector.

**[Figure 2 about here]**

The financial crises and devaluation of the ruble in August 1998 had a remarkable

effect on the Russian economy, which suddenly began to grow. The usual consensus is that this growth was the result of the devaluation: both domestic and external demand for Russian output increased as a result of the changes in relative prices, and the Russian economy, which had ample unused capacities, was able to get out of stagnation. Evidence from cross-regional regressions suggests that this is not the entire story (see Table 2). After controlling for other factors, regions with higher reform performance had higher growth rates during this period. Thus, the reaction of the Russian economy to the devaluation was in a sense the result of structural transformations and reforms, accumulated from the beginning of transition. At the same time the export potential in regions was not found to be a significant explaining factor of growth in 1999 (see Table 2). If true it also follows that from the regressions that the direct effect of natural resource potential was observed only in the beginning of transition. However, over time we did not find that export potential is a significant explanatory variable for growth of Russian regions. Nevertheless it is still possible that the export potential had an indirect effect (positive or negative) on growth through a number of channels that were mentioned above.

Studying the investment behaviour across regions of Russia produces similar results. Although the general source of investments in Russia in the late of 1990s was mainly revenues from oil and natural resources sales (see Figure 3), the recipients of investments were firms in better-reformed regions. We estimated a traditional accelerator model of investment, using the following specification:

$$\frac{I_{j98}}{K_{j98}} = \alpha + \beta_1 \left( \frac{\Delta Y_{j98}}{K_{j98}} \right) + \beta_2 \left( \frac{\Delta Y_{j97}}{K_{j98}} \right) + d * Democracy_j + l * Liberalization_j + \varepsilon_j (**)$$

where  $I$  stands for investment,  $Y$  is output,  $K$  is capital, *Democracy* stands for the index of democratisation, *Liberalization* stands for economic liberalization index (the latter two

variables are from Petrov (2001), and they are explained in greater detail above),  $j$  is the index of the region. The model was estimated separately for investment in industry, agriculture, and services. The results, presented in Table 4, show that the level of economic liberalization is the major factor explaining regional variations in investments. In addition, Manaenkov (2000) demonstrated that progress in reforms is also one of the most important factors, affecting the decision of foreign direct investors to come to Russia.

**[Figure 3 about here]**

**[Table 4 about here]**

Political factors, such as a stronger and more cohesive, and brighter expectations for the continuation of reforms, may also had their effect on the revival of growth following the 1998 crisis. The Election of Putin in 2000 and his reform of the government structure consolidated and strengthened the government. One of the signs for this is the improvement in the government's abilities of tax collection (see Figure 4). Additionally, the announcement of Putin's economic program with its strong reform orientation, and the confirmation by Putin that the privatization results will not be reversed, should have strengthen reform expectations among the population.

**[Figure 4 about here]**

#### **4. Conclusions**

This paper suggests that it was the collapse and weakness of government institutions, which lead to Russian growth failure during most of the 1990s. Strengthening of the government in the late 1990s coincided with the period of return to economic growth. Weakness of the government is explained firstly by historical factors, and, secondly, by

lack of coordination of expectations regarding economic policies. During the 1990s Russia tried to copy western governmental and economic institutions and legislation, and this attempt failed because of non-familiarity of the population with legal conditions. Such familiarity is badly needed for proper functioning of such institutions. In addition lack of consensus inside the government and among the people over the direction and sequencing, the speed, and the costs of the reforms and their distribution also undermined the ability of the government to function efficiently. Both process, that is the adaptation of institutions, and the alignment of expectations are not yet finished in Russia. Russian future growth depends crucially on the speed of these processes.



