HOKKAIDO UNIVERSITY

Title	International Capital Movement, Economic Fundamentals and the Russian Financial Crisis : Three Years Later
Author(s)	Ono, Shigeki
Citation	Economic journal of Hokkaido University, 32, 99-122
Issue Date	2003-07
Doc URL	https://hdl.handle.net/2115/5381
Type	departmental bulletin paper
File Information	EJHU_v32_p99-122.pdf

Hokkaido University Collection of Scholarly and Academic Papers : HUSCAP

Econ. J. of Hokkaido Univ.,
Vol. 32 (2003), pp. 99～122

International Capital Movement, Economic Fundamentals and the Russian Financial Crisis : Three Years Later

Shigeki ONO

In 1997, Russia's GDP recorded a positive growth rate for the first time since Russia's transition to a market economy. Hyperinflation was brought to an end, and the Russian economy seemed to fare well. However, Russia was struck by a financial crisis in1998. In this article, we seek to review the reasons for the Russian financial crisis, and to analyze the situational change of its causes in the process of the economic recovery, from the viewpoints of international capital movement and economic fundamentals.

JEL Classification Numbers : E62, F32, F34, G18, H62, P30
Key Words : Financial Crisis, International Capital Movement, Economic Fundamentals, Russian Economy

1. Introduction

Since the collapse of the Soviet Union, Russia has endured an eventful and difficult period. In early 1997, despite many remaining weaknesses, the Russian economy appeared stronger than at any previous time during the transition period. The sharp yearly declines in output had finally stabilized, with annual GDP growth turning slightly positive. Tight monetary policy had brought CPI inflation down from 130 percent in 1995, to 21.8 percent in 1996, and 11 percent in 1997（Table 1）. However, government bond prices began to turn downward in early August 1998, and a number of banks rushed to sell their treasury bill portfolios in a desperate attempt to meet their current obligations on foreign loans and protect themselves from exchange rate risk. These efforts exerted further pressure on interest rates and the exchange rate. By the end of the first week of August, interest rates had shot up to record levels, a large number of Russian banks were in default, the interbank credit market had collapsed, the payments system was breaking down, and depositors were making runs on the banks. On August 17, 1998, the Central Bank of Russia（CBR）and the Russian government announced a series of measures : a new exchange rate bond to accommodate a limited devaluation of the ruble, the cessation of payments on GKO/OFZ（government bonds）with maturities before the end of 1999, pending a restructuring of this debt, and a 90-day mora-

torium on payments by Russian banks and private firms on obligations to foreigners.

The Russian financial crisis of 1997-98 has been extensively studied by Russian and Western economists.[1] The IMF (1999) reported the causes of the crisis as follows. The financial crisis was rooted in persistent fiscal imbalances and structural weaknesses in the enterprise and banking sectors. The fiscal position was further weakened by the decline in oil and other commodity prices, which reduced tax revenues and the prospective receipts from privatizations in the energy sector. By mid-August, with investor confidence in a state of collapse, international reserves dwindling and interest rates soaring, the authorities became unable to defend the ruble exchange rate peg or to refinance maturing public debt (IMF (1999), pp. 31-33). Sutela (1999) argues the causes of the crisis from the almost same viewpoints, pointing out bad luck, bad policies and bad institutions. IEPP (1999) indicated as reasons for the Russian crisis the budget deficit, the situation surrounding the balance of payments, and the vulnerability of the banking system. Malleret et al. (1999) outline the factors underlying the crisis and reconstruct the sequence of events that led to the default-devaluation decision of August 17.

Whereas there are numerous researches and reports that argue the reasons for the Russian financial crisis, there is little research from the viewpoint of the changes in the situation that caused the Russian financial crisis. Therefore, in this paper we seek to review the reasons for the Russian financial crisis and analyze the situational changes in its causes during the process of the economic recovery, from the viewpoints of international capital movement and economic fundamentals.

Table 1. GDP (average percentage change from prior year) and Consumer Price Index

(Dec/Dec)

	1994	1995	1996	1997	1998	1999	2000	2001
GDP	−12.7	−4.1	−3.4	0.9	−4.9	5.4	8.3	5.0
CPI	220	130	21.8	11.0	84.4	36.5	31.6	18.6

Source : *Rossiiskii statisticheskii ezhegodnik*, 2001, p. 279, p. 583, *Biulleten' bankovskoi statistiki*, 2002, No. 4, p. 6, *Sotsial'no-ekonomicheskoe polozhenie Rossii*, 2001, No. 12, p. 7.

The outline of this paper is as follows. Section 2 examines the causes of the financial crisis of 1998, from viewpoints of the current account, budget deficit, liberalization of government bond market to non-residents, loans from non-residents, and the ruble exchange rate policy. Section 3 analyzes the rapid recovery of the Russian economy after the crisis from the same points of view.

The last section is a summary and conclusion. [2)]

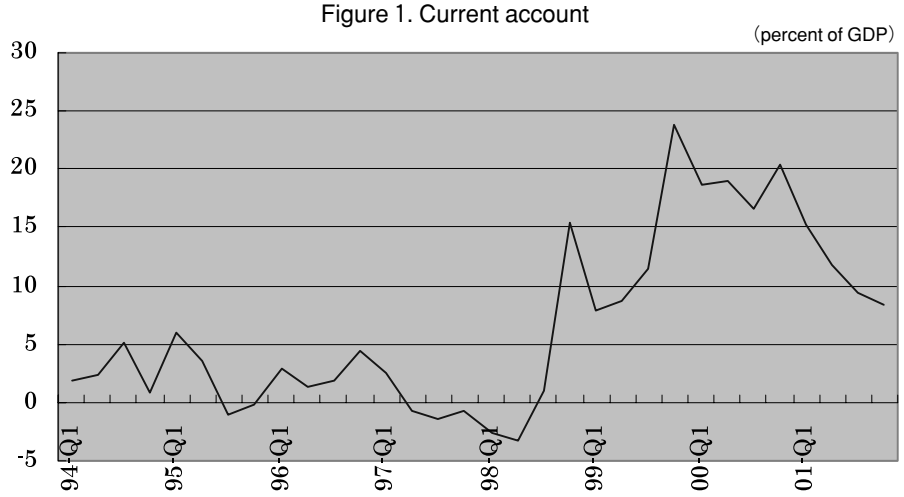
2. Background to the Crisis

In this section, we argue the background of the August crisis from the aspects of the current account, budget deficit, liberalization of the government bond market to non-residents, loans from non-residents, and the ruble exchange rate policy.

