

Poganietz, Witold-Roger

**Working Paper**

## Russian agri-food sector: 16 months after the breakdown of the monetary system

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# **DISCUSSION PAPER**

**Institute of Agricultural Development in  
Central and Eastern Europe**

**RUSSIAN AGRI-FOOD SECTOR:  
16 MONTHS AFTER THE BREAKDOWN OF THE  
MONETARY SYSTEM**

**WITOLD-ROGER POGANIETZ**

**DISCUSSION PAPER No. 25  
2000**



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**ABSTRACT**

In August 1998 the Russian foreign exchange market and financial system collapsed. As a consequence the rouble devaluated in real terms against the currencies of the main trade partners, generating an output push in the agri-food sector. This improved the financial health of most producer, thus "opening a window of opportunity" enhancing the long run growth prospects. But, it is not apparent whether the agri-food sector make use of the enhanced circumstances. Insufficient incentive systems due to non-enforcement of legal rules within firms and farms and lack of credibility of Russian government promote a rent-seeking behaviour of employer and employees. Thus, it could be expected, that the non-price competitiveness of Russian products will rather worsen than getting better.

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JEL: O13, P24, Q19

Keywords: agri-food sector, macroeconomic environment, exchange rate policy, agricultural credit market, Russia

**ZUSAMMENFASSUNG**

Der Zusammenbruch des russischen Devisenmarktes und Finanzsystems im August 1998 führte zu einer drastischen realen Abwertung des Rubels gegenüber den Währungen der wichtigsten Handelspartner. Dies führte zu einer Zunahme der Produktion und damit einhergehend des Absatzes in der russischen Land- und Ernährungswirtschaft, die die finanzielle Situation der meisten Produzenten konsolidierte. Den Unternehmen wurden hierdurch Möglichkeiten eröffnet, auch langfristig ihre Wachstumschancen zu verbessern. Bisher gibt es aber keine Hinweise dafür, daß die Land- und Ernährungswirtschaft diese auch ausnutzen wird. Unzureichende Anreizsysteme aufgrund einer mangelhaften Bereitschaft von staatlichen Verwaltung und Justiz Gesetze und Verordnungen durchzusetzen und die geringe Glaubwürdigkeit der russischen Regierung fördern ein Rent-Seeking-Verhalten der Unternehmen und der Angestellten. Es ist daher eher zu erwarten, daß sich die nicht-preisliche Wettbewerbsfähigkeit russischer Anbieter verschlechtern wird.

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JEL: O13, P24, Q19

Schlüsselwörter: Land- und Ernährungswirtschaft, Wechselkurspolitik, Makroökonomische Rahmenbedingungen, Agrarkreditmarkt, Russland



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### LIST OF ABBREVIATIONS

CIS	Commonwealth of Independent States
CPI	Consumer Price Index
GAO	Gross Agricultural Output
GDP	Gross Domestic Product
GKO	Gosudarstvennaja Kratkosrotschnaja Obligacija (Short term treasury bills)
IMF	International Monetary Fund
SCF	Soft Farm Credit Fund

## 1 INTRODUCTION<sup>1</sup>

In August 1998 the Russian foreign exchange market and financial system collapsed. As a consequence the rouble devaluated in real terms against the currencies of the main trade partners, generating an output push in the agri-food sector<sup>2</sup>, contradicting some published expectation (see e.g. OECD 1999a). The drastic real depreciation had led in Russia to a switch of demand to locally produced goods. At the same time, due to high inflation, the real costs for labour and capital decreased. Both, the real depreciation and fall of the real factor costs, improved the financial health of most producer, thus "opening a window of opportunity" enhancing the long run growth prospects. But, whether firms and farms make use of it is doubtful. Since the crisis revealed the institutional drawbacks of the Russian transition, but not the ability to overcome the shortcomings. Whether this will change in the near future is uncertain. Neither the precise aims of the government under the leadership of Vladimir Putin as acting president are known nor whether those political groups, which press on to continue the transition can find a majority in the Russian parliament, the Duma, despite the fact, that they are split in many factions (ECONOMIST 2000).

The objective of this paper is twofold. At first, the situation of the Russian agri-food sector 16 months after the breakdown of the monetary sphere is analysed. Secondly, the longer run perspectives of the sector will be evaluated, also taking into account the development of the macroeconomic environment. Along these two questions the paper is organised. In the next section 2 the causes and the macroeconomic consequences of the crisis are shortly presented. In the then following two sections the impact of the real devaluation (section 3) and of the inflation (section 4) on the agri-food sector is discussed. Based on the findings of sections 3 and 4 section 5 deals with the future growth prospects of the agri-food sector. Section 6 offers some concluding remarks.

## 2 THE CRISIS IN SUMMER 1998: CAUSES AND MACROECONOMIC EFFECTS

Although the crisis was initiated by the breakdown of Asian financial markets in October 1997 the causes why Russian's monetary sphere collapsed in a globally changing economic environment were home-made. The Asian financial crisis revealed that sustainable growth prospects depends crucially on a comprehensive economic policy including institutional reforms; but such a set of policies is still missing in Russia. The Russian government omitted in the years prior to 1998 to reform the tax system and the financial markets.

### 2.1 Home-Made Causes

Since the beginning of transformation in Russia in 1992, the government has been unable to improve the tax system and to establish a reliable expenditure policy (ILLARIONOV 1999a, MAU 1999). The tax system favours large companies with tax debts (e.g. Gazprom), who are allowed to pay their taxes with exchanges, which are traded on secondary markets with large discount. Small, medium-scale and foreign enterprises, on the other hand, are forced to pay their tax burden. A result of this tax system is the inability on the part of the government to

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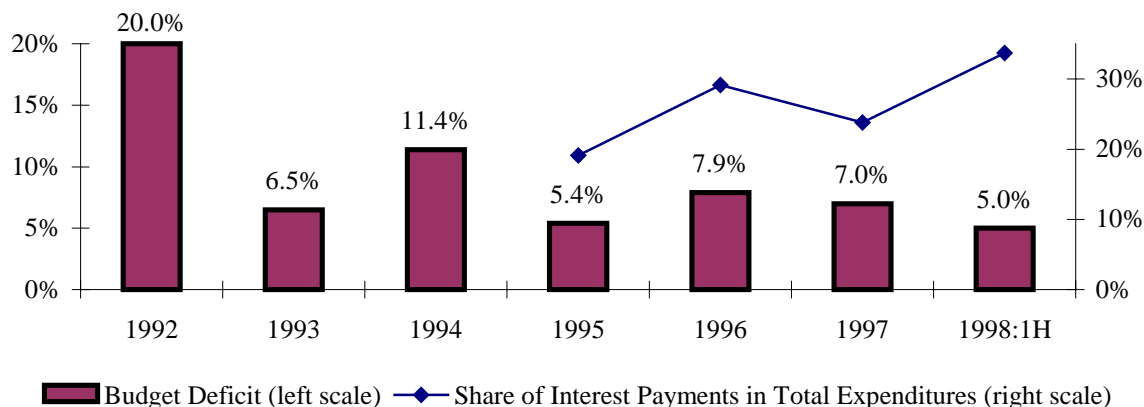
<sup>1</sup> I would like to thank UWE EITELJÖRGE, RENATA YANBYKH, FRIEDRICH KISSMER, TOMAS RATINGER, PETER VOIGT, OLAF WAHL, JÜRGEN WANDEL, PETER WEHRHEIM, ANDREAS WILDERMUTH and an anonymous referee for their comments and suggestions on earlier versions of the paper. Of course, I am solely responsible for all remaining errors and inaccuracies. The manuscript was finished on January 19, 2000.

<sup>2</sup> If in the following agriculture and food industry are analysed jointly, the notion agri-food sector is used.



collect taxes according to the laws. Between 1996 and 1998 the tax arrears to the federal budget grew to 2.4% of GDP from 1.0% (ILLARIONOV 1999a). Furthermore, the government has been unable to adjust expenditures to tax revenues. Consequently, since 1992 budget deficits exceeds in every year five per cent of gross domestic product (GDP; cf. Figure 1). The budget deficits would have been even higher if the government had fulfilled its contracts and had paid wages and pensions entirely. Due to the high budget deficits, the share of interest payments in total expenditure have increased, from 19.1% in 1995 to 33.7% in the first half of 1998 (own calculation based on RECEP 1999a).

**Figure 1: Federal Budget Deficit and Share of Interest Payments in Total Expenditures, 1992 – 1998:1H**



Notes: Federal Budget Deficit: in per cent of GDP. The definition of the International Monetary Fund (IMF) is used.