## Notes

1. The lack of adaptation of the law to domestic conditions in such countries leads to mal-performance of the legal system. The bankruptcy law in Russia provides an important example of a nonfunctioning of otherwise good law, that wasn't properly adapted to the local environment (see Lambert-Mogiliansky et al., 2000).
2. This paper does not give the full list of factors, which may affect Russian development in the future. For example, Russia may face substantial costs of geographical reallocation of production, because under the current structure some increasing return industries are located in the areas with low demand. Understanding the effect of this and other factors on Russian development deserves a separate study (see Gaddy and Ickes, 2001), 'The Cost of the Cold', unpublished paper, Pennsylvania: Pennsylvania State University, May).
3. See Berglof et al. (2002) on accountability of the government under the presidency of Yeltsin, and its effect on economic growth.
4. As an explanation for this phenomenon, Sachs, Woo and Yang (2000) refer to the fact that development of the rule of law in Europe was a result of a compromise between the State and the Church during the Reformation period. Since in Russia there was no true competition between the two, no rule of law was developed internally.
5. Owen (1991; 1997), for example, shows that despite 80 years of attempts, Russia failed to introduce the law on incorporation by registration, and kept concession principle of incorporation until the revolution. As a result, the pace of development of corporations was much slower in Russia than in developed countries: in 1914, in Russia there were only 2167 corporations, in comparison to almost 61000 in the UK, about 15000 in France, and 5487 in Germany (Owen, 1995).

6. This resulted in improper usage of many laws, especially in combination with the lack of independence of the judiciary from the local governments. For example, bankruptcy law became the main instrument of property contests (Lambert-Mogiliansky et al., 2000).

7. This section of the paper is close in spirit to the study by Fischer (1998), who evaluated the importance of different factors for the speed of reform during the early transition years. His results show that the outcome of first elections was the most important factor, which also determined the later progress of the reforms.

8. We repeated all the estimations for a composite index of institutional quality, calculated as a simple average of indexes of voice and accountability, political instability and violence, government effectiveness, regulatory burden, rule of law, and graft, and received similar results.

9. It is worth noting that some Eastern European countries were still more over-industrialized: for example, in the Czech republic the level was 39 per cent.

10. The task of renovating physical capital contradicts the short-run goal of fulfilling plan targets, and, therefore, Soviet planners preferred to invest in new capacities instead of upgrading the old ones. As a result the average age of capital stock had a tendency to increase during the Soviet era.

11 Interestingly, military spending of the Russian Empire were also the highest among developed countries constituting about 7 per cent of the net national product.

12. Not including 10 autonomous republics and ‘regions’.

13. More details on the construction of variables are available upon request.

14. We carried out a principle component analysis of the following four variables: production of oil in 1995, production of gas in 1995, production of ferrous metals in 1993 and share of export in GRP in 1994. The first principal component, which we call export potential, explain 38 per cent of variation in the variables. All four variables are included

in the first component with positive signs. Export and ferrous metal production has higher weight than oil and gas production. The details about construction of the principle component are available in the full version of the paper at

[http://www.eerc.ru/activ/projects/GRP/papers/Russia\\_final.pdf](http://www.eerc.ru/activ/projects/GRP/papers/Russia_final.pdf).

15. Manufacturing firms suffered not only from their initial non-competitiveness, but also from the underdevelopment of the financial sector. Such firms were unable to get credits to finance investment as well as to offer trade credits and leasing schemes to their consumers, which made them even more non-competitive.

16. Another factor responsible for capital flight from Russia is the abundance of (exported) natural resources.

17. Another important characteristic of Russian economic situation during the period of tight monetary policy was wage arrears, which were also observed in Argentina before the 2001 crisis.

18. The large share of barter in sales in Croatia should be viewed as a problem with the inconsistency of the definition of non-monetary transactions in different countries (Carlin *et al.*, 2000).

### Tables

Table 1. Regression results for industrial production, 1992–1995 and 1996–1998

Dependent variable	Annual average growth rate of industrial production, 1992– 1995		Annual average growth rate of industrial production, 1996–1998		
Industrial production in 1990	0.01	0.002			0.003
	[0.95]	[0.27]			[0.49]
Industrial production in 1995			0.005	0.006	
			[1.85]*	[2.16]**	
Export potential	0.018	0.019	–0.005	–0.003	0.005
	[2.92]***	[3.41]***	[0.79]	[0.52]	[1.15]
Democratization			–0.009		
			[3.01]***		
No reform support in 1991	0.003	0.003	–0.004		
	[0.50]	[0.45]	[0.73]		
Reforms 1996			–0.005	–0.006	–0.006
			[1.48]	[1.94]*	[2.00]*
Disorganization index	0.109		0.128		