2. 1 Current Account

Russia's current account was generally in surplus before the crisis, with the ratio to GDP amounting to 2. 8 percent in 1994, 2. 1 percent in 1995, and 2. 6 percent in 1996 (Figure 1). However, the current account position turned negative in the second quarter of 1997, and continued to be negative until the second quarter of 1998.

Figure 1. Current account

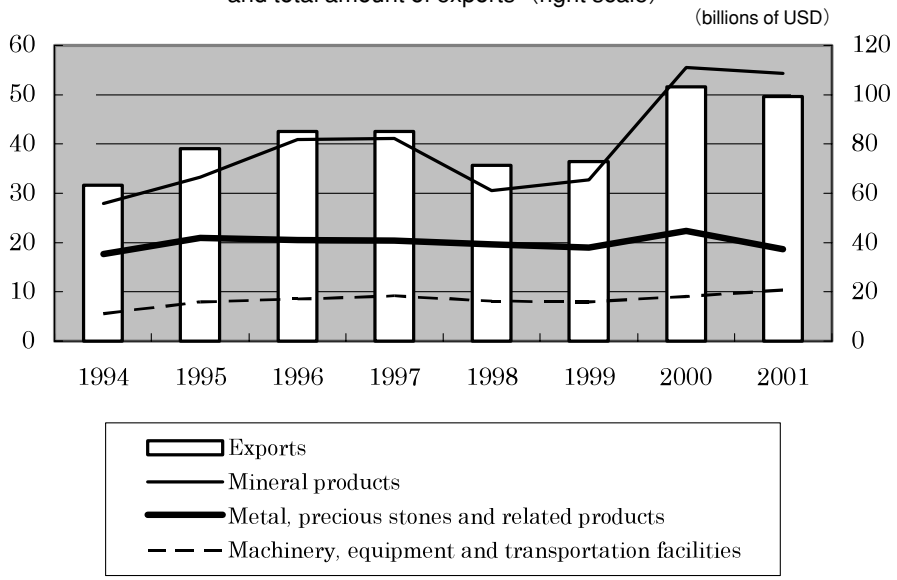


Source : Web site of CBR (revised on January 5, 2003) (http : //www.cbr.ru), *International financial statistics*, March 1997, pp. 518-519, June 1999, pp. 630-631, December 2002, p. 740, *Rossiiskii statisticheskii ezhegodnik*, 2001, p. 279, *Biulleten' bankovskoi statistiki*, 2002, No. 4, p. 6.

Here, let us survey Russia's foreign trade structure (Figure 2 and Figure 3). One of the main components of exports was mineral products, which accounted for 30-40 percent of total exports before the crisis. Metal, precious stones and related products amounted to 20 percent of total exports. The amount of exports decreased in 1998, largely as a result of a decrease in exports of mineral products. Oil prices peaked at about USD 24 per barrel (IPE Brent futures) at the turn of 1996-1997, but then declined to USD 12 and even USD 10 in 1998 (see Figure 9 below). The fall in oil prices exerted an influence on the RTS Index (Russian stock price index). Because oil and gas sectors ac-

counted for 46.4 percent of the Index, the correction in oil and gas stock prices put downward pressure on the Index (Malleret et al. (1999), pp. 112-113). The RTS Index peaked at 571.66 on October 6, 1997 and decreased to less than 150 by the beginning of August 1998.[3)]

Figure 2. Share by export components (left scale)
and total amount of exports (right scale)

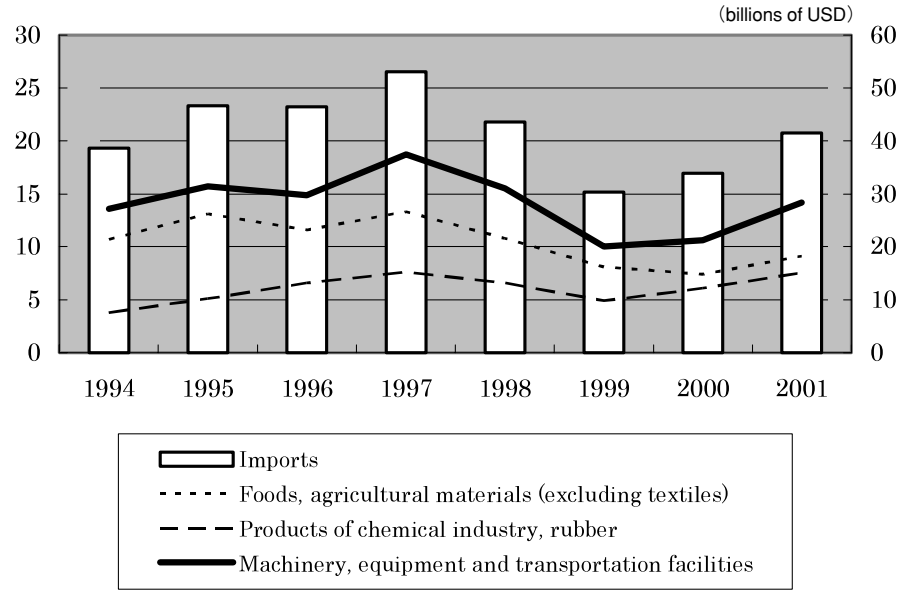


Source : *Rossiiskii statisticheskii ezhegodnik*, 2001, p. 608, 2002, p. 618.

On the other hand, the main components of Russian imports were machinery, equipment and transportation facilities. The share of these goods in total import increased in 1997, reaching 35.2 percent of total imports. Imports of machinery, equipment and transportation facilities from non-CIS countries amounted to USD 15.2 billion in 1997, a 25.6 percent increase over the prior year, and their import from CIS countries was USD 3.5 billion, a 24.0 percent increase (*Rossiiskii statisticheskii ezhegodnik*, 2002, p. 620).