Source: BRODSKY (1997), RECEP (1999a).

As a main financing instrument short term bonds – so-called GKO-bonds – were used. GKO-bonds are denominated in roubles and have an average maturity of three months (GABRISCH and LINNE 1998, RECEP 1998a). In a world of falling interest rates, like between 1995 and 1997, to issue short term bonds is rationale. But, in an environment where investors are doubtful regarding the reputation of a government, like in summer 1998, financing instruments with a short term maturity can speed up the breakdown of an unstable financial system.

Using short term financing instruments while interest rates are dropping, decreases the interest payment burden of a government and thus widens its political opportunities. The following example should clarify the argumentation. The total budget deficit of the Russian government amounted in 1996 173.3 bn roubles. Under the assumption that the deficit was completely financed by issuing bonds with an average interest rate of at that time 85.5% the interest payments would have been about 150 bn roubles. In the following year the average interest rate dropped to 26.0%. Assuming furthermore an unchanged budget deficit of 173.3 bn roubles in 1997 the interest payments would have declined by 105 bn roubles. This amount corresponds to about 40% of tax revenues of the same year (own calculation based on RECEP 1999a). The gain would have been even higher, if one takes into account that short term debt instruments are usually regarded as less risky by investors. Thus, they carry lower interest rates and hence are less expensive for the budget. However, if interest rates are low, it is necessary to switch to long term debt instruments. Otherwise, in a period of rising interest rates, e.g. due to increasing uncertainty about the future economic policy, a growing debt burden restricts political opportunities. Since a rising tax burden has to be financed the state has to raise taxes, reduce expenditures, or stop the payments of interest. Every option would force the negative effects of rising interest rates on the economy. In Russia the switch to long

term debt instruments was not enforced (RECEP 1998a). This raised the perceptivity of the Russian banking system, since the short term bonds secured widely the liquidity of banks (RECEP 1998b).

The Russian banking system did not undergo the transition process from a socialist bank to a financial intermediary between households, companies, and the government, who would offer deposits to households - being net supplier of savings - and supply credits to enterprises and the government, being the net demander of savings. Their main interest has been to trade with government bonds and to a lesser degree to supply credits to former state-owned enterprises (RECEP 1998a, c). For example in 1997 the banks' loans to non-financial companies equalled only 10% of GDP; in Poland or Hungary the ratio of loans to GDP was at that time twice as high (ECONOMIST 1998).

The way how Russian banks considered themselves was promoted by the exchange rate system and insufficient institutional reforms. Poor property rights enforcement and reluctance of state authorities to insolvent enterprises made extension of bank credits to non-financial sector very risky and difficult (RECEP 1998b). Lack of professional experience of project evaluation and credit monitoring of the bank staff dwindled the readiness to credit private investments. In contrast, trade with government bonds, financed by foreign exchange credits, was easy and profitable. Due to the target system foreign credits were nearly without any risk, while the high interest differential between domestic and international financial markets secure high yields - at least as long as the Central Bank could guarantee the exchange rate targets. Consequently, the budget deficit was financed to a large extent indirectly via foreign exchange loans to Russian banks by foreign banks and investors. Only one third of the state debt of the government was denominated in roubles (ILLARIONOV 1999a). Since the willingness of Russian households to lend the government foreign currency was (and is still) low the structure of the denomination is a good proxy. The government could not make use of domestic resources since private households did not demand state bonds. One main reason was the insufficient promotion of such bonds by banks (RECEP 1998a, c).

## **2.2 The Outbreak of the Crisis**

In the aftermath of the outbreak of the Asian financial crisis the Russian current account turned negative. The cause of this was a dramatic drop in the trade balance surplus in the first half of 1998 due to falling foreign demand for primary non-agricultural and petrochemical products, i.e. the main Russian export products (DIETZ and GLIGOROV 1997), and rising import demand. Since the decrease of demand for primary non-agricultural and petrochemical products was companioned by a sharp fall in prices, the dwindled demand in volume terms could not be compensated by higher prices. Total exports in the first half of 1998 relative to those in the first half of 1997 dropped by 10.7%, and imports grew by 9.0% in the same period. Consequently, the trade surplus declined from 9.8 bn US dollars in the first half of 1997 to 2.4 bn US dollar in the first half of 1998. In the same period the current account turned from a surplus of 3.9 bn US dollar to a deficit of 5.8 bn US dollars (RECEP 1998a, 1999a).

As the current account deficit grew in the second quarter of 1998 to 4.2 bn US dollar from 1.6 bn US dollar in the first the Russian central bank tried to hinder the outflow of foreign capital and to stabilise the rouble-US dollar exchange rate by raising the refinancing interest rate in two steps from 30% in mid May to 150% at the end of May (BANK OF RUSSIA 2000a). Neither these measures nor the following proposed anti-crisis programme, later rejected by the Duma, could impede the rising doubts about the stability of the exchange rate (FAZ 1998). Consequently, the country risk of Russia grew, inducing rising interest rates. Using the spread

between the yields on Russian state debt instruments denominated in national currency and in US dollars as a proxy for country risk, the difference between both yields grew to 150% in August 1998 from 30% in December 1997, and 50% in May 1998 (ILLARIONOV 1999b). The average rental rate of governmental short term bonds increased from 24.4% at the end of April 1998 to 81% at the end of August (BANK OF RUSSIA 2000b), with high volatility (GABRISCH and LINNE 1998). Rising interest rates further increased doubts about the stability of the exchange rate. Due to the "short term" financing the soaring interest rates also induced a rising budget deficit holding up the distrust that the government could bring the crisis to an end. The mistrust of creditors grounded on the long-lasting inability of the Russian government to implement a comprehensive reform package (NZZ 1998a), e.g., as discussed above, to put forward a reliable expenditure policy. Doubts have also been fuelled by the systemic instability of the Russian political system. The Duma, which at that time was dominated by parties that are opposed to the economic policies suggested by the Russian government, has obstructed or at least delayed several of his bills (RECEP 1998a).

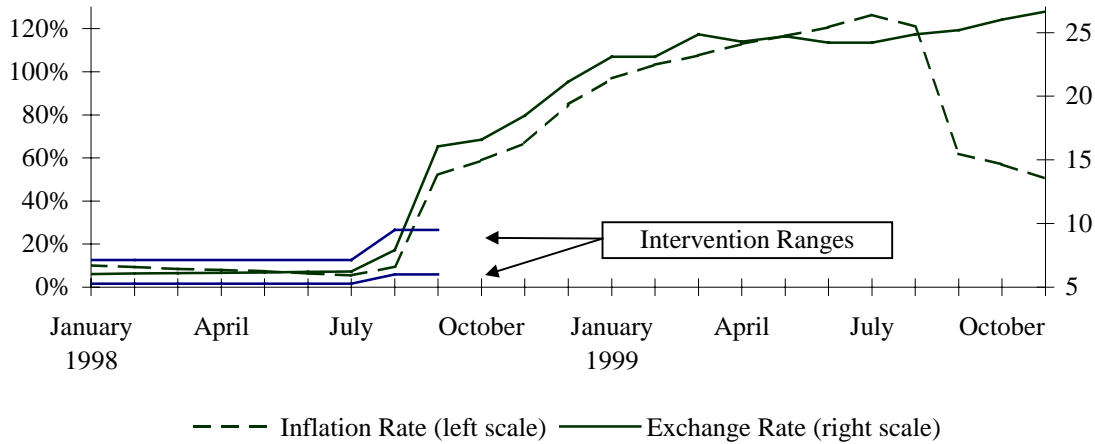
The ongoing pressure on Russian banks induced by foreign investors to repay their foreign exchange loans and the sharply falling foreign currency reserve at the Central Bank, the Russian government changed, on August 17, 1998, its exchange rate and financial market policies. The main measures were a realignment and widening of the fluctuation band from 5.27 - 7.13 to 6 - 9.5 roubles per US dollar; a 90-day moratorium on the repayment of debts to non-residents; and an indefinite imposition of controls on capital account transactions. Furthermore, all GKO's and long term government bonds maturing before the end of 1998 were transformed into instruments of at that time unknown maturity and interest rate and the trade of these bonds was suspended (ILLARIONOV 1999b, RECEP 1998d). The last measure draw the banking sector a great deal of its liquidity. At the end of July 1998, Sberbank held about 50% of its assets in GKO's. The rest of the banking system held about 10% of its assets in government bonds (RECEP 1998a).

