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**“The Russian Triple Crisis 1998: Currency, Finance
and Budget”**

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THE RUSSIAN TRIPLE CRISIS 1998: CURRENCY, FINANCE AND BUDGET

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Abstract

The paper analyzes the Russian currency crisis in August 1998. By critically discussing the existing literature and by descriptively investigating data, the relative importance of economic fundamentals, expectations, structural factors and external causes is assessed. The paper highlights the contradicting requirements on the macroeconomic policy of a transition economy that has a history of inflationary financing. The argument is that none of the previous analyzes has highlighted clearly the triple crisis nature of the events: the crises in the currency and financial markets were inseparably intertwined to the fiscal problems. However, in this emerging market context the budget deficit cannot be stated to be the sole cause in the traditional sense of the so-called first-generation currency crises theories.

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1 Introduction

There have been several explanations about the Russian currency crisis in 1998. There have also been some more assessments about as to what kind of theoretical framework is best to be associated with the crisis. In order to get an analytically ordered picture of these dramatic events, some explanations turn to the macroeconomic fundamentals. This approach coincides with explaining the crisis with the kind of framework that the first-generation models of currency crises (notably, developed by Krugman, 1977) use. The most important fundamental explaining the currency attack is the government budget deficit. In these models, the government has a linear policy rule. Begg et al. (1999) state that the Russian crisis clearly belongs to this category. Also Kharas et al. (2001) model the crisis from this standpoint. Alternatively, the crisis could be attributed to external factors like world money and commodity markets and contagion from other crises, like the Asian crisis in 1997-98. This way of explaining can best be understood in the context of the second-generation currency crisis literature (see notably Obstfeld 1994, 1996). This approach stresses the self-fulfilling nature of currency crises, thus rendering multiple equilibria in the model to be possible. In these models, liquidity issues in the banking sector can be given a central role. The third possible way of analyzing the Russian events, advocated for example by Sutela (1999), is to concentrate on the special peculiarities that characterize the operating of the Russian economy. This approach draws from the “virtual economy” explanation of the workings of the Russian economy, developed by Gaddy and Ickes (1998). Butorina’s (2000) related argument is that the crisis was not a fiscal crisis as is the widely accepted perception in the west, whereas the role of “transition specific factors”, particularly lack of sufficient institutional development, is underestimated. Gobbin and Merlevede (2000) explain the crisis as a debt crisis, the problem being especially the short maturity of government debt. They argue that when the GKO financing was introduced and expanded, the possibility of a second-generation crisis was increased at the expense of the possibility of a first-generation crisis. Also the presence of foreign investors increased the risk of a self-fulfilling attack. They present a stylized model where they explain the crisis by analyzing the short-term government bond market. Their result is that the unsustainable debt burden was of crucial importance in inducing the crisis. The fact that the debt stock was mainly short term contributed to the vulnerability of the economy, and eventually, the fixed exchange rate had to be given up

I make a case that none of these approaches is sufficient for explaining the crisis sufficiently. It has been stated that the crisis was as well a financial as a currency crisis. This situation has been analyzed especially in empirical literature, notably by Kaminsky and Reinhart (1996),

who call a simultaneous exchange rate and a banking sector crisis “twin crises”¹. Also with the Russian situation, it is impossible to separate the analyzing of the currency crisis from explaining the overall crisis of the financial system. But here the situation is even more complex as the crisis has also a crucial fiscal aspect. I claim that the most useful way of explaining the crisis is to describe it as a triple crisis concerning currency markets, financial sector and budget balance. My aim is to elaborate on this argument in this paper.

I argue that the best understanding of the causes calls for combining elements from different approaches. I claim that the Russian crisis was rather a second than a first generation crisis in that there were no clear, linear policy rules that the government obeyed. However, the fiscal issues enter the picture in an even deeper sense that is the case with the first-generation models. The fiscal balance was problematic; there was at least a prospect for severe future budget deficit – and uncertainty about the means available for its financing – and in this context, the debt problems play a central role in the explanation play a role here. I argue that they are best taken into account by acknowledging that they make multiple equilibria possible. Thus, second-generation approach is useful. Further, I argue that this produces a better account of the crisis than concentrating on the virtual economy characteristics of the economy would. Analyzing a currency crisis calls for analyzing short-term equilibria and liquidity issues, and this cannot be done with the virtual economy approach. I further reason that whereas the special characteristics of the economy are not to be given the main role in the explanation, traits having to deal with these significantly worsened the crisis. The factors that rendered a linear policy rule impossible and made the second-generation approach more suitable are those related to the Russian special institutional characteristics, notably, the underdeveloped state of the financial sector. Also the short average maturity of government debt speaks in favor of a second-generation approach. The special characteristics of the Russian economy in the form of a history of inflation taxation are best analyzed by including them in this type of framework.

In this paper I present a description of what happened in the Russian currency and financial markets in August 1998 and discuss the developments that led to it. I illustrate the different phases of the crisis, including the period leading up to the predicament. I pay some attention to the period from the beginning of stabilization in 1992 through to the middle of the year 1995, when there were changes in the strategy of the stabilization policy. The second broad period is the period from mid-1995 to the crisis in August 1998, which I am concentrating on.

¹ In Kaminsky and Reinhart (1996), the definitions of currency crisis and balance of payments crisis are used as synonyms, as are the definitions of banking and financial crises. Also here I use financial and bankind crises as synonyms. However, in the Russian situation it is rather misleading to talk about a balance of payments crisis, because, as opposed to for example the Asian economies in 1997-98, for Russia, the balance of payments did not present any noteworthy imbalances at all before the crisis. Only afterwards, the capital flight posed substantial

Section 2 addresses the developments in the currency markets, section 3 concentrates on fiscal issues and section 4 deals with the developments in the financial markets. Special attention is paid to the bond markets, as developments in the interest rates and in the maturity of public debt are of central importance. Part 5 consists of a summary of explanations for the crisis as well as of some discussion of the possible exchange rate regime and policy choices. Part 6 concludes.

2 The Exchange Rate Path

In 1995, the Russian stabilization seemed to have been successfully completed. Inflation seemed to be under control. Consequently, the ruble's decline had halted, and during the first half of the year, the currency even appreciated in nominal terms against the dollar. In mid-1995, the authorities announced a fluctuation corridor for the ruble, tied to the dollar. However, this corridor had to be revised several times. In spring 1997 the central bank was able to build up foreign currency reserves, and there was upward pressure on ruble – it even appreciated for a short period in April (RET 1997). The financial instability from Asia put pressure on the ruble in October-November 1997, when the Asian crisis intensified, and again in January 1998. (Tompson 1999, 118.) The corridor was replaced by a pivot mechanism in late 1997. The last change took place in the beginning of 1998, when the authorities moved from the pivot system to a wide corridor, where the ruble was allowed to fluctuate within a 15 per cent band on both sides. The current account deteriorated from 1996 to 1997, however it stayed positive even in 1998. The capital account was positive in 1997, even improving in 1998. (See Table 12b)

The authorities tried to counteract the pressure by intervening in the foreign exchange and money markets. The CBR refinance rate was raised from 24% in the last quarter of 1997 to 28% in the first quarter, and the interbank rate from 16.6% to 25.2% in the same period. The average GKO secondary market yield (all maturities) rose from 19.0% in the third quarter of 1997 to 29.1% in the first quarter of 1998. (See appendix, table 1.) Other significant policy response was to raise the reserve requirements on foreign currency deposits: in November 1997 the reserve requirements of foreign currency accounts of all maturities were raised from 6% to 9%, and in February 1998 further to 11%. (See table 2.) By raising the interest rates the Central Bank succeeded in convincing the market about its willingness to go to great lengths in defending the ruble, and the immediate pressure subsided. (Valdivieso 1998, 13.)

pressure on the external balance of the country. Therefore, here the Russian crisis will be defined as a currency crisis, or, equivalently, an exchange rate crisis.

Nevertheless, the crisis reemerged and culminated on the 17th August 1998. The ruble was effectively allowed to float. The stabilization period that begun in 1995 was over. There was a drastic change in the conduct of exchange rate policy. Officially, the ruble was allowed to fluctuate inside a wide band (between R6 to R9.5 per dollar), and the central bank declared that it would intervene if the ruble threatened to depreciate too much. However, in practice, the markets forcedly took over the former currency corridor, and the new policy meant floating the currency. This float turned essentially to a free fall as the ruble rate declined as low as to R20.8 per dollar. This was mainly due to the expectation that the monetary authorities might resort to monetary financing. (RET 1998, 16-17) The ruble lost half of its external value in a week, and continued depreciating to about a quarter of what its value had been in July 1998. (Berglöf and Vaitilingam 1999, 3.)