	[1.12]		[2.34]**		
Secondary education	0.14	0.1	0.141	0.102	0.138
	[1.34]	[0.99]	[1.66]	[1.22]	[1.64]
Transportation	-0.007	-0.006	0.01	0.007	0.005
	[1.57]	[1.30]	[2.53]**	[2.07]**	[1.35]
Tax capacity in 1997			-0.01		
			[1.36]		
Big city dummy	-0.013		-0.014		
	[0.34]		[0.53]		
Corruption index			-0.003		
			[0.47]		
Liberalization index			0.034		
			[3.85]***		
Shadow economy in 1995		-0.133	-0.132		-0.063
		[1.73]*	[2.14]**		[0.98]
Organized criminal control index 1996	0.001	0.002	0.008	0.005	0.006
	[0.10]	[0.30]	[1.72]*	[1.18]	[1.32]
Observations	63	64	61	62	62
R-squared	0.32	0.35	0.5	0.24	0.2

Table 2. Regression results for gross regional product, 1997–1998 and 1999

Dependent variable	Average GRP index 1997–1998 (GKS)			GRP index 1999 (GKS)		
	GRP per capita, 1994	0	0	0	0	
	[1.37]	[0.68]	[0.96]	[1.36]		
GRP per capita, 1998				0	0	
				[1.63]	[1.61]	
Export potential	–0.005	0	–0.002	0.011	0.01	0.011
	[1.07]	[0.09]	[0.40]	[1.67]	[1.61]	[1.75]*
Democratization	–0.01	–0.008	–0.007	–0.003	–0.005	–0.005
	[3.14]***	[2.56]**	[2.60]**	[0.80]	[1.21]	[1.31]
No reform support in 1991	–0.012					
	[2.49]**					
Reforms 1996	–0.001					
	[0.29]					
Disorganization index	0.089					
	[1.74]*					
Secondary education	0.08	0.111	0.09	–0.053	–0.017	–0.006
	[0.97]	[1.35]	[1.25]	[0.46]	[0.13]	[0.05]
Transportation	0.012	0.008	0.009	–0.003	–0.004	–0.003
	[2.69]***	[1.98]*	[2.59]**	[0.61]	[0.67]	[0.62]

Tax capacity in 1997	-0.002	0.005				
	[0.24]	[0.77]				
Big city dummy	-0.005	0.012				
	[0.21]	[0.48]				
Corruption index	-0.001	0.002				
	[0.19]	[0.31]				
Liberalization index	0.02	0.016	0.015	0.019	0.021	0.022
	[2.55]**	[2.00]*	[2.11]**	[1.68]*	[1.81]*	[1.93]*
Organized criminal control index 1996	0.006	0.007			-0.003	
	[1.53]	[1.67]			[0.48]	
Observations	61	64	64	64	64	64
R-squared	0.43	0.29	0.24	0.11	0.12	0.12

Table 3. Share of firms with different levels of non-monetary transactions by country, per cent

Dependent variable	>25% of total firm's transactions	>50% of total firm's transactions
Russia	35.7	20.4
Ukraine	34	22.4
<u>Other CIS</u>		
Armenia	2.4	1.6
Azerbaijan	1.6	0.8
Belarus	15.2	6.4
Georgia	4.7	0.8
Kazakhstan	24.4	16.5
Kyrgyzstan	23.2	12
Moldova	44	23.2
Uzbekistan	13.6	6.4
<u>Non-CIS</u>		
Bulgaria	3.2	1.6
Croatia	49.1	26.1
Czech Rep.	3	0
Estonia	2.3	0
Hungary	0	0
Lithuania	2.7	0



Poland	4.5	0.9
Romania	8	4
Slovakia	22.5	18.6
Slovenia	19.2	4

Source: EBRD Enterprise Survey (1999).

Table 4. Investment equation estimations

Dependent variable	Fixed investment in service sector in 1998	Fixed investment in construction in 1998	Fixed investment in agriculture in 1998	Fixed investment in industry in 1998	Fixed investment in industry in 1998
Changes in output in service sector, 1998	0.106				
	[2.25]**				
Changes in output in service sector, 1997	0.181				
	[4.09]***				
Changes in output in construction, 1998		0.002			
		[0.09]			
Changes in output in construction, 1997		0.003			
		[0.14]			
Changes in output in agriculture, 1998			-0.005		
			[0.26]		
Changes in output in agriculture, 1997			-0.042		
			[1.12]		
Changes in output in				0.17	0.195

industry, 1998				[2.00]**	[1.95]*
Changes in output in industry, 1997				-0.145	
				[0.91]	
Democratization index	0	-0.001	0	-0.002	-0.001
	[0.89]	[0.30]	[1.56]	[1.68]*	[1.61]
Liberalization index	0.001	0.015	0	0.011	0.01
	[1.71]*	[1.94]*	[0.29]	[2.00]**	[2.05]**
Constant	0.007	-0.022	0.007	0	0.003
	[3.13]***	[1.07]	[2.92]***	[0.02]	[0.26]
Observations	75	77	75	77	77
R-squared	0.22	0.13	0.1	0.13	0.12

Robust t-statistics are in brackets.

\* Significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%.

All variables are scaled by capital at the beginning of 1998.

## Figures

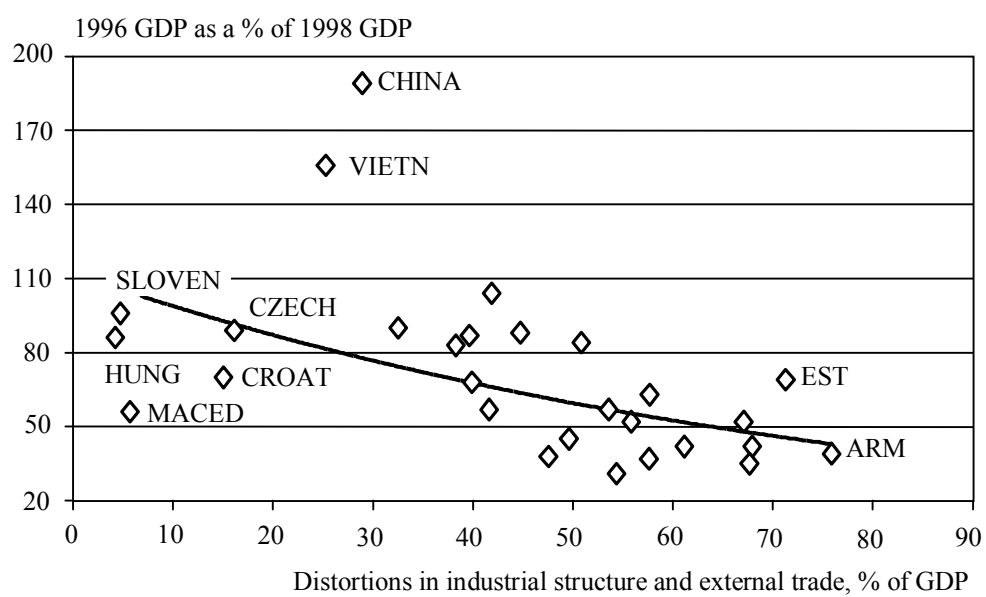


Figure 1. Aggregate distortions in industrial structure and external trade before transition and GDP change during transition

Source: Popov (2000).

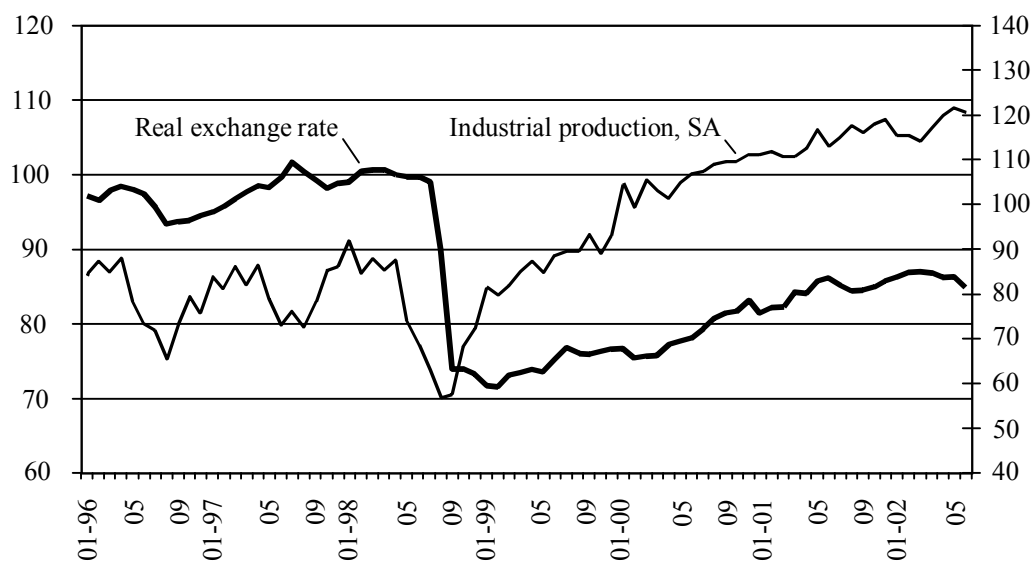


Figure 2. Output and real exchange rate

Source: Russian Economic Trends.