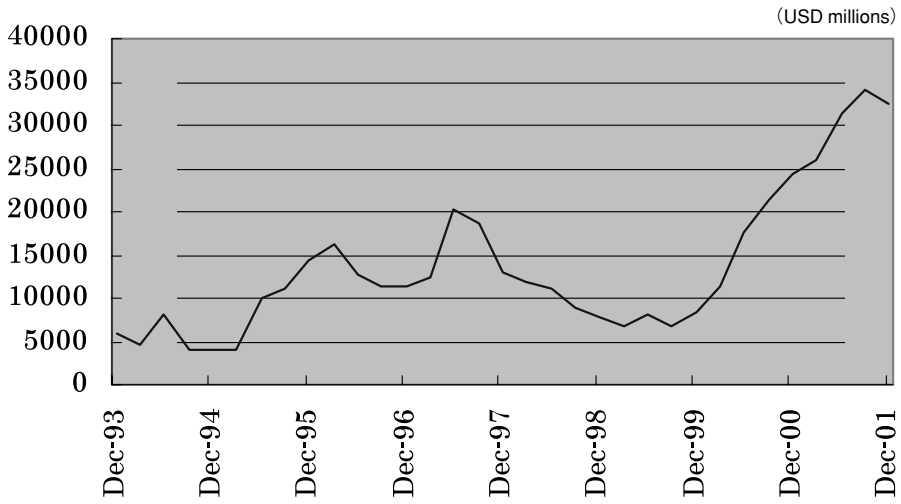
Foreign exchange reserves amounted to USD 3,980 million at the end of 1994 (Figure 4). Reserves greatly expanded to USD 16,331 million at the end of the first quarter of 1996 under the surplus tendency of the current account. Following a decline in foreign exchange reserves, they began to increase again, amounting to USD 20,396 million at the end of the second quarter of 1997. However, they again dropped, falling to USD 11,161 million at the end of the second quarter of 1998. The declining tendency of Russia's foreign exchange reserves could result in negative expectations among non-residents.

Figure 3. Share by import components（left scale）
and total amount of import（right scale）



Source : *Rossiiskii statisticheskii ezhegodnik*, 2001, p. 609, 2002, p. 619

Figure 4. Russia's foreign exchange reserves at the end of each quarter

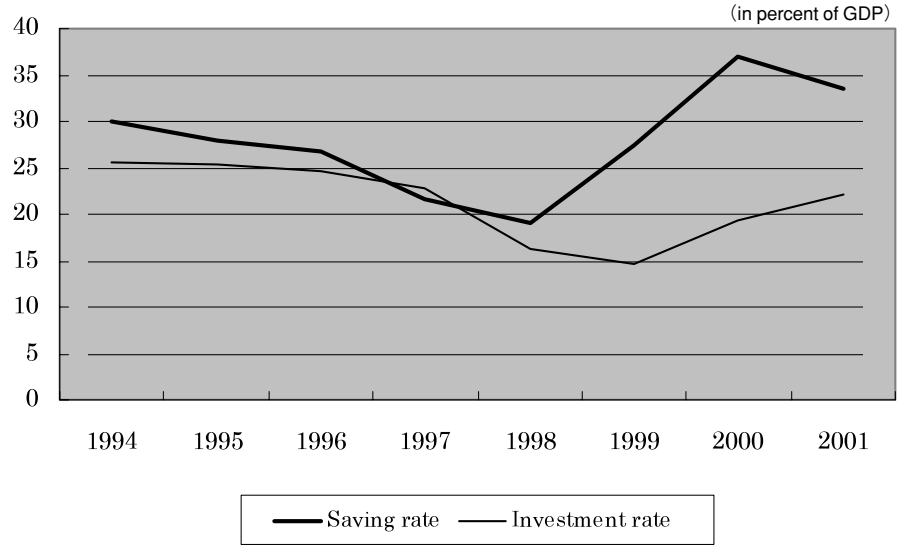


Source : *International financial statistics*, March 1997, pp. 518-519, June 1999, pp. 630-631,
Biulleten' bankovskoi statistiki, 2002, No. 3, p. 20.

In connection with current account, let us analyze the Russian saving-investment balance. According to SNA data, we can formulate the following expression.

Gross saving = Gross capital formation + Current account
＋Statistical discrepancy

Figure 5. Saving and investment rate



(Note) Saving rate = Gross saving/GDP, Investment rate = Gross capital formation/GDP.
Source : *Rossiiskii statisticheskii ezhegodnik*, 2001, p. 281, 2002, p. 281.

As can be seen in Figure 5, the gross saving rate exceeded the gross investment rate for every year except 1997. There is an opinion that the increase in the current account surplus and the declining tendency of GDP were two sides of the same coin. According to this idea, the decrease in imports of "machinery, equipment and transportation facilities" in comparison with the Soviet era means that investment goods imports were smaller, whereas the steady export tendency for "natural resources" and "metal, precious stones and related products" means that domestic consumption was lower and the remaining quantities were exported (Uegaki(1999), pp. 170-171).

Furthermore, the saving excess against investment does not mean that demand for funds was sufficiently satisfied through financial intermediation from savers holding surplus funds to borrowers short of funds. The share of own funds in financial sources for fixed capital investment was 49.0 percent in 1995, 52.3 percent in 1996, 60.8 percent in 1997, and 53.2 percent in 1998 (Table 2). Moreover, bank loans amounted to only 2.7 percent of financial sources for

fixed capital investment in 1996, 2.6 percent in 1997, and 2.6 percent in 1998. The situation of household savings also indicates the imperfect functioning of financial intermediation by financial institutions. Bank deposits, securities and bonds accounted for only 19.5 percent of the increase of household savings in 1996 and 8.7 percent in 1997, while purchases of foreign currency amounted to 74.9 percent in 1996 and 84.6 percent in 1997 (CBR (1998), p. 190).

Table 2. The structure of fixed capital investment by financial source

(percent)

	1994	1995	1996	1997	1998	1999	2000	2001
Own funds	n.a.	49.0	52.3	60.8	53.2	52.4	46.1	53.2
Raised funds	n.a.	51.0	47.7	39.2	46.8	47.6	53.9	46.8
Including :								
Budget fund	n.a.	21.8	20.1	20.7	19.1	17.0	21.2	19.6
Bank loans	n.a.	n.a.	2.7	2.6	3.0	n.a.	n.a.	n.a.

(Note) Data in 2001 are those of the fourth quarter.

Source : *Rossiiskii statisticheskii ezhegodnik*, 2001, p. 571, *Statisticheskoe obozrenie*, No. 2, 2002, p. 55, IEPP (1999), Chapter 2.4.

2.2 Budget Deficit and Liberalization of the Government Bond Market to Non-Residents

The federal budget deficit amounted to 4.1 percent of GDP in 1994 (Table 3). To close this gap, 76.0 percent of the deficit was financed by loans and the profit of CBR in 1994 (Dement'ev (1996), p. 16). However, it was prohibited to finance the governmental deficit by loans and the profit of CBR after 1995. Therefore, the Russian government was obliged to finance its deficit from sources such as government bonds and foreign loans. The amount of government bonds issued in 1995 reached 171 billion rubles, compared to 20.5 billion rubles in 1994 (*Rossiiskii statisticheskii ezhegodnik*, 2001, p. 539).