- FIG 1 APPROX HERE -

Figure 1 shows the nominal exchange rate behavior preceding and during the crisis. (Additionally, see table 13.) After August 1998, the ruble continued depreciating. It reached R27.40 per USD in March 1999 (Berglöf and Vaitilingam 1999, 9.) Since then, the ruble plunged as low as about R28.50, and on September 28th 2000, the rate was at about R27.75. (BOFIT)

During the August 1998 crisis, there also was a forced restructuring of government debt on the GKO/OFZ² market, and the central bank announced a 90-day moratorium on most private non-sovereign debt. This meant a de-facto default on the Russian sovereign debt and on most bank debt. (RET 1998, 17.)

3 The Budget, Public Debt, and Fiscal Policy

3.1 Financing of the Deficit

Here I describe what happened to the fiscal position and lending of the government. It is also important to investigate the currency and maturity composition of the government debt. I discuss the issue of the budget's revenues and expenditures: the developments in these and their relative importance.

² GKO's are ruble nominated short-term treasury bills, OFZ's are longer term ruble government debt that pays interest in coupons. The coupons are generally floating, though there have also been some issues with fixed coupons. (RET 1997, 31.)

During 1993-98, the federal budget deficit fluctuated around 5-10 of the GDP. (See table 7a.) Treasury bill issues were started in 1993. Table 6 gives a picture of the broad development of the shares of different means of financing of the deficit. Domestic treasury bill issues increased from 1994, and they also increased their share as a means of financing the deficit. They consisted mainly of three-month maturities (Lopez-Claros and Alexashenko 1998, 35.) There was hope that the borrowing costs for the economy as a whole would be reduced when moving from inflationary financing of the budget deficit to bond finance. However, the public debt and its financing costs have been rising continuously. (See tables 6 and 7.) The speed of growth of debt is of crucial importance from the point of view of fiscal sustainability. (See table 3a on debt as a percentage of GDP.) The stock of ruble nominated government debt was not only high relative to the GDP, but it was also growing at unsustainable rates. (Tompson 1999, 115.) Vitally important is also the development in the ratio of debt to government revenues. Alarming, the net claims on general government had exceeded the revenues and grants to government in the two years leading up to the crisis (see table 3a). Also, federal government debt as per cent of exports had been growing at a worrying rate, and in 1997 it was about 36 per cent. (See table 14.) The stock of debt in relation to M2 was also very high. The net claims on general government as per cent of M2 was as high as about 100 per cent in 1996 and 1997, reaching about 160 per cent for the whole of year 1998. (See tables 3a and 3b.) . In May 1998, 25% of the government ruble nominated debt consisted of papers with maturities under three months, 20% were of 3-5 months and 28% of 5-12 months. (See table 15.) Rolling the debt over got increasingly expensive: the average GKO yield rose from 24.4 per cent in March 1998 to 81.0 per cent in July. (See table 1 on interest rates). During 1998, before the crisis, the debt service payments took an increasing share of the federal expenditures, reaching about a third of the expenditures by summer. (See table 7a.) Thirty to forty per cent of the debt was held by non-residents, which added to the vulnerability of the economy.

After the high point of the crisis, the authorities resorted back to inflation tax – there was no other option for them. This is reflected in the growth of domestic credit (see table 8). This helped the situation of banks to some extent – however obviously not nearly enough to avoid the banking crisis. The choice between supporting the ruble and helping the banks was not a real decision anymore, as there was effectively no other feasible alternative after defaulting on debt. However, in a country distinctly characterized by insufficient financial deepening as Russia, using inflation tax is very difficult – in extreme cases, it may prove to be even impossible. The monetary base – determining the inflation tax base – was only 7.8 per cent of GDP in 1998 (see table 10), and this meant that the inflation tax rate high enough to generate the needed inflation tax revenues was unfeasible. In section 4, I concentrate on these financial and monetary aspects.

3.2 About the Importance and Components of the Budget Deficit

Here I recapitulate critically the discussion about the relative importance of the revenue and income sides on the Russian budget deficit. I handle also the arguments that question the absolute importance of dealing with the budget deficit when analyzing the Russian economy.

Gaddy and Ickes (1998) argue that because of the significant role played by different payment arrears, and the fact that the economy is a barter society and highly dollarized, concentrating on economic fundamentals, in particularly on the budget deficit, is incorrect when analyzing the Russian economy. They define an economy characterized by these properties as a “virtual economy”. According to them, the figures corresponding to the budget deficit are only reflections of this virtual economy. However, Lane (2000) argues that the real value of barter is lower than sometimes advocated, if the role of so called veksel is analyzed appropriately. According to him, the veksel should not be included in the barter figures on the sole basis that they are non-monetary settlements. Instead, they should be treated as forms of money, as they are often traded in the secondary market, and have proved to be profitable for many banks.

According to (Sutela 1999, 71), the effectiveness of fiscal policy was weak for numerous reasons, an important one being that a large part of federal tax revenue (some 40 per cent in 1997) consists of various monetary surrogates Payment and tax arrears hinder budget revenue collection and, thus, further weaken the effectiveness of fiscal policy. Wage arrears undermine the collection of income tax. (See table 4.) However, Sutela (1999) argues that the main problem of the Russian budget is not the inadequate tax collection, but excessive expenditures. If the budget deficit is measured by taking into account the federal budget and the subnational budgets as well as the off-budgetary funds, the budget revenue actually reached 30 per cent of the GDP in 1997, the year preceding the crisis. During 1993-98, the tax revenues have fluctuated around 30-37% of GDP in the enlarged budget, including regions (RET 2000).

Conversely, Valdivieso (1998, 13) claims that poor revenue collection was the reason behind Russia’s weak fiscal position. Furthermore, in their analysis concentrating on years 1992-96 Lopez-Claros and Aleksashenko (1998) argue that the income decline was significant: the tax base shrunk, and also the tax administration became more inefficient as a consequence of the transfer of economic activity to the private sector, as the tax system was designed to collect taxes from a publicly owned enterprise sector. There was also lack of clear and coherent tax laws. However, the so-called virtual economy properties also affect the income side of the budget. Not only did tax revenues decline, they became less liquid as well, because of the non-cash forms of payment. Particularly at the local level, up to one-third of tax payments

were made in-kind, in non-transparent arrangements between the enterprises and the local authorities. In addition, tax avoidance incentives encouraged barter operations. (Lopez-Claros and Alexashenko 1998; 8-9, 13) On the extent of arrears including more recent data, see table 4.

Tax arrears are a fiscal revenue problem. Berglöf and Vaitilingam (1999) argue that Russia is trying to collect too much tax revenue compared to the capacity of the economy. Also McKinsey (1999) agree that the nominal taxes remain too high – however, the system also is too complex and contradictory. Thus, the conclusion cannot be that the tax side of the budget is not problematic, but that the authorities are simply trying to collect too much. Lack of coherent, easy-to-understand tax laws necessarily affected tax revenues negatively. (See Cochrane et al. 2000).

Differing somewhat from Sutela (1999) and Gaddy and Ickes (1998), I argue that a useful way of analyzing the Russian financial sector is to acknowledge that the budget deficit (the income and expenditure sides of it) does constitute a problem in the fiscal sector that goes beyond the so-called virtual economy features. Even if part of the reasons for the budget deficit are to be derived from the mounting wage and payment arrears (see table 4) and more generally, from the other underlying “virtual economy” properties of Russia, there are real obligations that have to be met by the government. Important items include grants to regions and interest for the existing debt. (See table 7c.) As the tax collection seems to have been ineffective in the time period in question (for data on tax revenues as a percentage of GDP, see table 5), the officials have been forced to choose between the two remaining means for financing the budget deficit: printing money and borrowing by selling bonds. In the period under analysis, the Russian authorities have increasingly opted for borrowing as a means for financing the deficit. The core development leading up to the crisis was that this borrowing got way too costly. (This is analyzed in more depth in the next section (section 4) of the paper.) Furthermore, there are clear facts telling that the government has been operating partly under a harder budget constraint: according to McKinsey (1999), the government has been forced to reduce the financing for housing, as a result of very low tax collection. This reasoning is an implication of the fact that the arrears and barter and other “virtual” properties cannot tell the whole story in the analysis of the Russian economy.