### **2.3 Macroeconomic Effects of the Collapse**

The change in the economic policy did not result in a stabilisation of either the exchange rate or the financial markets. Therefore, after trade on the foreign exchange market had been abandoned several times, at the beginning of September the intervention ranges were dropped and the rouble was allowed to float freely (NZZ 1998b). Subsequently, the rouble to US dollar exchange soared from 6.2 at end of June, i.e. before the outbreak of the crisis, to 16.06 three months later (cf. Figure 2), however with high volatility (RECEP 1998a). Furthermore, to avoid a bank run, the access to deposits, denominated both in domestic and foreign currencies, was prohibited for two and a half month (NZZ 1998c). A bank run was expected, because, at first, the credibility of the banking system was diminishing rapidly and secondly, due to the devaluation of the rouble, it was further awaited that the households will change their in domestic currency denominated deposits into US dollars.

As a sequel of the rouble devaluation inflation rate turned upwards. The drop in local currency has made imported products significantly more expensive inducing rising macroeconomic price level. The rising import prices pushed also the production costs of those locally produced goods upwards, which used foreign intermediate goods. Furthermore, households have started to buy up goods and stockpile food for fear of price increases and food shortages (RECEP 1998a). As a result, the prices for domestically produced goods have also begun to rise. In June, the year-on-year inflation rate was about 5.6%; in September it reached 52.3% (cf. Figure 2).

**Figure 2: Exchange Rate of Rouble to US Dollar and the Inflation Rate, January 1998 – November 1999**



Notes: The exchange rate as it was at the end of each month.

Inflation Rate: measured using the consumer price index. The inflation rate of each month is calculated on year-on-year basis.

Source: Own calculations based on BANK OF RUSSIA (2000a, b) and RECEP (2000).

In the months following the eruptive change of exchange rates and prices the markets calmed down. This was to some extent due to the efforts of the government. But also some fortunate circumstances on the world markets for oil and oil products supported the stabilisation of the macroeconomic environment.

After the dramatic fall of the exchange rate in August and September 1998 the depreciation rate decreased in the subsequent months. In the first half of 1999 the exchange rate of roubles against the US dollar fluctuated in the range between 22 and 24 rouble per US dollar. As a consequence of the restrictions on international convertibility of the rouble the demand for US dollar decreased. Additionally, on the supply side of the foreign exchange market the owner of foreign currency were forced to supply of US dollar by different regulations. For example, to secure the liquidity on the domestic foreign exchange market exporter have to sell 75% of their export earnings at special trading sessions organised by the Russian central bank (BANK OF RUSSIA 2000c). Furthermore, due to rising prices for non-agricultural primary products, especially for oil, on the world markets the supply of US dollar increased by far. Nevertheless, the measures could not push the demand for rouble of private economic agents (RECEP 1999b). To overcome the shortness of demand the central bank intervened on the foreign exchange market at that time considerably.

The efforts of the government and the central bank could not stabilise the foreign exchange market thoroughly. As the central bank reduced the intervention on the foreign exchange market mid September 1999 the rouble devaluated against the US Dollar further, reaching at the end of November 1999 the value of 26.65 rouble per US dollar (cf. Figure 2).

Similar to the depreciation rate of the exchange rate the monthly inflation rate decreased. After the price shock in September 1998 and a second one in December 1998<sup>3</sup> the monthly inflation rate declined to 1.2% in November 1999, however quite volatile. The increase of inflation in December 1998 was inter alia a consequence of the rising money supply in August and September of the same year. Because currency substitution is in Russia evident

<sup>3</sup> The monthly inflation rate doubled to 11.6% in December 1998 from 5.7% in November 1998.

devaluation raises the money supply (WELFENS 1998).<sup>4</sup> In Russia at the end of 1997 about 45% of money supply has been hold in US dollar (RECEP 1998c). Due to some statistical phenomena the year-on-year inflation rate increased until July 1999 to 126.5%. Since then the inflation rate dropped to 50.4% in November of the same year (cf. Figure 2). If the government and the Russian central bank continue their current monetary policy of stabilising the money supply as well as the currency depreciation will not speed up, and thus the trend of decreasing monthly inflation rates will go on, the year-on-year inflation rate should decline further on rapidly, reaching in August 2000 presumably a range between 13% and 15%. Whether the central bank is able to maintain the current policy depends crucially on the financing of wage and pension arrears, the by the government announced raising of pensions by 20% before the presidential election end of March 2000 (ECONOMIST 2000), and the war in Chechnya. Also a falling price for oil and oil products could force the monetary authorities to lax the monetary policy.

In the months immediately following the outbreak of the crisis the main aim of the government was to stabilise the macroeconomic environment, however, by imposing regulations restricting trade of financial capital and foreign currencies and thus hampering for example foreign trade. Reforms removing the causes of the collapse were not put forward very intensively, such as establishing a reliable expenditure policy, improving the enforcement of property rights etc. (RECEP 1999c). Regardless of the necessity to put forward reforms the efforts of the government to raise its reputation within the population were also negligible, which is crucial for any successful reforms. For example, the wage arrears of the Russian government tripled in nominal terms between January 1998 and January 1999, from 4.2 bn roubles to 13.2 bn roubles; and they were still higher than in July 1998 (11.9 bn roubles; RECEP 1999a). Even though in nominal terms the wage arrears increased in the second half of 1998 only by 11% actually civil servants were expropriated due to the high inflation. The real value of the wage arrears of July 1998 was in January 1999 about 52%.

### 3 EFFECTS OF EXCHANGE RATE DEVALUATION ON THE AGRI-FOOD SECTOR

In the months before the first change in exchange rate policy took place in August 1998, price competitiveness did not undergo any critical change (cf. Figure 3). With the realignment and widening of the ranges of the intervention band in mid August and the introduction of a flexible exchange rate system at the beginning of September 1998 the rouble depreciated in nominal terms against nearly all currencies of the most important trade partners, affecting the value of the rouble in real terms.

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<sup>4</sup> Money supply  $M_t$  is determined by the money multiplier  $m_t$  and by the monetary base  $B_t$ . The latter is divided in domestic assets  $H_t$  and international reserves denominated in local currency  $R_t$ :

$$(1) M_t = m_t B_t = m_t \cdot (H_t + R_t).$$

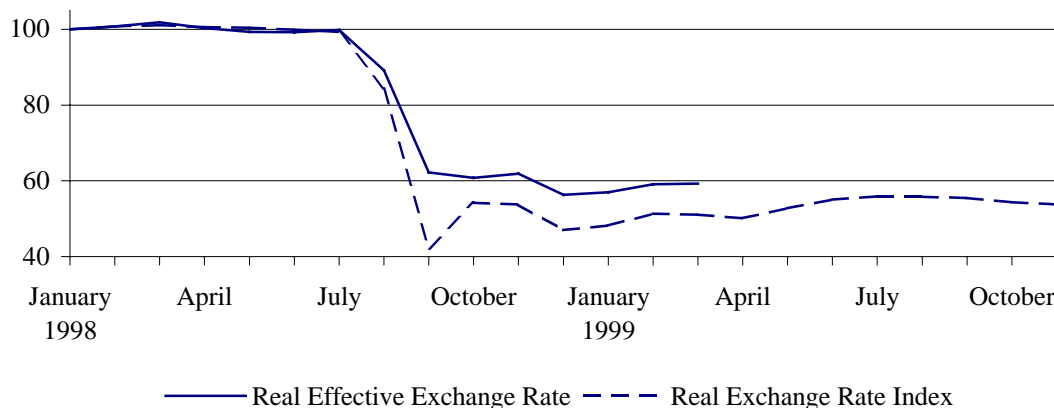
In the case of currency substitution domestic assets consist also of foreign currency:

$$(2) H_t = H_t^K + e_t H_t^{\$},$$

where  $H_t^K$  are domestic assets held in domestic currency, e.g. rouble, and  $H_t^{\$}$  those held in foreign currency, e.g. US dollar. Any change of the exchange rate leads to a variation of  $H_t$  and thus via  $M_t$  to a fluctuation of inflation (WELFENS 1998). Furthermore, assuming a positive demand elasticity of foreign currency regarding the exchange rate, variation of it lead to changes of the money supply and thus of inflation.