Table 3. Federal budget balance

(percent of GDP)

	1994	1995	1996	1997	1998	1999	2000	2001
Federal budget balance	−4.1	−0.6	−3.5	−3.8	−5.3	−1.1	1.5	3.0

Source : *Rossiiskii statisticheskii ezhegodnik*, 2001, p. 530, 2002, p. 534.

The Russian government paid attention to foreign investment as a source for financing budget deficit. Before February 1996, non-residents could obtain Russian government bonds, using a ruble account type "T" opened in Russian banks. However, non-residents were not allowed to exchange the rubles in this account for foreign currency—that is, to repatriate profits gained from Russian

government bond operations. Therefore, there were many cases of illegal operations related to government bonds by non-residents. In February 1996, CBR allowed non-residents to conduct operations in the primary market for government bonds. Buyers were required to hold government bonds acquired in the primary market until redemption, and non-residents were prohibited to operate in the secondary market. The Russian government attracted about USD 2 billion of foreign investment from February to August 1996 (Semenkova and Aleksanian (1995), p. 122). Furthermore, CBR introduced a new scheme for government bond operations for non-residents. Non-residents were allowed to open a ruble account type "S" in authorized banks, and conduct operations in the secondary market. CBR imposed a restriction on exchange of the rubles gained from operations in the secondary market into foreign currency. Foreign investors wishing to repatriate their earnings or capital from the government bond market were obliged to first purchase forward contracts (the situation concerning forward and future contracts will be discussed below). There were positive effects from the attraction of foreign investment to the government bond market, including an increase in operation volume and a decrease in bond interest rates. Therefore, CBR continued gradual deregulation of government bond operations for non-residents. After January 1, 1998, all restrictions on investment by non-residents were removed, and Russia became very vulnerable to a sudden turnaround in investor confidence.[4] While the portfolio investment flow was USD 21 million in 1994 and -USD 2,444 million in 1995, it increased to USD 4,410 million in 1996 and USD 45,775 million in 1997 (Table 4).

Whereas the macroeconomic indicators showed favorable values in 1997, the crisis was near at hand. As can be seen in Table 5, financing the federal budget deficit through GKO was not possible after June 1998, and internal financing became negative after July 1998. Furthermore, during the first half of

Table 4. Financial account of Russia

(millions of USD)

	1994	1995	1996	1997	1998	1999	2000	2001
Financial account	−10,263	2,497	−2,676	9,685	9,981	−15,730	−48,638	−15,378
Direct investment	408	1,460	1,656	1,681	1,492	1,102	−463	−64
Portfolio investment	21	−2,444	4,410	45,775	8,618	−946	−10,334	−653
Other investment	−12,588	13,867	−11,584	−35,834	−5,434	−14,108	−21,831	−6,449

Source : Web site of CBR. (Revised on January 5, 2003) (http : //www.cbr.ru)

Table 5 . Sources of financing Russia's federal budget deficit

(billions of rubles)

1998	Jan	Jan-Feb	Jan-Mar	Jan-Apr	Jan-May	Jan-Jun
Total	8.8	6.7	20.0	28.3	35.5	46.2
Domestic sources	2.2	0.3	14.4	20.5	25.7	12.3
GKO	2.7	7.1	16.4	6.1	6.1	−5.4
OFZ	…	0.0	5.0	25.7	28.3	31.9
Others	−0.5	−6.8	− 7	−11.3	−8.7	−14.2
Foreign sources	6.6	6.4	5.6	7.8	9.8	33.9
1998	Jan-Jul	Jan-Aug	Jan-Sep	Jan-Oct	Jan-Nov	Jan-Dec
Total	54.6	56.2	57.0	66.1	77.5	86.5
Domestic sources	−8.4	−13.0	−15.9	−12.1	−6.8	−3.7
GKO	−47.3	−56.0	−56.3	−56.6	−56.8	−57.0
OFZ	39.8	45.3	52.3	55.8	65.8	85.9
Others	−0.9	−2.3	−11.9	−11.3	−15.8	−32.6
Foreign sources	63.0	69.2	72.9	78.2	84.3	90.2

(Note 1) GKO−discount government bond with a maturity less than one year. OFZ−interest-bearing government bond with a maturity more than one year.

(Note 2) Foreign sources consist of credits from international financial organizations and credits extended to Russia by foreign governments and foreign commercial banks and companies.

Source : *Sotsial'no-ekonomicheskoe polozhenie Rossii*, 1998, No. 3, p. 157, No. 5, p. 164, No. 7, pp. 185-186, No. 9, p. 190, No. 11, p. 184, 1999, No. 1, p. 210.

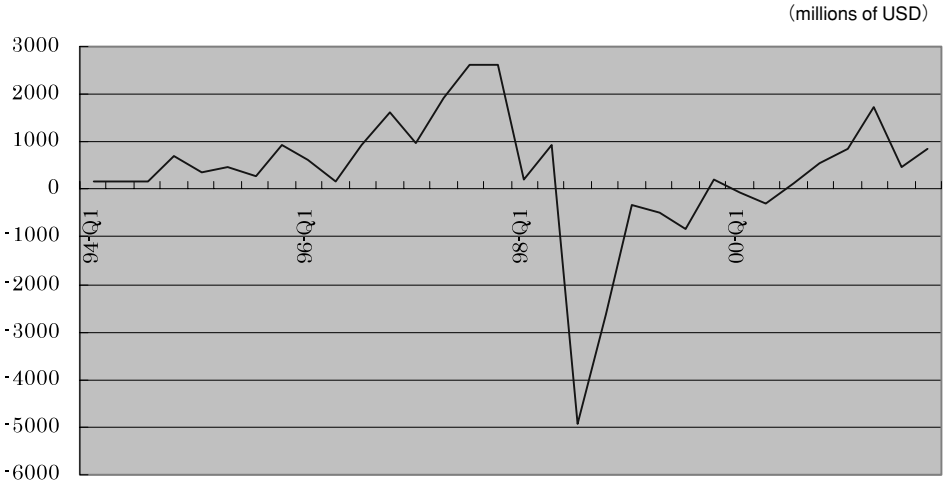
1998, about 50 percent of federal tax revenue was needed for servicing the debt, and just before the crisis all federal tax revenue was so used (Sutela (1999), p. 8).