In McKinsey (1999) it is reasoned that it is useful to explain arrears and non-cash payments in terms of implicit subsidies, as energy subsidies and tax evasion are among the main sources of barter. Subsidies affect the budget by increasing the expenditures. Naturally, implicit subsidies do not have any direct effect on the expenditures. However, they do have a bearing on expectations, and thus, they affect the prospective deficit. Through this channel, they affect

the interest rates. Thus, this interpretation changes the question of virtual economy to a fiscal balance issue.

I argue that even if it is clear that the special characteristics of the Russian economy do make the expenditure side of the budget especially problematic, tax collection (income side) is a difficult problem as well. Furthermore, when analyzing the reasons for the crisis, I suggest that regional figures may not be so relevant because the market does not take into account information about budget figures including extrabudgetary funds or local budgets, if the data is harder to get.

4 Money Markets, Bond Markets, and the Banking Sector

Crucial for analyzing the crisis is to note how the Russian banking sector did not work fulfilling the responsibilities that the banking system performs in a market economy. The banks did not (and actually still do not) act as intermediaries of savings for investment. Instead, their most important function was to lend money to the government by buying bonds. In addition, their chief activities include speculating in foreign currency and providing a channel for export of capital (Lane 2001, 14). Since 1996, about a third of their assets has comprised of claims to the government. (See table 11.) Sberbank attracted most savings – it was the only bank that was regarded as being safe, because of implicit government guarantees for its liabilities. Thus, the moral hazard problem is seen here. Sberbank held 25% of bank assets in general, and as much as 74% of household deposits (RET). However, because it is controlled by the government, also the funds channeled there were largely directed to finance the budget deficit. The Russian banking sector is also very small: in early 1998 the bank assets comprised only about 35 per cent of GDP. (See table 11.) The banking sector is also very concentrated: the largest 20 banks account for over 60% of total banking assets, while the smallest 1100 banks answer for less than 10% of the assets. (RET.)

Traditionally, reserve requirements on bank deposits have been relatively high in Russia. As McKinnon (1991) stresses, the high reserve requirements are a characteristic feature of a repressed transition economy and represent a form of obligatory saving. This obligatory saving in the economy is needed in order for the government to be able to collect seigniorage revenue. Reserve requirements compose a part of the monetary base, and thus, the larger they are, the larger is the tax base for the inflation tax. High reserve requirements could be expected to lead to constrained liquidity and a credit crunch. The banking sector does not have an important or an autonomous role in the economy. Thus, according to Sutela (1999, 74) there was no credit crunch to be seen in the crisis. As savings were eroded in the crisis, the significance of this phenomenon was not as large as it would have been in a more

developed market environment, as banks had not attracted much savings. The most important manifestation of the banking crisis is seen with the fiscal role of banks: the larger banks had a large share of their assets in the form of government bonds, which got illiquid in the crisis and lost their value. This was a key development in the crisis.

A point stressed in Sutela (1999) is that Russia's national savings are actually much larger than what the official statistics let us understand. However, the investment rate has continuously been falling. This was true also for the period preceding the crisis. Nakamura (1998) states that the reason for the too low investment to actual savings ratio is to be derived from the underdeveloped state of the financial sector: there are savings, but they are not channeled to investment. Considering the need for new infrastructure in Russia, the investment in fixed capital should be much higher than it is. The degree of capital depreciation is high, and so is the total saving in international comparison. However, the interest rate payments and other economic rents are low. This is problematic, since economic rents, the level of which is formed in efficient capital markets, would be very important in linking the real economy to the financial sector in this emerging economy. Now, the capital is not channeled there where it would be needed, as there are no means to allocate the investments efficiently.

The burden of direct taxes in financial sector is much lower than in the non-financial corporate sector, and the Russian financial corporate sector has got a relative large net saving. It provides the financial markets with its own saving and financial investments – there is little role for genuine financial intermediation. (Nakamura 1999, 10-11.) The non-financial companies own banks, and thus, they can easily transfer profits abroad, which leads to a national capital loss. Thus, banks do not create deposits for the accumulation of capital, but, on the contrary, facilitate capital flight. (Lane 2001, 12.)

Only when an economy reaches its production possibility frontier, is the future growth driven by new investments. Thus, only the most developed of transition economies are experiencing investment constrained growth. The relative prices have to be correct in order for the investments to be efficient, implying the equality of price and marginal cost. In transition economies generally, the existing capital stock is large, and correspondingly, the depreciation requirements are so high that the investment rates would need to be considerably high in relation to GDP in order to make any important contribution to growth. With the exception of only the most successful transition countries (the Czech Republic, the Slovak Republic, Poland and Hungary) the capital to output ratio has been falling since the mid-nineties (EBRD 2001, 60.) In Russia, the underdeveloped state of the banking sector hinders the reaching of the production possibility frontier. Even if the growth is unlikely to be hindered by the lack of investment in the short run in the CIS countries as efficiency is improving (EBRD 2000, 61),

with respect to longer run growth prospects it would be essential to get the Russian banks to act as intermediaries for investment.

By late 1997, the banks had become seriously vulnerable to possible ruble devaluation. Tompson (1999, 112) points out that the extent of this exposure is difficult to quantify precisely. The reasons for this are the following. Firstly, the completeness and accuracy of reporting banks' positions is doubtful. Secondly, much of the exposure of the exchange rate risk was in the form of off-balance sheets (these were mainly ruble-dollar forward contracts). Thirdly, since the beginning of August 1997, when the central bank reports its foreign assets and liabilities, it no longer had to distinguish between convertible and inconvertible currencies. (Thus, for example the Belorussian ruble and the Ukrainian hryvnia are not separated from hard currency in asset and liability reports.) Fourthly, the data of the central bank concerning the commercial banks' assets and liabilities are controversial in themselves. However, it seems clear that the foreign liabilities of the banks exceeded the foreign assets in 1997 and 1998: the ratio of foreign liabilities to foreign currency deposits had risen from 0.54 in 1995 to 1.29 in 1997 (see table 11). Notably the banks' exchange rate vulnerability resulted from the authorities' arrangements of the domestic bond markets. From July 1996, non-residents operating in the GKO and OFZ markets were allowed to open so called S-accounts in authorized Russian commercial banks that guaranteed that they were able to convert their bond market earnings into hard currency using forward future or option contracts, with terms of three or six months, respectively. (Tompson 1999, 113.)

A financial crisis can be seen as a liquidity problem. However, this question gets very complicated in the context of a dollarized economy, such as Russia. As Sutela (1999) and Tompson (1999) point out, the monetary policy often is subject to contradictory demands. It may be necessary to loosen the monetary policy for fulfilling the fiscal needs, but if money is injected into the economy, this imposes a substantial additional pressure on the exchange rate. In Russia, the increased liquidity depressed the exchange rate and failed to ease the distress in the banking sector that it was meant to do. All this demonstrates very clearly, how using inflation tax revenues as a means of financing the budget deficit is the more difficult the more severe the problems of shallowness of the financial markets and dollarization are in the economy in question. Both phenomena shrink the tax base for the inflation tax.

Without new GKO-issues, the banks were faced with worsened liquidity problems. This situation also undermined the ruble indirectly, since fewer safe ruble-denominated investment possibilities were available (Tompson 1999, 24-25.) The demand for rubles declined, since fewer rubles were needed for payment for bonds issued by the central bank. Instead, investors turned to foreign currency denominated assets, which were regarded as safer. This, of course, undermined the value of the ruble.

The role of the Russian central bank in the crisis needs more attention. It has been criticized heavily for conducting monetary policy in an inconsistent, and even irrational, way right after the attack on ruble. The central bank issued ruble credits to the banking sector only to buy them back with dollars. (RET 1998, 17.)

The two major objectives of the Central Bank of Russia are maintaining the stability of the ruble and avoiding a crisis in the increasingly fragile banking sector. There is immediately a possible source of tensions to be seen here considering the central bank's different tasks: it acts as a regulator of the banking sector, but at the same time, it also controls the two largest banks. (The Central Bank and the State Savings Bank, Sberbank.) There is a direct danger for the emergence of the moral hazard problem: the banks may take excessive risks believing that the central bank will rescue them by loosening the monetary policy. That way, the inflation tax would cover the losses of the banks, while the incidence of the cost of providing the subsidies would not be obvious. When the situation in the ruble markets would call for a tightening of the money supply, whereas a large section of the banking sector would benefit from a looser ruble supply, the inherent tension of this situation is clear. Even the banks expressed contradictory interests in the aftermath of the crisis, as far that they were actually lobbying for both sides: the Association of Russian Banks was demanding as well a stronger ruble as also substantial ruble emission to ease the banking sector's liquidity problems. (Tompson 1999, 110-111.) Tompson (1999, 101) argues that moral hazard is not the product of the central bank's simultaneous supervisory and regulatory role – instead, it is the principal reason why it must play that dual role. He further concludes that the events of the ruble crisis do not give much support to either one of the views about the desirable policy at the cost of the validity of the other.