In August and September the real effective exchange rate based on agri-food trade<sup>5</sup> went down by 10.6% and 30.2% respectively; against the US dollar the rouble devalued in real terms in both months by 15.0% and 50.0% respectively.<sup>6</sup> With the exception of December 1998 the real effective exchange rate stabilised since then. The same is true regarding to the real exchange rate against the US dollar with the exception of October, where it appreciated by nearly 30%. The real effective exchange rate reached in the first quarter of 1999 about 60% of the value before the crisis. The real exchange rate against the US dollar fluctuated around 50% of the pre-crisis level during the whole year 1999 (cf. Figure 3). In the last two years the inflation rate of most trade partners as well as the nominal exchange rate against the rouble did not diverge too much from the trend of the inflation rate in the USA and the US dollar-rouble exchange rate. Thus, both, the real effective exchange rate and the real exchange rate against the US dollar, follow the same trend. It is not the caused by a high share of trade with the USA products at the agri-food trade of Russia. Actually at the real effective exchange rate it is about 5.7%.

**Figure 3: Real Effective Exchange Rate and Real Exchange Rate Index of US Dollars to Rouble, January 1998 - November 1999**



Notes: January 1998 = 100. A falling graph means in this figure a depreciation. The real (effective) exchange rate as it is at the end of each month; as inflation rate the monthly CPI is used.

Source: Own calculations based on BUREAU OF LABOR STATISTIC DATA (2000), DEUTSCHE BUNDESBANK (1999), OANDA (1999), OECD (1999b), and PLANECON (1999).

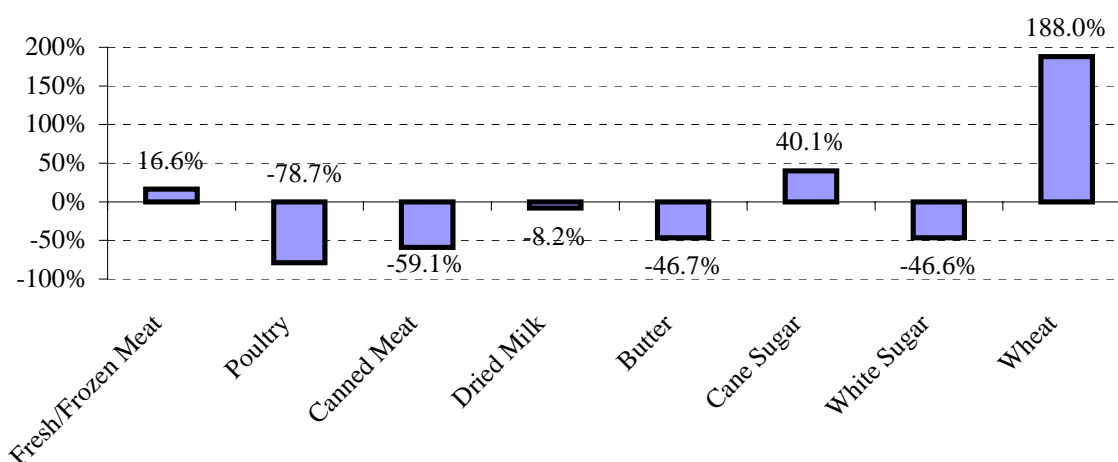
The devaluation changed drastically the relative prices between import goods and locally produced goods, inducing an effective protection of the domestic agri-food market. Consequently, the demand switched to domestic goods away from imported one. Generally such a change of exchange rates would promote also the export. Because the Russian export of food products is negligible, in the following this aspect will be no more considered.

<sup>5</sup> The real effective exchange rate equals the geometric average of real exchange rates against the nine most important agricultural trade partners outside the Commonwealth of Independent States (CIS). Each real exchange rate is weighted with the share of a country at the agri-food trade of Russia in the years 1995 and 1996. Due to lack of data only non-CIS trade partners were taken into consideration. Because no consistent time series of agricultural and food sales prices are published monthly the calculation of the real effective exchange rate bases on the consumer price index (CPI). Since the consumer price index for agricultural and food products is closely correlated to the CPI, an index based on CPI is quite a good proxy for the international competitiveness of the agri-food sector. A detail description of an analogous real effective exchange rate index as well as the trade weights are given in POGANIETZ (2000).

<sup>6</sup> Since the real exchange rate of rouble to US dollar dominates the debate in the newspapers, it is presented either.

The devaluation of the rouble pushed via increasing inflation the real income of the households down. Between July and September 1998 the official real per capita income fell by 22.6%. Until January the real personal income declined further, however, not so dramatic, but still considerable. Since then, the real income level increased. In September 1999 the households still realised only 75.9% of the pre-crisis real income level. Due to this decline the number of households who live below the poverty line raised from 22% before the crisis to 29% in December 1998. In September 1999 about one third of Russian households lived below the poverty line (RECEP 1999a). For many households the rapid decline in real income had been accompanied by an equally rapid decline in the real value of savings, since at the beginning of September 1998 the access to deposits was denied for two and a half months (NZZ 1998c). Due to the tumbled income households substituted high-value products (HVP) and higher processed food by lower processed food (LIEFERT and LIEFERT 1999, OECD 1999c). Because the former is mainly supplied by foreign firms and since they are especially important in Russian food imports (LIEFERT and LIEFERT 1999) the collapse of import demand of foodstuff in September 1998 was a not surprising outcome. In the fourth quarter 1998 the total value of agricultural and food imports was only about one-fourth of the value of a year earlier. In the following months the picture changed slightly. While the import of HVP and higher processed food was in the first three quarters still low, the demand for lower processed food and raw material increased considerably. In the first three quarters the import of poultry reached merely 21.3% compared to the same period in 1998, canned meat levelled to 41.9% (cf. Figure 4).

**Figure 4: Change in Import Demand of Selected Food Products Between 1998:Q1-3 and 1999:Q1-3**



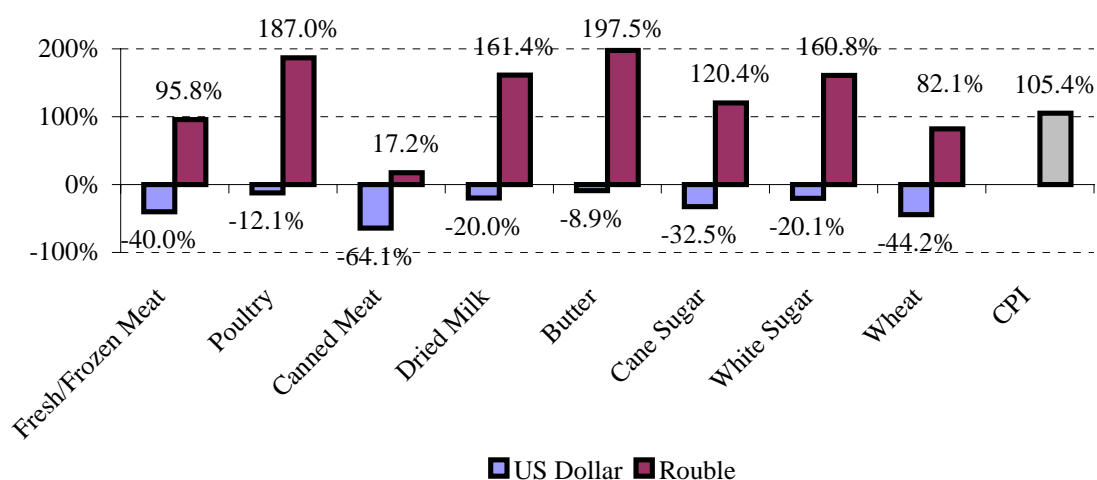
Note: In volume terms.

Source: Own calculation based on EAST EUROPE (1999a).

Contrasting the decline of import of poultry and canned meat the inflow of fresh and frozen meat increased almost by 16.6%. It seems that Russian households partly substituted poultry by other kinds of meat, mainly by pork (cf. KARLOVA 1999). The switch in demand was induced by a harsh change of the price of meat relatively to poultry meat. It slumped in rouble by 50% (cf. Figure 5). Furthermore, different to poultry, the price of meat fell also against the consumer price level measured by CPI by 9.1%. The weakening of the price for meat relatively to poultry and to the consumer price level and thus the switch to meat is certainly linked to the reaction of many Western countries and the European Union on the crisis in Russia. They donated meat or provided cheap credits to meat exporting firms (EAST EUROPE 1999a).



**Figure 5: Change in Import Prices of Selected Food Products Between 1998:Q1-3 and 1999:Q1-3**



Note: The prices in rouble are derived from the prices in US dollar using the average exchange rate rouble per US dollar of the periods January – September 1998 and January – September 1999.

Source: Own calculation based on EAST EUROPE (1999a) and RECEP (2000).