It is almost doubtless that the fiscal imbalance of the Russian government became one of the causes for the August crisis. In relation to this, there is an opinion that the Russian government was unable to collect taxes (for example, Summers (1998), pp. 2 - 3). As Illarionov criticizes this point, however, facts do not support this argument (Illarionov (1999), pp. 16-19). For example, the ratio of the federal budget revenue to GDP in the first seven months of 1998 increased in comparison with the same period of 1997 (10.1 percent in 1997 and 11.9 percent in 1998) (*Sotsial'no-ekonomicheskoe polozhenie Rossii*, 1999, No. 1, pp. 205-206).

2. 3 Loans Extended by Non-Residents

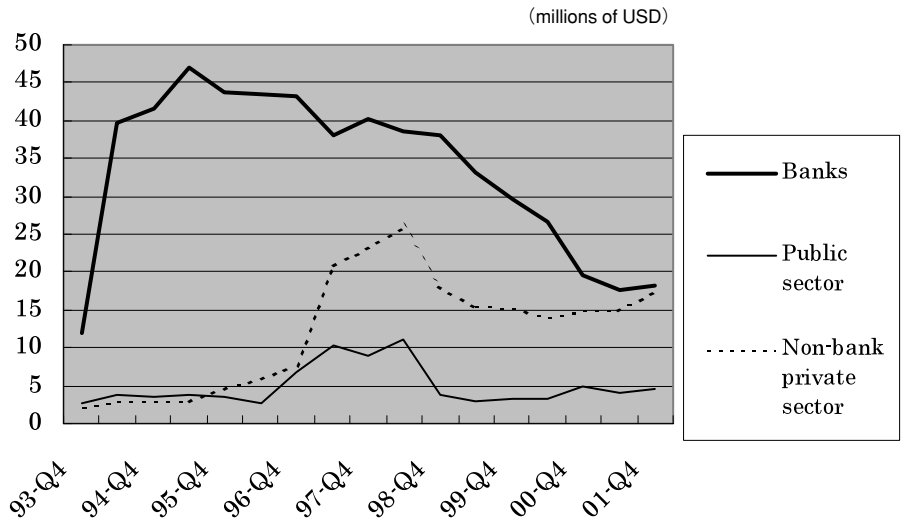
The large share of household deposits was concentrated in Sberbank, accounting for 65.3 percent at the beginning of 1996 (*Biulleten' bankovskoi statistiki*, 1996, No. 2 - 3 , p. 20). The dominant Moscow banks began to raise funds

Figure 6. Banks' liabilities of loans and deposits
In the financial account



Source : Web site of CBR (http : //www.cbr.ru).

Figure 7. Liabilities to BIS reporting banks



(Note) The BIS consolidated banking statistics measure the foreign claims of banks headquartered inside the reporting area. BIS reporting banks are commercial banks and other deposit-taking institutions in 24 jurisdictions that contribute to the BIS consolidated banking statistics : Austria, Belgium, Canada, Denmark, Finland, France, Germany, Hong Kong SAR, India, Ireland, Italy, Japan, Luxembourg, the Netherlands, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, Taiwan (China), Turkey, the United Kingdom and the United States.

Source : BIS, *Consolidated international banking statistics*.

from non-residents actively from 1996, about 80 percent of which had a maturity of less than one year (BEA (1999), Chapter 16, p. 2). The share of foreign loans in balance sheet liabilities for the 20 largest banks exceeded 20 percent (Tsentr Razvitiia (1999), p. 14). Under the stable exchange rate guaranteed by the authorities and high yields on Russian government bonds,[5] banks obtained more government bonds by using the foreign funds they raised (BEA (1999), Chapter 16, p. 2).

According to the data of the financial account in the balance of payments, the flow of Russian banks' liabilities of loans and deposits began to increase around 1996, amounting to USD 2, 615 million in the third quarter of 1997 (Figure 6). However, the flow decreased to USD 220 million in the first quarter of 1998 and -USD 4, 918 million in the third quarter of 1998.

Furthermore, let us survey the consolidated international banking statistics of BIS. As can be seen in Figure 7, Russian banks' outstanding liabilities to BIS reporting banks reached USD 46. 9 billion at the end of the second quarter of 1995. The amount of liabilities showed a tendency to gradually decrease, falling to USD 38. 5 billion at the end of the second quarter of 1998.

During the course of 1998, banks sought to address the growing imbalance in their open foreign positions by issuing new credits in, or converting old credits into, foreign currency (BEA (1999), Chapter 16, p. 4). Furthermore, a number of banks also suffered from an imbalance in the maturity structure of their foreign-denominated assets and liabilities, with the latter being generally of a more short-term nature (OECD(2000), p. 39). As shown in Table 6, Russian banks tended to increase loans denominated in foreign currency. While the share of loans denominated in foreign currency was 39. 3 percent in February 1998, it increased to 46. 7 percent in August 1998 (the exchange rate was 6. 026 rubles for USD at the beginning of February 1998 and 6. 241 rubles for USD at the beginning of August 1998). Moreover, whereas the outstanding balance of loans denominated in rubles tended to decrease, the outstanding balance of

Table 6. The outstanding of loans denominated in rubles and foreign currency at the beginning of each month in 1998

(billions of rubles, billions of USD)

	Feb	Mar	Apr	May	Jun	Jul	Aug
Loans in rubles	150. 0	151. 1	151. 3	150. 1	145. 5	147. 8	144. 6
Loans in foreign currency	16. 1	16. 6	17. 4	18. 7	19. 3	20. 1	20. 3
Share of loans in rubles (%)	60. 7	60. 0	58. 4	56. 7	55. 1	54. 3	53. 3
Ruble/USD	6. 026	6. 072	6. 108	6. 134	6. 164	6. 200	6. 241

(Note) Loans consist of corporate, interbank and personal loans.

Source : *Biulleten' bankovskoi statistiki*, 1999, No. 2, pp. 37-38, p. 80.

loans denominated in foreign currency steadily increased.

In connection with foreign currency operations, one of the most important operations for Moscow banks was future and forward contracts. CBR began to stimulate the development of a futures market from 1996. As mentioned above, according to regulations existing until January 1, 1998, foreign investors wishing to repatriate their earnings or capital from the government bond market were obliged to first purchase special forward contracts. They could hedge the exchange rate risk in the interim period through additional forward contracts for foreign currency.