The third task of the central bank is to manage the domestic bond market so as to reduce the government's borrowing costs. The finance ministry was simultaneously expanding the volume of GKO emissions substantially. Falling inflation made it easier to reduce yields, and Sberbank was used to buy the excess supply of the government papers. As the central bank itself held about as much government paper as Sberbank, the central bank was in effect financing up to over 70 per cent of the government borrowing maturing in 1998. (Tompson 1999, 113-114, 122.)

Falling inflation raises real yields. In this case, apparently falling inflation was used to justify reducing the nominal yields. Thus, the central bank was not directly printing money, but it was directly holding government papers and borrowing from a bank (Sberbank) that was controlled by the central bank!

The central bank supported the banking sector (instead of the ruble) before the crisis by increasing credit. This money most likely ended up with commercial banks that used it to buy dollars. This of course undermined the exchange rate. Reserve requirements were cut after the currency attack, and this had a similar effect, since the freed liquidity was used to buy dollars too. (Tompson 1999, 127-128.) The bailout of the banking system was financed by inflation tax on the rest of the economy. More accurately, this was attempted, but dollarization and financial shallowness made this impossible.

Investors had started to reassess their emerging market portfolios, including their positions in Russia, during the East Asian crisis. One reason for that was that they were worried about the growing difference between the interest rates in the ruble and hard-currency nominated debt, and a possible devaluation of the currency. This made the Russian authorities to try and arrange a conversion of GKO's to (dollar denominated) Eurobonds. Sberbank again cooperated willingly with the government and the central bank – without it, the yields in the new bonds would have needed to be much higher. (Tompson 1999, 123.) The swapping of debt was supposed to decrease the cost of debt service to be paid the following year, and it was hoped that this would increase the confidence in the Russian financial markets and currency. In total, GKO's worth of R 27.5 billion were converted to USD 4.4 billion in Eurobonds. However, the operation was not successful in any longer term. There were massive capital losses, and the ruble depreciated so as to outweigh any possible gains achieved by the debt conversion. (Berglöf and Vaitilingam 1999, 2-3.) After this, no further short-term government debt was issued before the ruble crisis.

In the end of 1997, the central bank was forced to give up its third priority, which was reducing the central bank's borrowing costs. It faced the choice between supporting the ruble and keeping the interest rates down, and it opted for backing the ruble. The defending of the ruble from a speculative attack first began in November 1997. The central bank's annual refinancing rate was raised from 21 per cent to 28 percent, and Lombard rates were increased by seven per cent: the 0-7 days rate to 22 per cent, the 8-14 days rate to 25 per cent, and the 15-30 days rate to 28 per cent. After having fallen to an all-time low (17-18 per cent) in mid-October 1997, the yields on government paper soared as high as 45 per cent at an auction in early December. The draft budget for 1998 was revised to include higher debt servicing costs than had previously been planned. (Tompson 1999, 118-120.)

In the autumn of 1997, increasing of the reserve requirements of foreign reserves brought them nearer to the reserve requirements of ruble deposits. This effectively meant increasing taxation for banks. (Tompson 1999, 120-121.)

In spring 1998, the GKO yields declined again slowly. This allowed the central bank to cut the refinancing rate, and it fell back to 30 per cent, after having peaked to 39 per cent. (See table 1.) When the ruble began to be under severe pressure again in mid-May 1998, GKO yields raised again and the central bank had to raise its refinancing rate anew. It rose to 50 in May 19th and reached 150 per cent only a week later. Further developments with the rate were 60 per cent in June 5th and 80 per cent in June 29th. This meant extremely high real interest rates, as inflation was in single digit numbers, but still, the banks were not so badly hit yet because for most of late spring and summer, the GKO-yields and the interbank rates were high enough compared to the refinancing rate. (Tompson 1999, 122.) (See table 1.)

The time that the central bank bought by defending the ruble was very expensive, because this implied very high real interest rates. This was of course very complicated: the potential consequences were rightly seen to be so severe that it was appropriate to try and fight it. However, if and when the devaluation was unavoidable, it would have been better to devalue sooner than later. Expensive and long battle to save the exchange rate, which proved to be ineffective, was the worst possible alternative. (Tompson 1999, 117-118.) By the end of June 1998, the confidence on the currency and bond markets was completely lost: there were buyers neither for rubles nor for the GKO's. (Berghöf and Vaitilingam 1999, 3.)

On 17th August 1998, Russia declared a 90-day moratorium on its short-term debt and froze the GKO markets. After eleven days, the government announced the terms of restructuring. About 40 bn USD worth of government paper was affected. Third of this was held by foreigners. The basic principle of the plan was that the papers are converted into 3-5 year bond as they mature. (RET 1998, 30-31.) This was perceived to be confiscatory. The most criticized part of the rescue attempts in the aftermath of the currency crisis was the restructuring of the GKO/OFZ debt. The terms of restructuring meant an effective default, and residents were perceived to be better treated than non-residents.

When explaining the reasons leading up to the Russian crisis in 1998, the fiscal deficit and the subsequent accumulation of the public debt are very important. (See table 3a.) The accumulation of public debt together with the banking sector that did not have a substantial role as a financial intermediary did not form a sustainable combination. Bank loans are a far less important source for financing firms in Russia than is the case in most developed economies. Credit expansion is limited by the fact that lending risks are constantly perceived to be high, and also depositor confidence in banks is insufficient. Non-financial companies own the assets of commercial banks rather than the other way around. This means that banks are rather to be characterized as being settlement centers rather than working credit institutions, thus effectively continuing to sustain soft budget constraints characteristic of

socialism. (Lane 2001, 12-15.) Thus the procedure of allocating resources continues to be very different from a working market economy.

The central role of the central bank and Sberbank leads us to think about what is the factual difference between printing money and a central bank controlled bank buying government paper. There may be a difference, if there are accounts containing liquidity. However, with the Russian situation these seem to have been effectively same things. There may be assets on the accounts of the government controlled banks (probably mainly resulting from earlier money emissions) with which to buy bonds, However, if all the previous assets were depleted, then the action of Sberbank buying government paper can be equaled to money emission. This emission was implemented because expanding the money supply was implicitly needed. In order to be sure if this was the same thing, we would need to take a look at the central bank's and Sberbank's balance sheets. However, in this case the economic meaning of the central bank controlled bank buying government paper can be assumed to have been the same as that of money printing, since so much liquidity had been used to defend the ruble in the near past.

5 What Went Wrong?

Could there have been an alternative to this all? Would other policies have been more probably able of saving the ruble? What was the role of external conditions and events? Should the ruble exchange rate have been given up earlier? Here I discuss both the possible policy alternatives that could have been chosen and the more profound problems with the Russian economy that might have exacerbated the crisis. This section includes thus some more general characterizations of the Russian economic system. First, I examine the discussion about the alternative sources of the Russian crisis, especially the arguments about domestic versus international causes. Then, I discuss the adequacy of policy responses. I also touch upon the discussion on the choice of the exchange regime.

5.1 Discussion of Sources of Russian Crisis

Was the crisis more to blame on the wrong macroeconomic policies, or are the reasons more fundamental? More accurately – was fiscal policy too loose, or was the monetary policy too tight or too loose at times? Could the crisis have been avoided with the help of different policy choices or different timing of these choices? Or, alternatively, is the crisis to be blamed on inadequate institutions – notably, the lack of properly functioning banking sector, poorly working tax collection system and financial shallowness – and features specific to the

economic transition process itself, as is argued by Butorina (2000)? Or are these perhaps not to be strictly separated?