While the trade of most livestock products and of processed sugar declined the demand for unprocessed agricultural goods, mainly cane sugar and grain increased considerably. The latter is partly the consequence of the income crash but also of changed relatively prices. The price for wheat, for example decreased relatively to the consumer price level as well as against nearly all livestock products (cf. Figure 5). Another cause of surging imports of grain was the fear of a poor harvest, which in fact was not too bad: + 12.6% between 1998 and 1999 (EAST EUROPE 1999b). Irrespective of the increase the harvest was too low to meet the demand for grain products, which moreover was pushed by the demand switch of Russian households to staple foodstuff, compared to 1998 (cf. OECD 1999c).

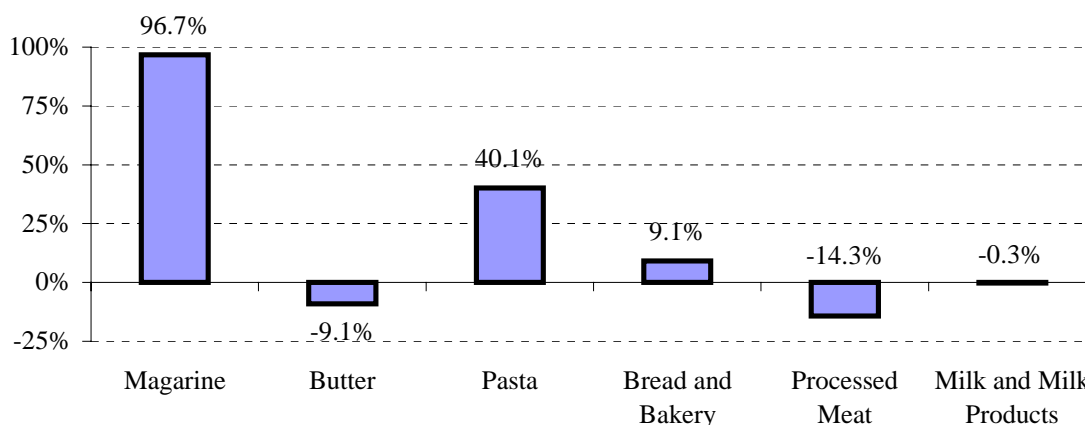
The real depreciation improved the price (international) competitiveness of Russian firms in the food industry and farms. Furthermore, the high inflation decreased the real costs of labour and capital. Following the output data the food industry gained while this did not hold for agriculture. This indicates that the food industry could enhance the efficiency of their production.

The food industry make use of the decreased import demand and the substitution of foreign HVP by domestic products. The real output of the food industry (incl. tobacco) was in the first three quarters of 1999 23.8% higher than in the corresponding period of 1998. The largest output increase was realised in the margarine (+ 96.7%) and pasta industry (+ 40.1%). However, not all industries gained from the crisis. In particular the production of processed meat decreased by 14.3% (cf. Figure 6).

Comparing the output increase of the food industry with the development of income and wealth of Russian households the upsurge is more impressive. The real income dropped between July and September 1998 by 22.6% and is still a great deal below the pre-crisis level (see above).



**Figure 6: Change in Output of Selected Food Products Between 1998:Q1-3 and 1999:Q1-3**



Notes: Food inclusive tobacco.

Milk and milk products in milk equivalent.

Source: EAST EUROPE (1999c).

In contrast to the food industry the change of agricultural output was not promising. Gross agricultural output (GAO) declined in the first three quarters of 1999 by 2.4%, compared to the corresponding period in the previous year (own calculation based on RECEP 1999a). The decrease of output was the consequence of several structural obstacles, but also due to the in general low opportunities of farms to adjust their production to changes on foreign exchange markets because of long production cycles. Despite the latter, some branches expanded the sowing areas, partly considerably. Between July 1998 and July 1999 sunflower sowing areas went up by 31.3%, sugar beet sowing areas by 12.7%, potatoes sowing areas by 9.0%, and vegetables sowing areas by 11.2%. Contrary, the sowing areas for grain crops slumped by 7.7%. In the same period the number of livestock declined either, somewhat significantly. The total number of cattle decreased between July 1998 and July 1999 by 7.6% to 30.8m, of pigs by 0.5% reaching 18.5m, and of sheep and goats by 15.2% now totalling 17.7m (KHRAMOVA 1999, EAST EUROPE 1999d). This trend continued in the second half of the year.

All in all the production capacities of agriculture declined further, despite the fact that the downstream industry boomed. It seems to be that the slump of capacities, which last in the case of grain crops and livestock since the beginning of transition, is caused by structural impediments. That means, even though farmers are strongly interested in expanding production possibilities, they are not able to do it. A major constraint is lack of financial capital, as a consequence of the breakdown of the socialist system and the low profitability of agriculture due to some inherent obstacles but also due to the slow restructuring of large scale farms. The latter emphasises the low attention agriculture is able to get. Thus, since 1990 the capital spending in the agricultural sector dropped dramatically, which had a drastic impact on the quality and quantity of the machinery equipment of farms (KUKHARENKO 1999, cf. Table 1).

Consequently, many farms switched to simplified technologies, i.e. less capital intensive, and reduced sowing areas as well as livestock (KUKHARENKO 1999). Furthermore, since most farms operate at loss the access to credits for seeds, fertiliser, fuels and lubricants were mostly denied by commercial banks. Thus, farms are not able to make use of existing capacities.

**Table 1: New Installed Equipment in Agriculture, 1990, 1995, 1997**

	1990	1995	1997
<b>Tractors</b>	143.7	14.8	9.1
<b>Trucks</b>	97.6	4.7	2.1
<b>Combines:</b>			
<b>Grain</b>	38.0	6.1	2.2
<b>Potato</b>	4.0	0.5	--
<b>Feed</b>	13.6	3.2	0.5
<b>Milking Units</b>	23.6	0.4	0.1

Note: In thousands.

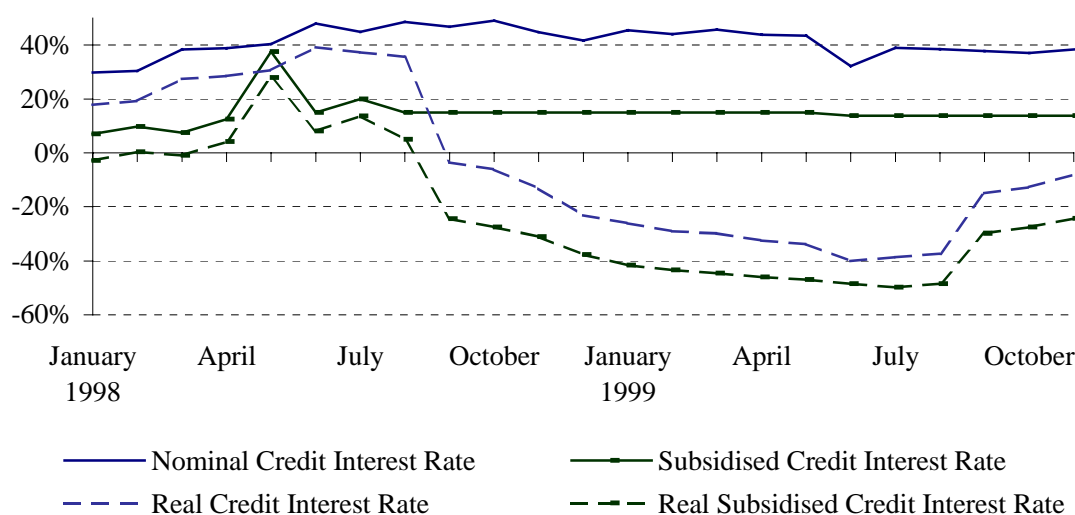
Source: KUKHARENKO (1999).

The importance of household plots in Russian agriculture also lower the sensitivity of that sector to changes on foreign exchange markets (SEROVA et al. 1999, MELYUKHINA and KHRAMOVA 2000). Household plots are mostly not market oriented and are mainly used to reduce income risk (BRAUN and QAIM 1999). Thus, they are mostly not interested to increase their production. Irrespective of this, partly households are often not able to do it due to time restrictions or not existent capacities.

#### 4 EFFECTS OF INFLATION ON THE AGRI-FOOD SECTOR

While the real devaluation improved the price competitiveness of both agriculture and food industry the inflation depressed the real factor costs due to inflexible wage and interest rates. Between July 1998 and July 1999 the real wage rate dropped by 35.6%.<sup>7</sup> In October 1999 the average real wage rate still reached only 66.3% of the pre-crisis level (RECEP 1999a). The breakdown of the financial system had no impact on the nominal credit rate (cf. Figure 7).