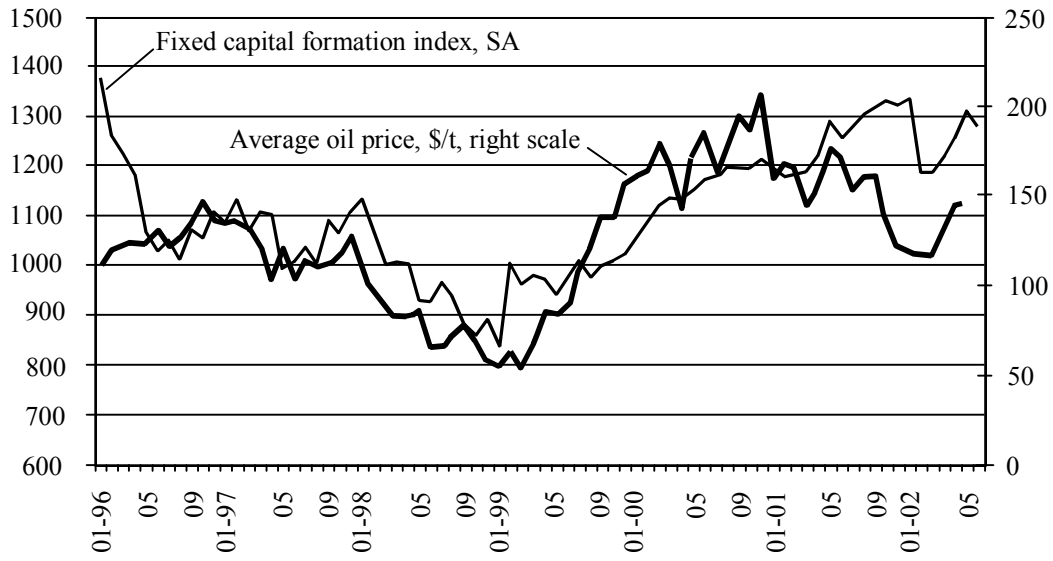


Figure 3. Investment level and oil price

Source: RET.

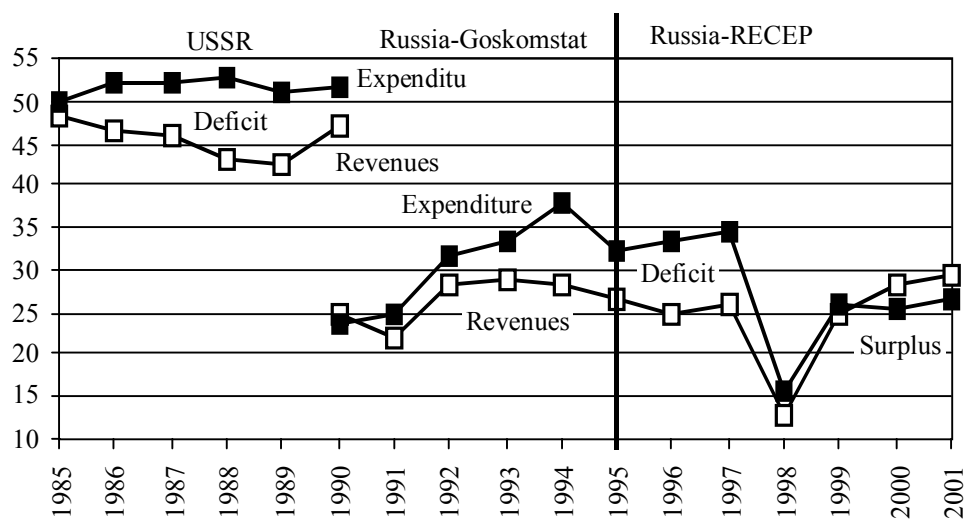


Figure 4. Consolidated budget revenues and expenditure, per cent of GDP