The collapse of the ruble was affected by the failure to pursue sufficiently stringent fiscal policy earlier in the transition program. To stabilize the currency in the short term, the monetary policy has to be sufficiently tight. However, in the long run, this cannot be achieved without paying attention to fiscal policy and its sustainability: of course, the fiscal policy has to be tight enough. And this was not the case in Russia. (RET 1998, 17-18.)³ The markets were concerned about the fiscal stance of the public economy, as well as about its future impact on the external economic position of the country. According to Sutela (1999), there are three layers of interactions in the Russian economy. The top layer consists of external effects as the level of the oil prices, and of the uncertainties in the international financial markets. In the medium layer, we have the economic fundamentals, like the budget deficit. The deepest layer of the economy consists then of the special characteristics of the Russian economic system, namely, insider ownership, the shallowness of financial deepening, the continued intertwining of political and economic decision making, and the phenomenon of virtual economy. (Sutela 1999, 60-65.)

One external factor contributing to the emergence of the crisis was that before it, the world oil commodity prices had been declining. This fall in the oil price naturally affected Russia's external payments position and the state budget. (Tompson 1999, 114-115.) The value of oil and oil products export was clearly affected. (See table 12). However, this effect on the budget was not significant after all: in Russia, the energy sector contributes relatively modestly to the tax revenues. For example, in 1995 the oil and gas sectors' share of GDP amounted to about 18%, whereas their budget contribution only was about 3.5-4% of GDP. (Lopez-Claros & Alexashenko, 1998, 16.) In the same year, the relative tax burden of the sector (defined as the ratio of oil and gas revenues to total budget revenues, divided by the share of the sector of GDP) was only one-third to one half of the burden in most other energy producing countries. (Lopez-Claros & Alexashenko, 1998, 16.) The average annual budgeted crude oil price in is 17.5-18 USD/barrel (Pautola 2000, 3).

³ Drazen and Helpman (1987) examine a situation like this theoretically, with the help of an open economy model. They analyze a two-stage stabilization program and derive the perfect foresight equilibrium time paths of the key variables before the stabilization takes place, by using utility maximization by the individual agents. In the first stage, the inflation and exchange rates are stabilized, but not enough attention is paid to reducing the fiscal deficit. As a result, debt grows and foreign reserves diminish. A policy change becomes necessary. At a second stage, either the budget deficit has to be brought under control, or, the exchange rate management has to be abandoned. They study how different policy choices in the second stage affect the first period money supply and tax increases, and spending on traded and non-traded goods. This model is relevant for the Russian case as it presents a situation that resembles the developments in the economy in the aspect that inflation was already under control, but the fixed exchange rate could not be maintained, the reason for that being the too large budget deficit.

As already mentioned, the other evident possible external factor having had an effect was contagion from the Asian financial crisis in late 1997 and early 1998. Investors withdraw their capital in the East European transition economies, including Russia. Valdivieso (1998) states that Russia was (along with Ukraine) a transition country that was mostly affected by the Asian events. He describes this effect as significant. The cost of issuing bonds increased considerably around this time. (See table 1.).

Sutela (1999) argues that the features to do with barter, arrears, financial shallowness – that can be argued to contribute to causing the difficulties – in a way strengthen its structures and functioning of the economy against an external shock. The collapsing of the Russian banking sector in the aftermath of the 1998 crisis did not have as severe implications for the functioning of the economy as would certainly have been the case in a more developed market economy. On the other hand, a multi-currency economy is more sensitive to disturbances – and Russia can be characterized as being one taking into account the extensibility of barter – using goods as substitutes for money. (Sutela 1999, 67.)

It is reasoned in RET (1998, 19) that the cause for the currency collapse was not the failure of the monetary policy, but high budget deficits. I would like to state that it is even more accurate to state that the core reason, maybe even more important than the deficit itself, was the means of financing the deficit – by accumulating debt in an unsustainable manner. In addition, the institutions weren't there to deal with the market developments: The lack of financial deepening manifested itself in the inability of the banking sector to digest the bonds. Consequently, the stock of ruble nominated GKO debt rose much faster than ruble deposits in the banking system – which form the funds that are available for buying bonds as well as other credit. (RET 1998, 18.) (See table 11.) The fact that the banking sector is not able to attract deposits is of course part of the structural problem of financial shallowness.

A summary of the different explanations for the crisis is provided in table I.

- TABLE I APPR. HERE -

I believe that the crisis was to a large extent due to the fiscal imbalance and the resulting unsustainable accumulation of debt. However I do not think that it suffices to state that the crisis was due to fiscal deficit in the sense of the first generation models, argued for example by Kharas et al. (2001) – the mechanism was not a straightforward first-generation scenario as policy considerations played a larger part. I argue the crisis was a fiscal crisis in a way in an even deeper sense than the first-generation models depict, as the legacy of inflationary financing of extreme scale was very important for the developments. This is a factor that can be said be transition specific, furthermore, specific especially to a transition process in the

Russian type of transition economy. By this I mean an economy with a history of heavy reliance on inflation taxation.⁴ Further, neither do I consider that the crisis was simply due to transition specific institutional and structural issues, argued by Butorina (2000), or regard the crisis as resulting primarily from the virtual economy characteristics of the country, argued by Sutela (1999). In the timing of the crisis, the underdevelopment of the financial sector played an important part, as the system could not digest the bonds. I argue that the financial shallowness that is a structural and institutional problem, was not the main force behind the crisis, however it made the crisis fatal for the financial system of Russia. Additionally, I argue that even though the fall in the oil price and the contagion from the Asian crisis did have an impact on the timing and severity of the crisis, they however cannot be interpreted to present the actual roots of the crisis. The Russian financial crisis of 1998 was essentially homemade.

5.2 About the Choice of Exchange Rate Regime

After the currency attack, restrictions on currency markets were placed. Should they have been abolished more slowly in the first place? What would have been needed – more restrictions or more flexibility, and when? Would flexible rates have been preferable in transition economies more widely, and in the case of Russia in particular? It seems that according to IMF policy in practice, only fixed rates often seem to have been deemed credible, the only possible alternative almost, in transition economies. What is the justification for this, would a flexible rate and a monetary anchor have been desirable for Russia from the beginning on? What should the policy be in the near future?

Recently, the question of unilateral euroization or dollarization – a country adopting a foreign currency as a legal tender without being part of a monetary union – has been brought into discussion. As stated in Habib (2000), the benefits of this kind of arrangement are notably credibility gains, realized especially in the form of lower interest rates, whereas the most important costs are the losing of seigniorage revenues, and the disappearing of the lender of last resort functions in the economy

A point stressed in Eichengreen (1999) is that during a period of capital inflows, greater flexibility in the exchange rate policy needs to be introduced. According to his analysis, it would be better to target inflation or money growth, instead of the exchange rate. This was done for example in Poland. The move from a fixed to a flexible exchange rate needs to be gradual for example in order for firms to be able to learn to hedge – this way the possible bankruptcies can be avoided. The currency does not necessarily have to float freely – also

⁴ Ukraine is another example of this type of transition economy alongside Russia.

managing the exchange rate can very well be desirable. In addition, strengthening the banking system is also crucial before moving to flexible rates: it is necessary to clean out non-performing loans, to raise capital and liquidity requirements, and to tighten restrictions on open positions. (Eichengreen 1999, C9-C11.)

Whereas Eichengreen concentrates on pondering the desirability and possibilities to move from fixed to flexible exchange rate in the presence of increased international capital liquidity, Zettermeyer and Citrin (1995) discuss the inflation stabilization phase of the transition period only – thus, the different exchange rate regimes are not reviewed as permanent policy choices. In analyzing the regimes, they pay attention to the costs of stabilization. Output costs of a preannounced inflation depend on the credibility of the program. Thus, the relevant question is which one, money or the exchange rate, is more likely to be more sustainable in the relevant case. Other shocks (in addition to disinflation) may affect the economy during the stabilization period. (Zettermeyer and Citrin, 1995, 94)

Are there special reasons to believe that the exchange rate anchors are more effective in controlling inflation than the monetary anchors, and, importantly, what are these possible special reasons for Russia in particular? Further, what are the implications for the Eichengreen argument that flexible rates might be a much wiser choice in the first instance than it seems to be regarded generally?

Tompson (1999, 117) points out that the success of the Russian central bank in defending the currency for longer might have made the crisis even costlier for the economy than it was. Thus, it seems clear that the commitment to a fixed exchange rate was not credible as a permanent policy choice. Even though the usefulness of the exchange rate anchor during the initial stabilization phase in Russia can be defended, there seem to be no clear reasons why flexible exchange rate and a monetary anchor would not work there. Controlling money supply goes to the heart of the transition in Russia: traditionally, the money supply has been very tightly determined by the financing needs of the budget. Sutela (1999) goes as far as to state that the whole of the Russian economic system largely only attempts to act to serve the fiscal interests of the state. Thus, after having been successful in reordering the determinants of money supply so that it would be determined by market need in a satisfactory sense, the Russian transition economy would be very far on its way to a functioning market economy.