**Figure 7: Interest Rate of Non-Subsidised and Subsidised Credits, January 1998 –November 1999**



Notes: The real interest rates are deflated using CPI.

Source: Own calculations based on BANK OF RUSSIA (2000b) and RECEP (2000).

<sup>7</sup> Due to lack of sectoral data the average wage rate for the entire economy is used assuming that the development of wage rates in the agri-food sector will follow average wage rates somehow.

Between May 1998 and May 1999 the interest rate fluctuated within the range of 40 and 50%. In the then following months the nominal credit rate went down slightly. The stiffness of nominal interest rates seem to be a result of the bad performance of the whole banking system, which is in a presumably long-lasting restructuring process (cf. RECEP 1999d). Due to the high inflation during and after the crisis the real interest rate fell to – 40.1% in June 1999 from 37.3% in July 1998. Due to the decreasing inflation rate since September 1999 the real credit interest rate reached in November 1999 – 8.0%.

The change of the subsidised real credit interest rate on the agricultural credit market was more remarkable: With the breakdown of the financial system and the rising inflation rate the real interest rate of subsidised loans declined from 13.7% in July 1998 to – 24.4% in September 1998. Due to the increase in the inflation rate the real interest rate dropped further reaching – 48.5% in August 1999. Since then the interest rate turned up. But, in November 1999 it was still very low: – 24.4% (cf. Figure 7).

Even though the inflation rate dropped since September 1999 the real credit interest rate for both, agricultural sector and food industry, is still negative. Following the inflation rate forecast above and assuming that the nominal credit interest rate will not change considerably, which is likely, the unsubsidised real credit rate will turn positive during this year, reaching the pre-crisis level probably in the third quarter of 2000. The same development can be expected for the subsidised credit interest rate. But in this case, the real interest rate will vary around zero. The forecast depends on the assumption, that the refinancing interest rate to which the subsidised interest rate is linked will stay constant.

Whether the agricultural and food sector could gain from the decline in real interest rates is very doubtful, considering the bad performance of the banking system. The bad performance is also of relevance for agriculture, which had been decoupled by the government from the (not subsidised) financial markets since the beginning of transition. The government uses banks as an agent for distributing subsidies (OECD 1998, YANBYKH 2000). Since 1992 the state established several credit programmes, generally offering short term credits with interest rates below market level. The objective of all programmes was to reduce the costs of lending and to increase the supply of financial capital offered to farms for supporting the restructuring of the agricultural sector (cf. YANBYKH 2000).

The current most important credit market programme is the Soft Farm Credit Fund (SCF), introduced in 1997. Characteristic for loans contracted under this programme is the fixed interest rate, which amount to a quarter of the central bank's refinancing interest rate. The most important source of the fund are repayments of loans disbursed in pre-periods (YANBYKH 2000, SEROVA 1998). Both features of the programme, the low interest rate of subsidised loans and its refinancing mechanism, created a situation, in which the ability and the willingness of creditors to repay is crucial for the amount of supply of financial capital for agriculture. The fixing of the interest rate below market level crowded out commercial credit supplier. The non-subsidised credit interest rate was in the last two years about three times higher than the subsidised credit interest rate.

The development of the Russian agricultural credit market emphasises the experience in other countries. The willingness of debtors of subsidised credits to return is generally low, since they expect, considering the past, that the lender will not or cannot enforce the loan (ADAMS et al. 1984). Banks will not urge a debtor to reimburse if the costs of enforcing a credit due to *inter alia* malfunctioning jurisdiction like in Russia, is higher than the repayment. And they cannot impose an indictment if a bank fears that the debtor is getting bankrupt and under some circumstances the bank too.

In Russia the sum of outstanding credits, i.e. loans which are overdue, end of September 1999 amounted 4.7 bn roubles. This is more than the 4.4 bn roubles, which SCF has been distributed to farms in the first nine months of 1999 (EAST EUROPE 1999e).

The agricultural credit market is also impeded by the bad performance of SBS-Agro bank. It owed at the end of September 1999 more than half of the outstanding credits: 2.4 bn roubles. Additionally, it has to repay 1.46 bn roubles for credits disbursed in 1997 (EAST EUROPE 1999e). The bank, the heir of Agroprombank, the only bank in Soviet Union allowed to offer credits to agriculture, is the most important financier of Russian agriculture. In the aftermath of the crisis in August 1998 the bank was appointed as the government agent to disburse subsidised credits. This decision was justified by the close links to the agricultural sector. The familiarity with agriculture was also the reason why the bank was not closed during or after the crisis. To reduce the risk of bankruptcy by maintaining its liquidity the bank was allowed to hold back a part of the funds that were supposed to reach farmers. Since mid 1999 SBS-Agro bank is under restructuring (RECEP 1999e).

Despite the limited credit supply most farms lack of credibility. In 1998 about 80% of all agricultural enterprises were operating at a loss. The main reasons for this are high production costs, poor management and weak enforcement of contracts (UZUN and SHAGIDA 1998). At the beginning of 1998 about 60% of the debts were overdue of which about 40% falls on accounts payable to budget and non-budgetary social funds. Bank debts amounts only to 15% of all overdue debts. Indebtedness of farms to budget and social funds have severe consequences for the liquidity of farms. An enterprise having overdue debts to the government has to write off all money received in favour of the state as long as the debts are repaid. Consequently, indebted farms have no incentive for monetary transactions, "promoting" barter trade and avoiding "official" credit demand. Under these circumstances banks have also no incentive to supply credit which is not guaranteed by the state or the Oblast since they have to expect that the credit will not be invested but seized by the government (YANBYKH 2000).

Regardless of the meagre effect of the crisis on agricultural output the breakdown of the monetary sphere improved the financial situation of the farms. The public farm sector, i.e. the successors of former state farms, kolkhozes and sovkhozes, turned the losses made ever since the breakdown of socialism into profits.<sup>8</sup> Following the forecasts of the Russian agriculture ministry the public farm sector, will generate 11.8 bn roubles in profit<sup>9</sup>, after losing 36.9 bn roubles in 1998. But still three-fifths of public farms will claim losses (EAST EUROPE 1999b, 1999f).<sup>10</sup>

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<sup>8</sup> The causes of the improved financial situation is not clear. Indisputable is the decline of the real factor costs, irrespective of the fact, that the effect of this on financial health of Russian farms is uncertain. Most large farms pay their workers with agricultural goods, mostly valued under the market price. How the changed real monetary wage rates influence the real non-monetary wage rates is not recognised. Questionable is the development of the real turnover, since reliable data are until now not published. On the one hand real GAO decreased, on the other output, measured in volume terms, mainly of crops, soared considerably.

<sup>9</sup> According to Russian farm minister Alexei Gordeyev profits will rise only to 6 to 7 bn roubles. But, he considered the state-sector farms, while his ministry use the notion public sector farms (EAST EUROPE 1999b, 1999f). The differences between public sector farms and state farms is unclear.

<sup>10</sup> There is a wide discussion about the financial health of large farms, especially whether the published losses are reliable. One cause of the high losses is the tax system. Large farms try to avoid tax payments by shifting earnings to members/workers of the farms, who are mostly not taxed (RYLKO 2000). Another reason are that farms supply social services, for which they are not paid by the municipals, according to the law (TACIS 1999).

Additionally, the government eased several times the financial burden of farms. Due to two governmental resolutions, passed on October 2, 1998, liquid farms had the opportunity to change the terms of their debt to the budget till 2005 and write off penalties on this debts (YANBYKH 2000). End of November 1999 the Russian government has written off farm sector debts totalling 3.5 bn roubles. The debts were unpaid bills for oil products received by farms in 1995, budgeted loans due to settlement in 1999, and centralised credits received in 1991 to 1994 (EAST EUROPE 1999f).

Thus, the easing of the financial burden of farms and the improving cash flow should enhance the credibility of the agricultural sector, at least of the best performing farms. But, the structural impediments on the credit supply side will hamper the future prospects of the agricultural sector.

The same conclusion could be drawn for the food sector. Similar to the agricultural sector the bad performance of the SBS-Agro bank as the main bank for the food industry could obstruct the longer run prospect of the food industry. Alternative opportunities to attract financial capital are minor, since the whole banking sector is ailing (RECEP 1999d). While the conditions on the credit supply side are bad, on the credit demand side the financial conditions of the firms were improving in 1999. Due to increasing output and real prices as well as declining factor costs the earnings turned up. The agricultural ministry predicts that food industry profits will in 1999 amount 21 bn roubles, compared with losses of 2.5 bn roubles in the previous year (EAST EUROPE 1999b).