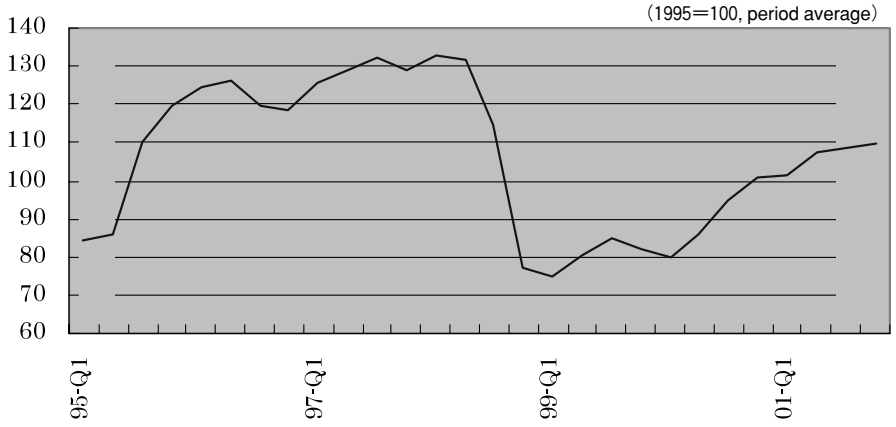
A substantial amount of the hard currency liabilities of the large Russian banks were off-balance-sheet, consisting primarily of forward contracts signed with foreign investors for the hedging of exchange rate risk. Net obligations of Russian banks according to such contracts were believed to be at least USD 6 billion in the first half of 1998, with at least USD 3 billion of this sum concentrated in the nine largest banks (Tsentr Razvitiia(1999), p. 15). Four of the large Moscow banks also had another combined USD 1 billion in implicit liabilities in the form of guarantees for Eurobond issues of their foreign affiliates (BEA (1999), Chapter 16). Furthermore, aggregate balance sheet liabilities (and assets) by forward contracts amounted to an astounding 1 trillion rubles on January 1 , 1998, equivalent to about USD 140 billion, or over 130 per cent of the total assets in the entire Russian banking system (OECD(2000), p. 151). This is due, however, to multiple hedging. Foreign investors hedged with the large banks, which then balanced their risks and open foreign positions by hedging with a number of medium-size banks, which hedged with still smaller banks, etc. In sum, it had already become clear in 1997 that the large Moscow banks, and consequently the Russian banking system, could not withstand a combination of excessive declines in bond prices and a sharp depreciation of the ruble. This fact was one of the reasons for the strong determination of CBR to continue to defend the ruble until mid-1998 (OECD (2000), p. 40).

2. 4 Ruble Exchange Rate Policy

The exchange rate had been depreciating in line with CPI inflation since the beginning of 1994. In the second quarter of 1995, however, large capital inflows started to put pressure on the exchange rate. The Russian government and CBR introduced a fixed Ruble/USD 4. 3-4. 9 exchange rate corridor on July 6, 1995. Combined with high interest rates, this nominal anchor had a clear stabilizing impact on expectations. Recognizing the unsustainability of a swift pace of real appreciation, the authorities announced a Ruble/USD 4. 55-5. 15 corridor for the first half of 1996. A regime switch, which at the same time provided an elegant exit from the fixed peg, was decided and the authorities com-

mitted themselves to a crawling bond for the second half of 1996.[6] After January 1, 1998, the fixed exchange rate bond was introduced again, which was set within Ruble/USD 5.25-7.15.

Figure 8. Real effective exchange rate



Source : *International financial statistics*, January 1999, p. 606, June 1999, pp. 630-631, December 2002, pp. 740-741.

Figure 8 indicates that the ruble appreciated strongly in 1995 and remained at a high level right before the financial crisis. Therefore, it is widely argued that the ruble exchange rate had been overvalued (for example, Popov (1999)). On the other hand, there is an opinion that the starting point was exceptionally depressed, pointing out that even after huge real appreciation the average monthly dollar wage remained low in comparison with the non-former Soviet Union transition economies (See Sutela (1999), p. 9). In any case, we consider that export of oil and gas led to overestimation of the ruble, which resulted in the large amounts of imports of inexpensive goods and damage to Russian industries. Therefore, the advantage of Russian natural resources seemed to exert a negative influence on Russia's economic growth.[7] According to estimations of Kuboniwa, the share of imports in aggregate demand ac-

Table 7. Growth rate of industrial production by sectors

(percent change from prior year)

	1992	1993	1994	1995	1996	1997
All manufacturing industries	−18	−14	−21	− 3	− 5	2
Light industry	−30	−23	−46	−30	−28	− 4
Machinery and metalworking	−15	−16	−31	− 9	−14	3
Food	−16	− 9	−17	− 8	− 9	− 3

Source : *Rossiiskii statisticheskii ezhegodnik*, 2001, p. 337.

counted for 70.0 percent in light industry, 35.0 percent in machinery, and 26.2 percent in the food industry in 1995, while it amounted to 14.4 percent, 12.0 percent, and 18.5 percent, respectively, in 1991 (Kuboniwa (1999), p. 88). According to Table 7, the decrease in the output of light industry is remarkable, which recorded a larger drop than all manufacturing industries. Machinery and metalworking also suffered a large output reduction.

3. The Financial Crisis : Consequences

As shown in Table 1 above, the annual GDP growth turned negative again and decreased by 4.9 percent in 1998. CPI inflation surged to 84.4 percent, partly because the sharp depreciation of the ruble caused an increase in import goods prices.

As can be seen in Table 8, the output of basic industries production and services continued to decrease in the beginning of 1999. However, it turned positive in May and showed an increasing tendency thereafter. Whereas GDP

Table 8 . Output of basic industries production and services in 1999

(percent change from same period in the prior year)

Jan	Feb	Mar	Apr	May	Jun
−4.9	−4.5	−1.4	−1.3	2.2	4.1
Jul	Aug	Sep	Oct	Nov	Dec
6.3	8.3	11.9	9.7	10.6	10.6

Source : *Biulleten' bankovskoi statistiki*, 2000, No. 1, p. 5, No. 7, p. 6.