The relevance of this discussion about the desirable stabilization strategies in the exchange rate policy choice sense depends partly on the causalities in the aggregates, especially, on how tightly the money supply and the exchange rate are connected to price level. At least the money supply (M2) seems to affect the inflation rate in Russia. (See Nikolic 2000.)

Following Zettermeyer and Citrin (1995), when thinking about the choice of the nominal anchor, in addition to the costs of stabilization itself, there are other issues to consider as well: the effectiveness of the chosen arrangement, the costs of failure, and the probability of success with each strategy choice. Each of these needs to be discussed with respect to Russia.

The exchange rate stabilization may induce a higher commitment to the necessary accompanying stabilization measures, and, in particular, to fiscal adjustment. But capital flows may impose a greater threat with the exchange rate based program. Thus, exchange rate based stabilization requires greater confidence in the fiscal adjustment. From this it follows that the magnitude of fiscal adjustment needed in an exchange rate based system is greater. (Zettermeyer and Citrin 1995, 94-95.) Exactly a credible commitment to fiscal adjustment is especially important for Russia. However, as mentioned earlier, in Russia, also the money supply is traditionally very tightly connected to the budget deficit, and thus, the advantages of credibly committing to a monetary anchor might perhaps be stronger there than in some other transition countries.

Thus we are left with the very important question of commitment. In Russia, there was not enough commitment to fiscal adjustment; apparently there was not enough credibility for the exchange rate based stabilization to succeed.

The possibility of implementing a currency board arrangement in Russia has been brought up. The associated rigidity with this arrangement imposes and means costs. (This is discussed for example in Zettermeyer and Citrin 1995, 95.) The needed discretions might be especially difficult with Russia. Linked to this issue is the before mentioned question of possibly dollarizing the economy unilaterally. I would like to suggest that at this stage these kind of solutions are not suitable for Russia. As pointed out in Habib (2001), even if unilateral dollarization diminishes or eliminates the currency risk, it does not necessarily reduce the risk of defaulting on debt, and it does not remove the risk of capital reversals and financial crises. The costs may be clearly higher than benefits, for an economy that is in the process of starting to build a sound and functioning banking sector.

6 Conclusions

In this analysis it is argued that the crisis was not a traditional first-generation crisis although the budget deficit was crucial in the developments. In a way the budget deficit is even more important than it is in the first-generation models as in a transition economy, especially Russia, the threat of resorting to inflationary financing was considerable. The central bank and a bank directly under its control held a greater part of the GKO debt. This meant

effectively money financing. The situation had features similar to a second-generation crisis in the sense that the government and the central bank clearly did not have a linear policy rule. One important element not covered by the first-generation approach is the central bank interfering in the markets defending the currency. It is portrayed in this paper that this is exactly what happened in Russia. When operating in the bond markets, the government has to take into account the market reaction in its own decisions. This way, the possibility for self-fulfilling expectations and multiple equilibria arises. This is a clear reason speaking in favor of the second– rather than first-generation-approach. I have also argued that defining the financial crisis liquidity problems were also clearly present – something that also calls for a second-generation type analysis.

The Russian crisis was a triple crisis: a currency crisis accompanied by banking and fiscal crises. The study has also presented reasons why the so-called virtual economy –approach is not sufficient, for explaining the Russian currency and financial crisis in August 1998. Payment arrears and barter made the situation more difficult indirectly by rendering the intermediary role of banks absent – but they were not as such the main reasons for the Russian crisis in 1998. The fact that the banks had not become financial intermediaries was the worst structural problem that contributed to the deepness of the economic crisis, triggered of by the budget situation. They proved to be insolvent and the result was a banking crisis. The currency markets reacted fiercely to the prospect of growing future budget deficit and to the unsustainably growing public debt. The underdevelopment of the financial sector made the consequences of the market reactions fatal.

To reiterate, in addition to the problems with the budget deficit and the unsustainably growing public debt, there were causes rooted even deeper in the functioning (or, actually more accurately, in the not functioning) of the Russian economic structures, but for the analysis in my discourse the macroeconomic fundamentals are the most relevant. The reasons for this are the following. With the virtual economy –approach stressing the importance of arrears, barter, and financial shallowness presented above it is impossible to investigate the short run, or analyze the path of the exchange rate, or say much about the liquidity problem in the financial sector. Even though the budget deficit figures would only be reflections of a “virtual economy”, the budget deficit, and in particular, its financing, are factors that affect the financial sector by making it vulnerable, in a way that cannot be called virtual.

I argue that the budget deficit and its financing they certainly are in the core of the workings of the Russian economy, when explaining the reasons for the currency crisis. I reason that in explaining the crisis we can and we have to go as well beside and beyond of the so-called virtual economy approach. Barter can be demystified somewhat, as the main sources of barter bring the analysis back to the government budget, and the financing of the budget deficit. I

think underlining the interpretation of arrears and non-cash payments in terms of implicit subsidization is a useful approach. The continuing existence of this implicit subsidization raises expectations of future budget deficits, and thus of continually, and in the Russian case, unsustainably, growing public debt. Thus, by breaking down the question of barter trade, we are dealing with the macroeconomic fundamentals, and thus are beside of the virtual economy –approach. In order to understand the nature of the currency crisis, I argue, we need also to look beyond the virtual economy analysis in acknowledging that the government cannot deal with all of its commitments with arrears, there are also obligations to really be met – notably the servicing costs of the unsustainably growing public debt – the only way available of financing which may be expected to be issuing more debt.

In addition, when analyzing a currency crisis, the market's reaction is analyzed, and this has of course to be done in relation to, and with reference to, what the markets are able to observe. Markets react to interest rates set by the central bank. Market interest rates are affected by expectations of fundamentals. Besides, it could be that the financial markets interpret figures without deeper analysis. When actually making investment decisions, the market has to deal with the data it has access to, and the means to analyze. It reacts to the federal budget deficit and debt figures. These figures may be called virtual, but the consequences cannot, the least the long-run consequences: an emerging economy needs investments, after it has started to operate efficiently.

When Sberbank was buying government paper, it was officially defending GKO markets, but in actually it was bailing out commercial banks. According to the Russian economic legacy of inflationary financing, the monetary officials tried to finance this bailout by an inflation tax on the rest of the economy. It seems that in considering the financial consequences of the monetary policy decisions, there was no factual difference between printing money and a central bank controlled bank buying government paper. Thus, even though in addition to currency and financial crises the Russian crisis 1998 was a fiscal crisis, it was not a straightforward first-generation crisis.