## 5 FUTURE PERSPECTIVES

The good performance of the agri-food sector in 1999 is perhaps going to improve further, since for this and the next year positive income growth rates are expected as a consequence of the crisis in 1998.<sup>11</sup> Following the forecasts of the Russian government real income will grow in this year by 1.5% (GORBAN and WESTIN 1999). Estimating further an increase of real income by 2.0% in 2001 the demand for agri-food products should increase in 2000 and 2001 by 1.1 and 1.6% respectively. The forecast bases on the assumption that the expenditure elasticity for food demand equals 0.81 (ELSNER 1999) and the income elasticity of demand 0.94 (own calculation based on RECEP 2000). The projection depends crucially on the assumption of an unchanged price and non-price competitiveness of Russian producer. If the former occurs is doubtful, but also the trend of price competitiveness, i.e. real exchange rate, is uncertain. While the inflation differential between Russia and foreign countries will decrease the amount of the depreciation of the nominal exchange rate in the following months is uncertain. If the rouble devaluates in the same pace as in the last two months of 1999 and the inflation rate lowers to 13% to 15% in the second half of 2000 the Russian currency should depreciate in real terms, promoting the price competitiveness of Russian firms and farms.

Because of the change of the macroeconomic environment the crisis opened a "window of opportunity" for producer of agri-food goods, since by protecting domestic firms and farms it improved their financial performance. Also the future prospects are not bleak, following the above made forecasts. But the effects of a one shot devaluation on longer run growth prospects as well as on financial health is by its characteristics short term. The same is true in the case of a continuous depreciation of a currency, even though to a lesser degree. Continuing

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<sup>11</sup> Since the real income growth will be not high, a change of the demand pattern according the Engel law should be rather negligible and thus the impact on agricultural trade.

devaluation of a currency lessen foreign competition, but it did not expel it. For a long term sustainable growth more fundamental changes on farm and firm level as well as on policy level are needed.

A main obstacle for the development of the agri-food sector is the outdated equipment. For example, food industry representatives claimed that actually only 19% of the country's operational food manufacturing and processing capacity meet world standards (EAST EUROPE 1999b). The since 1992 decreasing investment is not only the consequence of low rentability of investment projects, which could be true for agriculture but not for food industry, but more of an old-fashioned corporate governance system in most farms and firms (LIEFERT and LIEFERT 1999, RECEP 1999c). Manager are rather interested in maximising cash flow in the short run, but not the fundamental value of their farm or firm. This behaviour will make it likely that the increase of revenues resulting from the devaluation will not be reinvested but be consumed or carried abroad (RECEP 1999c). The small interest in the firm is also typical for the behaviour of employees. They use the employment a lot to get intermediate goods rather "cheap", which they sell or can use privately. Workers justify such manners often by the irregular wage payments by the employer.

The activities of manager and employees is to great extent the consequence of poor law enforcement and inconsistent policy, but to a lower degree of missing laws. Both, poor law enforcement and inconsistent policy, create incentive structures promoting rent-seeking behaviour. Since the breakdown of the socialist system the government imposed several laws, first to establish a market economy and later to improve the functioning of existing market institutions (WANDEL 2000). After the crisis due to rising pressure of the IMF the government prepared and imposed new laws with the aim to eliminate the still existing structural deficits (RECEP 1999e). But, the implementation of the laws are frequently impeded by the administration either on federal or on Oblast level.<sup>12</sup> Also typical for governmental policy is its inconsistency. For example, the state did not changed its practice regarding to tax arrears of large firms and farms. The repeatedly writing off of debts helped create a mentality to run up tax arrears hoping to get in the future some discount. At the same time small and foreign firms are heavily punished if they pay taxes not in time.

## 6 CONCLUDING REMARKS

This paper analysed the development of the Russian agri-food sector since the breakdown of the monetary sphere in late summer 1998. Looking at the official available data, the food industry has profit from the drastic revaluation of the rouble. First, Russian producers could expand their shares on a stagnating market considerably. Secondly, the financial situation of firms has been improved. Also the future prospects seem to be not bleak, even though the forecasts depend on some crucial issues. While the food markets should grow the price competitiveness of Russian food producers will improve. Contrary to the food industry the gains of the agriculture were smaller, however, at least the financial performance got better.

But, it is not apparent whether the agri-food sector make use of the enhanced circumstances. Insufficient incentive systems due to non-enforcement of legal rules within firms and farms and lack of credibility of Russian government promote a rent-seeking behaviour of employer and employees. This behaviour will make it likely that the increase of revenues resulting from the devaluation will not be reinvested but be consumed or carried abroad (RECEP 1999c).

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<sup>12</sup> cf. LUCHTERHAND (1996) and OECD (1998). The case of grain markets is a good example for the "disintegration" of the Russian Federation, see KOPSIDIS (2000a, b).

Thus, it could be expected, that the non-price competitiveness of Russian products will rather worsen than getting better. Some evidence is given by most recent trade data. Despite the fact of a convalescing price competitiveness the import of food products was in December 1999 about 48% higher than in the corresponding month in the previous year (ECONOMIST 2000).

## REFERENCES

- ADAMS, D.W., GRAHAM, D.H., VON PISCHKE, J.D. (eds., 1984): *Undermining Rural Development with Cheap Credit*, Boulder.
- BANK OF RUSSIA (2000a): Monetary Policy. Monetary Policy Measures, January 21, 2000, Internet: <http://www.cbr.ru/eng/dp/policy.html>.
- BANK OF RUSSIA (2000b): Monetary Policy. Statistics, January 21, 2000, Internet: <http://www.cbr.ru/eng/dp/statistics.html>.
- BANK OF RUSSIA (2000c): Monetary Policy. Exchange Rate Policy, January 21, 2000, Internet: <http://www.cbr.ru/eng/dp/pvk.html>.
- BRAUN, J. VON, QAIM, M. (1999): Household Action in Food Acquisition and Distribution Under Transformation Stress, in: HARTMANN, M., WANDEL, J. (eds.): *Food Processing and Distribution in Transition Economies: Problems and Perspectives*, Kiel, pp. 223-238.
- BRODSKY, B. (1997): Dollarization and Monetary Policy in Russia, *Review of Economics in Transition*, 6/97, pp. 49-62.
- BUREAU OF LABOR STATISTIC DATA (2000), Consumer Price Index-All Urban Consumers, January 25, 2000, Internet: [146.142.4.24/cgi-bin/surveymost](http://146.142.4.24/cgi-bin/surveymost).
- DEUTSCHE BUNDESBANK (1999): *Devisenkursstatistik Januar 1999*, Frankfurt/Main.
- DIETZ, R., GLIGOROV, V. (1997): Exchange Rate Regime and Policy in Central Europe and Russia, *Turku School of Economics and Business Administration, Institute for East-West Trade Series C Discussion*, 5/97.
- EAST EUROPE (1999a): Russian Food Imports in Q1-3 Show Varying Trends, December 1999, p. 7.
- EAST EUROPE (1999b): Russian Agri-food Sector Turns Losses to Profits, December 1999, pp. 5-6.
- EAST EUROPE (1999c): Russian Food Sector Output Up Sharply in Jan-Sep 1999, November 1999, pp. 9-10.
- EAST EUROPE (1999d): Russian Meat Production in Downward Spiral. August 1999, pp. 10-11.
- EAST EUROPE (1999e): Only 60% of Planned Budget Paid to Russian Farm Sector, November 1999, p. 10.
- EAST EUROPE (1999f): Improved Profitability Claimed for Russian Farms, December 1999, pp. 6.
- ECONOMIST (1998): Russian Banking. Too much Trouble, January 10, 1998, Internet: <http://www.economist.com/archive/view.cgi>.
- ECONOMIST (2000): What will Putin do? January 15<sup>th</sup> – 21<sup>st</sup>, 2000, p. 27.
- ELSNER, K. (1999): *Analysing Russian Food Demand Using Micro-Data*, *Institute of Agricultural Development in Central and Eastern Europe (IAMO)*, Halle (Saale), mimeo.
- FAZ - Frankfurter Allgemeinen Zeitung (1998): Die Finanzkrise in Rußland kann kurzfristig nicht gelöst werden, August 15, 1998, p. 21.