Table 9. Growth rate of industrial production by sectors

(percent change from prior year)

	1998	1999	2000	2001
All manufacturing industries	−5.0	11.0	12.0	5.0
Electricity	−2.0	−1.0	2.0	2.0
Oil and natural gas	−3.0	2.0	5.0	6.0
Steel	−8.0	17.0	16.0	−0.2
Nonferrous metal	−4.0	10.0	15.0	5.0
Chemicals and petrochemicals	−7.0	24.0	15.0	5.0
Machinery and metalworking	−7.0	17.0	20.0	7.0
Lumber-processing and papermaking	0.4	18.0	13.0	3.0
Construction materials	−6.0	10.3	13.0	6.0
Light industry	−10.0	12.0	21.0	5.0
Food	0.8	4.0	14.0	8.0

Source : *Rossiiskii statisticheskii ezhegodnik*, 2002, p. 343.

growth rate was -2.7 percent in the first quarter in comparison with the same period of the previous year, it increased to 1.2 percent in the second quarter, 6.7 percent in the third quarter and 7.3 percent in the fourth quarter in 1999 (*Biulleten' bankovskoi statistiki*, 2000, No. 7, p. 6).

The GDP growth rate reached 9.0 percent and basic industrial production increased 10.2 percent in 2000. According to Table 9, the growth rate of the food industry and the light industry increased from 4.0 percent and 12.0 percent in 1999 to 14.0 percent and 21.0 percent in 2000, respectively. The year 2001 showed deceleration of growth in almost all sectors of production. The GDP growth rate decreased to 5.0 percent, and the growth of basic industrial production was 5.7 percent.

In the following sections, let us analyze the post-crisis circumstances of the causes of the Russian financial crisis.

3.1 Current Account [8]

While the current account surplus was less than 0.1 percent of GDP in 1998, it reached 12.7 percent of GDP in 1999. The reason the current account surplus increased drastically can be explained by the sharp decrease in imports and the deterioration of GDP in terms of USD. As shown in Figure 2 and Figure 3 above, exports increased by 1.5 percent and imports decreased by 31.9 percent in 1999. Imports of "machinery, equipment and transportation facilities" dropped from USD 15.5 billion in 1998 to USD 10.0 billion in 1999, a 30.5 percent decrease. Imports from non-CIS countries shrank 32.2 percent, which was a larger drop than the 21.2 percent decrease in imports from CIS countries.

The current account surplus expanded further in 2000, amounting to 18.7 percent of GDP. Behind this current account increase was a surge in oil prices. The IPE crude oil futures price declined to less than USD 10 per barrel in December 1998. However, after March 1999, oil prices began to rise, reaching USD 30 per barrel in March 2000 and USD 34 per barrel in September 2000 (Figure 9). Exports of mineral products amounted to USD 55.5 billion, which accounted for 53.8 percent of total exports.

On the other hand, total imports increased 11.9 percent in 2000. While imports from non-CIS countries grew 1.8 percent, imports from CIS countries expanded 38.1 percent, although starting from a low level.

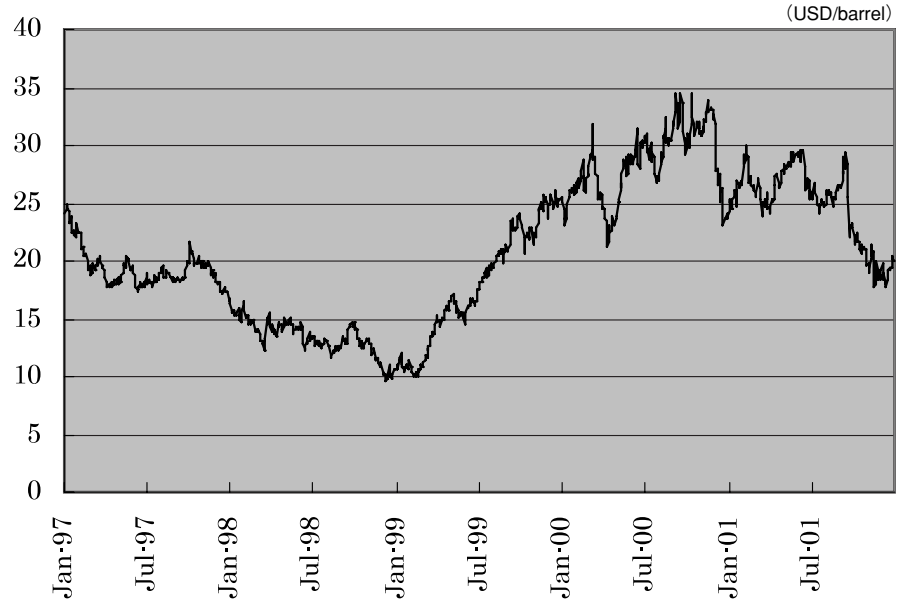
The current account surplus decreased to 11.2 percent of GDP in 2001. The volume of total exports decreased slightly, to USD 99.2 billion in 2001. Although oil prices temporarily fell to less than USD 20 in the second half of 2001, the amount of mineral products reached USD 54.2 billion in 2001. On the other hand, the amount of imports increased 22.5 percent, reaching USD 41.5 billion.

Table10. Investment to fixed capital (percent of the prior year)

1995	1996	1997	1998	1999	2000	2001
−10	−18	− 5	−12	5	17	9

Source : *Rossiiskii statisticheskii ezhegodnik*, 2002, p. 577.

Figure 9. IPE Brent crude oil futures (close, nearby month)



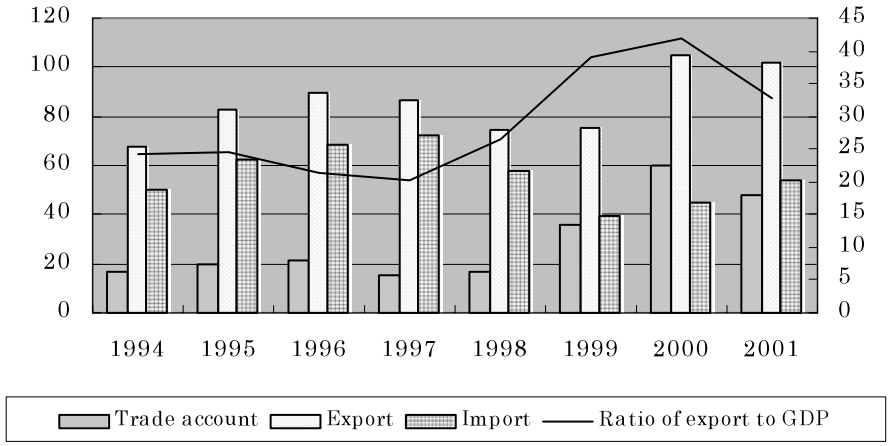
Source : Web site of International Petroleum Exchange of London. (http : //www. ipe.uk.com)

In particular, imports of machinery, equipment and transportation facilities expanded 32. 8 percent, to USD 14. 1 billion. Imports of these articles from non-CIS countries reached USD 11. 3 billion, a 39. 9 percent increase.