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APPENDIX: Tables

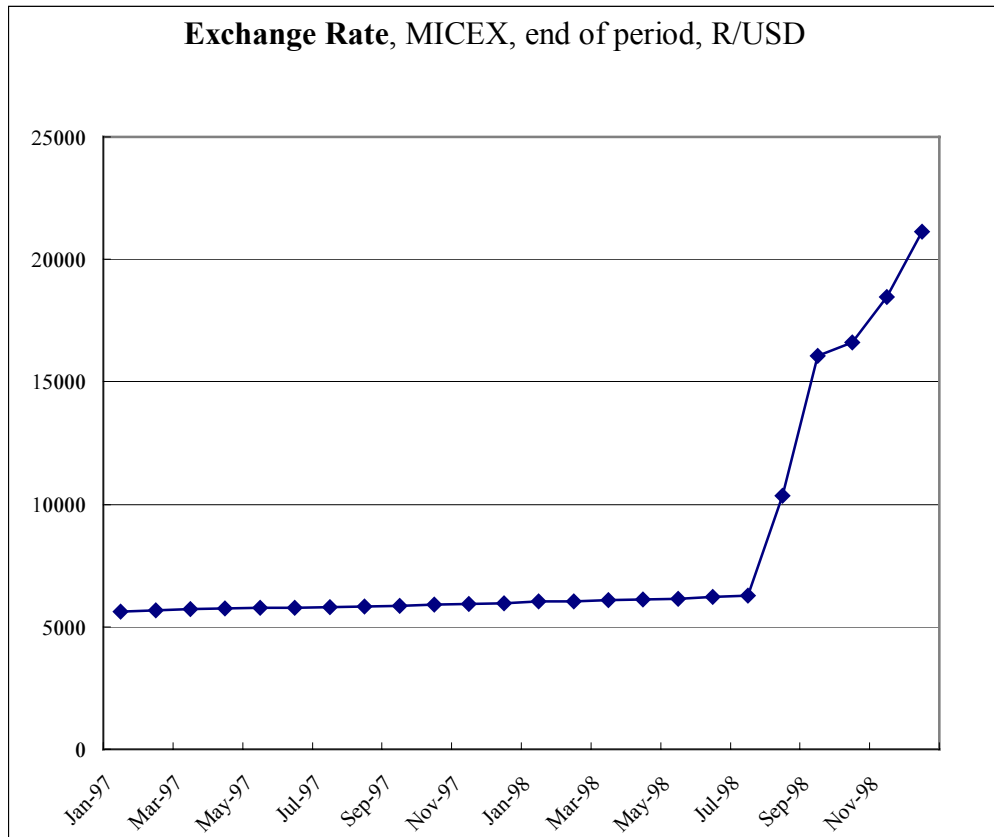


Figure 1

Source: RET

Table I

Explanations of Crisis

	<i>Fiscal Balance</i>	<i>External Effects*</i>	<i>Payment Arrears, Barter Trade</i>	<i>Inadequate Legal Transformation</i>	<i>Lack of Financial Deepening</i>	<i>Other Inadequate Institutions**</i>
<i>Major</i>	<i>KPU, RET, B, GM</i>	<i>V</i>	<i>S</i>	<i>B</i>	<i>B, S</i>	<i>S, B</i>
<i>Secondary or Indirect</i>	<i>S</i>	<i>GM, S</i>	<i>GM</i>			

**Oil price, effects of the international financial markets, incl. contagion from the Asian crisis*

*** Legal, political, corporate*

KPU = Kharas et al. (2001), RET = Russain Economic Trends (1998), B = Butorina (2000),

GM = Gobibin & Merlevede (2000), S = Sutela (1999), V = Valdivieso (1998)

Table 1***Interest Rates (annual rates, period average)***

	<i>CBR refinance. rate¹</i>	<i>Lending Deposit rate² rate</i>		<i>Overnight interbank rate</i>	<i>GKO average secondary market yield, all maturities</i>
1993	144				121.0
1994	178				172.3
1995	185	320.3	102.0	190.4	161.8
1996	110	146.8	55.1	47.6	85.8
1997	32	32.0	16.8	21.0	26.0
1998	60	41.5	17.1	50.6	56.3
1999	55	40.1	13.7	14.8	n.a.
01/97	48	44.2	30.2	21.1	32.8
02/97	42	46.1	26.8	25.8	28.3
03/97	42	41.6	18.3	32.4	33.2
04/97	36	32.5	18.0	28.2	35.7
05/97	36	34.0	17.3	14.8	25.5
06/97	24	28.6	17.1	16.1	20.2
07/97	24	28.8	16.6	14.3	18.4
08/97	24	28.3	15.4	16.2	18.9
09/97	24	24.8	10.3	15.6	19.7
10/97	21	24.0	9.5	18.2	19.8
11/97	28	23.0	9.9	20.5	22.6
12/97	28	28.6	11.8	28.4	36.6
01/98	28	29.8	11.6	24.1	33.4
02/98	39	30.4	12.2	30.3	29.6
03/98	30	38.3	11.2	25.9	24.4
04/98	30	38.8	11.0	29.5	27.8
05/98	150	40.7	12.9	47.6	54.8
06/98	80	47.7	14.0	56.1	65.1
07/98	60	44.2	15.1	58.8	81.0
08/98	60	48.5	17.5	45.3	135.3
09/98	60	44.8	23.8	139.7	n.a.
10/98	60	48.2	27.3	84.9	n.a.
11/98	60	45.1	22.3	36.7	n.a.
12/98	60	40.5	25.7	27.8	n.a.

¹ Period average, except monthly CBR refinance rate data that is for end of month.

² Data prior January 1997 not compatible with current methodology.

From 1998 data on lending rate is for commercial banks excluding Sberbank.

Source: RET

Table 2

Commercial Bank Reserve Requirements

	<i>Ruble deposits, < 1 month</i>	<i>Ruble deposits, 1-3 months</i>	<i>Ruble deposits, > 3 months</i>	<i>Foreign currency accounts, all maturities</i>	<i>Ruble household accounts in Sberbank</i>
<i>1 Nov 96</i>	<i>16</i>	<i>13</i>	<i>10</i>	<i>5</i>	<i>10.0</i>
<i>1 May 97</i>	<i>14</i>	<i>11</i>	<i>8</i>	<i>6</i>	<i>9.5</i>
<i>12 Nov 97</i>	<i>14</i>	<i>11</i>	<i>8</i>	<i>9</i>	<i>9.5</i>
<i>1 Feb 98</i>	<i>11</i>	<i>11</i>	<i>11</i>	<i>11</i>	<i>8.0</i>
<i>24 Aug 98</i>	<i>10</i>	<i>10</i>	<i>10</i>	<i>10</i>	<i>7.0</i>
<i>1 Dec 98</i>	<i>5</i>	<i>5</i>	<i>5</i>	<i>5</i>	<i>5.0</i>

Source: RET

Table 3a

Claims on General Government (net)

	<i>Millions of rubles</i>	<i>As per cent of GDP¹</i>	<i>As per cent of M2</i>	<i>As per cent of total revenues and grants</i>
<i>1993</i>	<i>8 454</i>	<i>4.93</i>		
<i>1994</i>	<i>71 127</i>	<i>11.65</i>		
<i>1995</i>	<i>166 578</i>	<i>10.81</i>	<i>75.44</i>	<i>73.68</i>
<i>1996</i>	<i>311 467</i>	<i>14.52</i>	<i>108.04</i>	<i>110.54</i>
<i>1997</i>	<i>381 189</i>	<i>15.38</i>	<i>101.89</i>	<i>118.13</i>
<i>1998</i>	<i>722 237</i>	<i>26.79</i>	<i>161.11</i>	<i>241.23</i>
<i>1999</i>	<i>905 161</i>	<i>19.91</i>	<i>128.45</i>	<i>148.87</i>

¹ *Production based GDP used*

Source: International Financial Statistics, IMF, RET and own calculations

Table 3b

Russia's GKO-OFZ debt stock as per cent of GDP

<i>End of 1995</i>	<i>4.5</i>
<i>End of 1997</i>	<i>14.8</i>
<i>End of April 1998</i>	<i>18</i>

Source: Tompson (1999)

Table 4

Arrears¹, R bn

	<i>Total overdue payables of enterprises</i>	<i>of which:</i>	<i>to suppliers</i>	<i>to the budget and non-budg. funds</i>	<i>wage arr.²</i>	<i>Total overdue receivables of enterp.</i>	<i>Gov. wage arr.²</i>
<i>1995</i>	<i>238.9</i>		<i>122.3</i>	<i>75.0</i>	<i>13.6</i>	<i>165.5</i>	
<i>1996</i>	<i>514.4</i>		<i>245.9</i>	<i>203.4</i>	<i>34.7</i>	<i>335.5</i>	<i>15.0</i>
<i>1997</i>	<i>756.1</i>		<i>344.7</i>	<i>316.6</i>	<i>39.7</i>	<i>458.4</i>	<i>8.0</i>
<i>1998</i>	<i>1230.6</i>		<i>586.0</i>	<i>474.5</i>	<i>77.0</i>	<i>761.9</i>	<i>20.1</i>
<i>1999</i>	<i>1354.5</i>		<i>619.5</i>	<i>572.6</i>	<i>43.7</i>	<i>814.6</i>	<i>10.2</i>

¹ *Before 1998 series include data from the following sectors of the economy: industry, construction, transport and agriculture. After that series include also communications, trade and catering, wholesalers, housing and "other" sectors.*

² *The series includes data for industry, construction, transport, agriculture, education, arts, sciences, social security, housing and communal services and administration.*

Source: RET

Table 5

Russia's Federal Tax Revenue as percent of GDP

1995	11.4
1996	10.2
1997	10.6
1998	8.8
1999	11.2

Source: RET and own calculations

Table 6

***Financing of the Federal Deficit
(in trillions of rubles)***

	1992	1993	1994	1995	1996
Total financing	2.0	11.2	69.7	88.5	186.5
Foreign (net)	-0.1	-0.1	0.1	-3.1	14.5
Domestic	2.1	11.3	69.6	91.7	172.0
of which:					
banking system	1.9	11.2	61.0	79.6	152.5
nonbank	0.2	0.1	8.6	12.1	17.5