- GABRISCH, H., LINNE, T. (1998): Rußland im Spätsommer 1998: Ursachen und Wege zur Überwindung der Währungs- und Finanzkrise, *Institute for Economic Research Halle (IWH)*, mimeo.
- GORBAN, M., WESTIN, P. (1999): Next Years Budget: The First Reading, in: RECEP - Russian European Centre for Economic Policy (ed.): Russian Economic Trends, Monthly Update, 7 October 1999, Internet: <http://www.hhs.se/site/ret/ret.htm>. pp. 3-11.
- ILLARIONOV, A. (1999a): How the Russian Financial Crisis was Organised [I], *Problems of Economic Transition, Vol. 41*, pp. 7-28.
- ILLARIONOV, A. (1999b): How the Russian Financial Crisis was Organised [II], *Problems of Economic Transition, Vol. 41*, pp. 29-56.
- KARLOVA, N. (1999): On the Current Order of Importation of Live-Stock Products in the Territory of the Russian Federation, Internet: [http://www.online.ru/sp/iet/trends/aug99/11\\_e.html](http://www.online.ru/sp/iet/trends/aug99/11_e.html).
- KHRAMOVA, I. (1999): The Situation in Agro-Industrial Sector, Internet: [http://www.online.ru/sp/iet-trends/jul99/9\\_e.html](http://www.online.ru/sp/iet-trends/jul99/9_e.html).
- KOPSIDIS, M. (2000a): Disintegration of Russian Grain Markets in Transition: Political and Economic Dimensions, *Post-Communist Economies, Vol. 12* (forthcoming).
- KOPSIDIS, M. (2000b): Russian Grain Markets 1991-1998: Transition without a Functioning Domestic Market?, in: MOLL, H.A.J., TILBURG, A. VAN (eds.): *Agricultural Markets Beyond Liberalization* (forthcoming).
- KUKHARENKO, V. (1999): Improving the Base of Rural Construction, *Problems of Economic Transition, Vol. 42*, pp. 81-92.
- LIEFERT, W., LIEFERT, O. (1999): Russia's Economic Crisis: Effects on Agriculture are Mixed, in: ECONOMIC RESEARCH SERVICE/USDA (ed.): *Agricultural Outlook/ June-July 1999*, pp. 15-18.
- LUCHTERHAND, O. (1996): Zum Entwicklungsstand des Föderalismus in Rußland, in: KAPPELER, A. (ed.): *Regionalismus und Nationalismus in Rußland*, Baden-Baden, pp. 243-268.
- MAU, V. (1999): The Political Nature and Lessons of the Financial Crisis, *Problems of Economic Transition, Vol. 41*, pp.57-79.
- MELYUKHINA, O., KHRAMOVA, I. (2000): New Players in the Food Marketing Chain in Russia, in: WEHRHEIM, P., SEROVA, E., FROHBERG, K., BRAUN, J. VON (eds.): *Russia's Food Economy: Towards Truly Functioning Markets* (forthcoming).
- NZZ - Neue Zürcher Zeitung (1998a): Wer hat Rußland verloren? In: NZZ-Monatsarchiv Wirtschaft, September 3, 1998, Internet: <http://archiv.nzz.ch/books/nzzmonat/0/10399354T.html>.
- NZZ - Neue Zürcher Zeitung (1998b): Bedingte Aufgabe des Rubel-Korridors, in: NZZ-Monatsarchiv Wirtschaft, September 4, 1998, Internet: <http://archiv.nzz.ch/books/nzzmonat/0/8922320T.html>.
- NZZ - Neue Zürcher Zeitung (1998c): Rußland führt Devisenkontrollen ein, in: NZZ-Monatsarchiv Wirtschaft, September 4, 1998, Internet: <http://archiv.nzz.ch/books/nzzmonat/0/8945783T.html>.
- OANDA (1999): Historical Currency Table, Internet: [http://www.oanda.com/converter/cc\\_table](http://www.oanda.com/converter/cc_table).
- OECD (1998): *Review of Agricultural Policies: Russian Federation*, Paris.
- OECD (1999a): *OECD Agricultural Outlook 1999-2004*, Paris.
- OECD (1999b): *OECD News Release, various numbers, May 31, 1999*, Internet: [http://www.oecd.org/-news\\_and\\_events/new-numbers/cp/nw98-68a.htm](http://www.oecd.org/-news_and_events/new-numbers/cp/nw98-68a.htm).



- OECD (1999c): Impact of the Asian Financial Crisis on Agriculture, *Agricultural Policies in Emerging and Transition Economies 1999, Vol. 1*, pp. 23-41.
- PLANECON (1999): East European Inflation Rates, June 1, 1999, Internet: <http://www.planecon.com/inflation.html>.
- POGANIETZ, W.R. (2000): Inflation and Exchange Rate Policy, in: WEHRHEIM, P., SEROVA, E., FROHBERG, K., BRAUN, J. VON (eds.): *Russia's Food Economy: Towards Truly Functioning Markets* (forthcoming).
- RECEP - Russian European Centre for Economic Policy (ed., 1998a): Russian Economic Trends, Monthly Update, 4 September 1998, Internet: <http://www.hhs.se/site/ret/ret.htm>.
- RECEP - Russian European Centre for Economic Policy (ed., 1998b): Russian Economic Trends, Monthly Update, 11 November 1998, Internet: <http://www.hhs.se/site/ret/ret.htm>.
- RECEP - Russian European Centre for Economic Policy (ed., 1998c): Russian Economic Trends, Monthly Update, 7 May 1998, Internet: <http://www.hhs.se/site/ret/ret.htm>.
- RECEP - Russian European Centre for Economic Policy (ed., 1998d): Russian Economic Trends, Monthly Update, 18 August 1998, Internet: <http://www.hhs.se/site/ret/ret.htm>.
- RECEP - Russian European Centre for Economic Policy (ed., 1999a): Russian Economic Trends, Monthly Update, 8 December 1999, Internet: <http://www.hhs.se/site/ret/ret.htm>.
- RECEP - Russian European Centre for Economic Policy (ed., 1999b): Russian Economic Trends, Monthly Update, 11 March 1999, Internet: <http://www.hhs.se/site/ret/ret.htm>.
- RECEP - Russian European Centre for Economic Policy (ed., 1999c): Russian Economic Trends, Monthly Update, 14 May 1999, Internet: <http://www.hhs.se/site/ret/ret.htm>.
- RECEP - Russian European Centre for Economic Policy (ed., 1999d): Banking Sector, *Russian Economic Trends, Vol. 8*, pp. 77-82.
- RECEP - Russian European Centre for Economic Policy (ed., 1999e): Russian Economic Trends, Monthly Update, 10 June 1999, Internet: <http://www.hhs.se/site/ret/ret.htm>.
- RECEP - Russian European Centre for Economic Policy (ed., 2000): DATARET.XLS, January 19, 2000, Internet: <http://www.hhs.se/site/ret/ret.htm>.
- RYLKO, D.N. (2000): Subsistence Farming in Russia: Will It Last For Long?, paper presented at the seminar "Subsistenzproduktion in Mittel- und Osteuropa" in Berlin, January 14, 2000.
- SEROVA, E. (1998): Impact of the Economic Crisis on the Agricultural and Food Sector, Russian Economy: Trends and Perspectives, September 1998, Internet: <http://www.online.ru/sp/iet/trends-/sep98eng/10.html>.
- SEROVA, E., BRAUN, J. VON, WEHRHEIM, P. (1999): The Impact of Financial Crisis on Russia's Agro-Food Sector, *European Review of Agricultural Economics, Vol. 26*, pp. 349-371.
- TACIS (1999): Farm Insolvency in Russia: Identified Problems and Possible Solutions, *Tacis-Project No. RF 27: Assistance to the Russian Federation Ministry of Agriculture and Food in Restructuring of Farm Debts*, mimeo.
- UZUN, V., SHAGAIDA, N. (1998): Recommendations on Financial Recovery and Reorganisation of Insolvent Farms (in Russian), *Working Paper Agrarian Institute, Moscow*, pp. 5-10.
- WANDEL, J. (2000): Landwirtschaft und Industrie in Rußland – der Transformationsprozeß in der Ernährungsindustrie: Eine Analyse im Lichte des Structure-Conduct-Performance-Ansatzes (forthcoming).

WELFENS, P.J.J. (1998): Nur eine Scheintransformation. Auf dem Weg in die Marktwirtschaft hat Rußland die grundlegenden institutionellen Reformen vernachlässigt, *Frankfurter Allgemeine Zeitung*, September 19, 1998, p. 15.

YANBYKH, R. (2000): Credit Markets in Rural Russia, in: WEHRHEIM, P., SEROVA, E., FROHBERG, K., BRAUN, J. VON (eds.): *Russia's Food Economy: Towards Truly Functioning Markets* (forthcoming).



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