Source: Lopez-Claros and Alexashenko 1998

Table 7a

Federal Budget, (IMF Definition), R bn

	<i>Total Revenues</i>	<i>Total Expenditures</i>	<i>Of which Interest Payments</i>	<i>Deficit (+)</i>	<i>Deficit, % of GDP</i>
1993					5.8
1994					9.8
1995	201.0	286.2	54.6	85.2	5.2
1996	253.8	427.1	124.5	173.3	7.9
1997	311.6	494.8	117.8	183.2	7.0
1998	273.0	407.2	106.8	134.2	5.0
1999	606.0	680.2	162.6	74.2	1.7
		<i>Total Expenditures</i>	<i>Of which Interest Payments</i>	<i>Interest Payments as % of Expenditures</i>	
01/98		29.3	5.1	17.4	
02/98		53.7	12.0	22.3	
03/98		89.9	28.5	31.7	
04/98		120.4	37.8	31.4	
05/98		153.7	51.6	33.6	
06/98		189.0	62.0	32.8	
07/98		221.3	75.3	34.0	
08/98		242.9	82.4	34.0	
09/98		265.7	85.1	32.0	
10/98		298.3	87.6	29.4	
11/98		334.5	96.6	28.9	
12/98		407.2	106.8	26.2	

Source: RET (2000) and own calculations

Table 7b

**Government Expenditures¹: Interest Payments
(in percent of GDP)**

1992	0.8
1993	2.1
1994	1.9
1995	3.4
1996	5.6

¹Including unbudgeted import subsidies, central bank directed credits and working capital transfers, but excluding transfers to other CIS states.

Source: Lopez-Claros and Alexashenko 1998

Table 7c

Federal Expenditures by Function (% of GDP)

	1996	1997	1998
<i>Defence</i>	2.9	3.1	2.1
<i>Law enforcement</i>	1.3	1.7	1.2
<i>Aid to regions</i>	2.3	2.9	1.6
<i>Subsidies ("national economy")</i>	1.7	1.9	0.7
<i>Social spending (health, education etc.)</i>	1.3	2.0	2.1
<i>Interest payments</i>	5.7	4.5	4.0
<i>Earmarked budget funds (roads etc.)</i>	0.7	1.1	0.9
<i>Other spending</i>	3.5	1.8	2.6
Total	19.4	19.0	15.2

Source: RET

Table 8

Russia's Domestic Credit

End of Period, Millions of Rubles

1993	44 449
1994	193 640
1995	363 671
1996	539 297
1997	659 248
1998	1 109 112
1999	1 487 197

Source: International Financial Statistics, International Monetary Fund

Table 9

Monetary Aggregates

End of Period; R bn, except Net International Reserves USD bn

	<i>Monetary Base</i>	<i>Net International Reserves</i>	<i>Net Domestic Assets¹</i>	<i>M0</i>	<i>M2</i>	<i>Outstanding GKO-OFZ stock, nominal</i>
1995	103.8	7.7	68.1	80.8	220.8	73.7
1996	130.9	1.7	123.0	103.8	288.3	237.1
1997	164.5	4.0	142.1	130.4	374.1	384.9
1998	210.4	-8.4	249.3	187.8	448.3	n.a.
1999	324.3	-3.2	400.7	266.5	704.7	n.a.

*Monetary Base
As per cent of GDP*

1995	6.74
1996	6.10
1997	6.64
1998	7.80
1999	7.13

¹ *Monetary base minus net international reserves*

Source: RET and own calculations

Table 11
Assets and Liabilities of the Commercial Banks Including Sberbank
(end of period), R bn¹

	<i>Total Assets</i>	<i>Claims on the General Gov.</i>	<i>Claims on the Private Sector</i>	<i>Bank savings by Russian citizens</i>	<i>Foreign currency deposits</i>	<i>Foreign liabilities</i>
1993	<i>n.a.</i>	0.8	20.2			
1994	200.6	10.6	74.0			
1995	342.3	62.2	133.8	70.6	55.3	30.0
1996	497.7	150.7	157.3	118.4	69.4	58.9
1997	622.7	191.5	225.9	148.2	80.5	104.2
1998	933.1	259.4	346.0	149.5	190.9	203.1
1999	1549.7	437.7	521.6	211.1	290.2	222.5

	<i>The ratio of foreign liabilities to foreign deposits</i>	<i>Claims on government as per cent of total assets</i>	<i>Total Assets as % of GDP</i>
1993			
1994		5.28	
1995	0.54	18.17	22.2
1996	0.85	30.30	23.2
1997	1.29	30.76	25.1
1998	1.06	27.80	34.6
1999	0.77	28.24	34.1

¹ Since 1998 only credit for organizations with an active license

Source: RET and own calculations

Table 12a

Foreign Trade, USD bn

	<i>Exports total¹</i>	<i>Export of oil</i>	<i>Export of gas</i>	<i>Imports total¹</i>	<i>Trade balance total</i>
1995	81.1	17.3	10.8	60.8	20.2
1996	88.6	23.1	15.8	68.8	19.8
1997	88.2	21.9	16.4	73.7	14.5
1998	74.2	14.5	13.3	59.1	15.1
1999	76.0	18.8	11.4	39.9	36.4

¹ Includes Goskomstat estimate of unregistered trade.

Source: RET

Table 12b

Balance of Payments, USD bn

	<i>Current Account</i>	<i>Capital Account</i>
1994	8397	-8649
1995	7401	777
1996	11753	-6671
1997	2047	3667
1998	699	8309
1999	25301	-17776

Source: RET, 2000

Table 13

Exchange Rate, International Reserves and Stock Market

	<i>Exchange Rate, MICEX, end of period, R/USD</i>	<i>Gross international reserves, incl. gold USD bn</i>	<i>Moscow Times index, end of period (end Aug 94 = 100)</i>
1995	4 640	17.2	64.0
1996	5 570	15.3	148.4
1997	5 974	17.8	302.7
1998	21 140	12.2	38.4
01/97	5 630		
02/97	5 676		
03/97	5 727		
04/97	5 744		
05/97	5 767		
06/97	5 769		
07/97	5 809		
08/97	5 840		
09/97	5 864		
10/97	5 900		
11/97	5 924		
12/97	5 974		
01/98	6 048		
02/98	6 045		
03/98	6 089		
04/98	6 110		
05/98	6 138		
06/98	6 225		
07/98	6 272		
08/98	10 363		
09/98	16 045		
10/98	16 600		
11/98	18 470		
12/98	21 140		

Source: RET

Table 14

***Russian Government's External Debt,
USD bn, end of period***

	<i>Multilateral creditors</i>	<i>Bonds</i>	<i>Official creditors</i>	<i>Commercial creditors</i>	<i>TOTAL</i>	<i>TOTAL incl. inherited ext. debt of FSU</i>
<i>1993</i>	<i>3.5</i>	<i>0.0</i>	<i>5.5</i>	<i>0.0</i>	<i>9.0</i>	<i>112.7</i>
<i>1994</i>	<i>5.4</i>	<i>0.0</i>	<i>5.9</i>	<i>0.0</i>	<i>11.3</i>	<i>119.9</i>
<i>1995</i>	<i>11.4</i>	<i>0.0</i>	<i>6.0</i>	<i>0.0</i>	<i>17.4</i>	<i>120.4</i>
<i>1996</i>	<i>15.3</i>	<i>1.0</i>	<i>7.9</i>	<i>0.0</i>	<i>24.2</i>	<i>125.0</i>
<i>1997</i>	<i>18.7</i>	<i>4.5</i>	<i>7.6</i>	<i>1.3</i>	<i>32.1</i>	<i>123.5</i>

	<i>TOTAL as per cent of exports</i>	<i>TOTAL incl. inherited ext. debt of FSU as per cent of exports</i>
<i>1995</i>	<i>21.5</i>	<i>148.5</i>
<i>1996</i>	<i>27.3</i>	<i>141.0</i>
<i>1997</i>	<i>36.4</i>	<i>140.0</i>

Source: RET and own calculations

Table 15

Maturity structure of government ruble nominated debt in May 1998

<i>0-3 months</i>	<i>25%</i>
<i>3-5 months</i>	<i>20%</i>
<i>5-12 months</i>	<i>28%</i>
<i>1-3 years</i>	<i>18%</i>
<i>3-5 years</i>	<i>5%</i>
<i>over 5 years</i>	<i>4%</i>

Source: Gobbin & Merlevede (2000)