The output and import increases in the machinery and metalworking industries were reflected in the investment increase. Following Russia's transition to a market economy, the rate of investment increase had been in negative. However, it turned positive in 1999, amounting to 5 percent (Table 10). The years 2000 and 2001 also witnessed a positive rate of investment increase (17 percent and 9 percent, respectively).

The export increase resulted in an increase of the ratio of exports to GDP. While the ratio of exports to GDP was 20. 3 percent in1997, it dramatically increased to 39. 1 percent in 1999, and 41. 8 percent in 2000 (Figure 10). Furthermore, foreign exchange reserves began to dramatically rise from the end of 1999. While reserves totaled USD 6, 634 million at the end of the third quarter of 1999, they reached USD 34, 044 million at the end of the third quarter of 2001, an increase of more than five times (Figure 4 above).

Figure 10. Trade account balance (left scale, billions of USD) and the ratio of exports to GDP (right scale, percent)



Source : *Rossiiskii statisticheskii ezhegodnik*, 2001, pp. 608-609, 2002, pp. 618-619.

In relation to the current account, let us survey the saving-investment balance (Figure 5 above). While gross saving increased dramatically, reaching 26.9 percent of GDP, the gross investment rate decreased to 15.3 percent of GDP in 1999. In 2000, the gross saving rate expanded further, amounting to 33.6 percent of GDP, and the gross investment rate increased to 17.6 percent of GDP. Investment growth was rapid in 2000, amounting to 17 percent. As RET indicates, however, gross capital formation was clearly not adequate in the current situation (***RET***, 2000, Vol. 9, No. 4, p. 5). In 2001, the saving rate decreased to 33.4 percent of GDP, while the investment rate increased to 22.1 percent of GDP. The situation surrounding the sources for fixed capital investment remained nearly unchanged. Own funds accounted for 46.1 percent in 2000, and 53.2 percent in 2001, of all sources for fixed capital investment (Table 2 above). Furthermore, IEPP (2002) points out that bank loans accounted for only 5.8 percent and 4.4 percent of all sources for fixed capital investment in the first half of 2000 and 2001, respectively. On the other hand, the situation of household savings has changed. Bank deposits, securities and bonds accounted for only 28.0 percent of the increase of household savings in 2000 and 32.7 percent in 2001, while purchases of foreign currency amounted to 50.1 percent in 2000 and 50.0 percent in 2001 (CBR (2002), p. 185). Though the share of bank deposits, securities and bonds in the increase of household savings augmented in comparison with the pre-crisis situation, purchases of foreign currency remained at a high level.

3.2 Budget Deficit

In August 1998, the government bond market suspended its functions. Therefore, the federal government was obliged to depend on loans from CBR for financing its budget deficit. Federal Law No. 192 as of December 29, 1998 provided that CBR acquire 25.2 billion rubles of OFZ, and that the federal government redeem these OFZ from 2005 to 2013. [9)]

Table 11. Sources of financing of Russia's federal budget deficit

(billions of rubles)

	1999	2000	2001
Total	51.4	−102.9	−265.0
Domestic sources	16.9	−2.9	−12.1
GKO	−11.9	−4.0	15.1
OFZ	52.8	10.6	−26.1
Others	−24.0	−9.5	−1.1
Foreign sources	34.5	−100.0	−252.9

(Note) The federal budget balance in the years 2000 and 2001 ran a surplus. Therefore, the total amount of sources of financing of Russia's federal budget deficit is indicated as a negative number.

Source : *Biulleten' bankovskoi statistiki*, 2002, No. 5, p. 8.

While the federal budget ran to a -1.1 percent deficit of GDP in 1999, it turned positive in 2000. As can be seen in Table 2 above, the federal budget surplus reached 1.5 percent of GDP in 2000. According to estimates of "Russian economic trends", oil export duties alone generated 171 billion rubles, which equaled 15 percent of the total federal budget revenue, while in 1999 the share was only 7 percent (*RET*, 2000, Vol. 9, No. 4, p. 5). The year 2001 also ended with a surplus for the federal budget (2.9 percent of GDP). While OFZ and foreign sources mainly financed budget deficit in 1999, most of budget surplus was expended for repayment of liabilities to foreigners in 2000 and 2001 (Table 11).

3.3 Loans from Non-Residents

According to data on the balance of payments, banks' liabilities for loans and deposits in the financial account decreased to USD 6,282 million in 1998 and USD 879 million in 1999 (Figure 6 above). They increased to USD 1,492 million in 2000, and further expanded to USD 4,580 million in 2001. On the other hand, Russian banks' liabilities to BIS reporting banks tended to decline until 2001.

As mentioned above, banks sought to address the growing imbalance in their open foreign positions by issuing new credits in, or converting old credits into, foreign currency. The situation gradually changed after the crisis. As can

be seen in Table 12, the share of loans denominated in rubles was 29.2 percent in January 1999, but it tended to increase and reached 64.3 percent in July 2001.

The market for financial derivative contracts in 2001 became less active than in 1998. According to data about Russian banks' liabilities for financial derivatives, liabilities for delivery of foreign exchange amounted to 1,076.9 billion rubles at the beginning of February 1998, but shrank to 169.3 billion rubles at the beginning of 2001 (*Biulleten' bankovskoi statistiki*, 1999, No. 3, p. 88, 2002, No. 5, p. 98).[10)]

Table 12. Outstanding loans denominated in rubles and foreign currency at the beginning of each month

(billions of rubles, billions of USD)

	Jan1999	Jul1999	Jan2000	Jul2000	Jan2001	Jul2001
Loans in rubles	123.2	188.3	292.7	383.5	588.3	759.8
Loans in foreign currency	14.5	11.4	11.3	11.4	13.1	14.5
Share of loans in rubles (%)	29.2	39.8	49.0	54.6	61.5	64.3
Ruble/USD	20.65	25.02	27.00	28.05	28.16	29.07

(Note) Loans consist of corporate, interbank and personal loans.

Source : *Biulleten' bankovskoi statistiki*, 2000, No. 3, pp. 31-32, p. 82, 2001, No. 3, pp. 32-33, p. 81, 2002, No. 3, pp. 35-36, p. 81.

3. 4 Ruble Exchange Rate Policy

The Russian government and CBR announced a new exchange rate bond (Ruble/USD 6 -9.5) on August 17, 1998 and on September 2 , 1998 moved to a full-fledged float. After that, CBR took several measures to prevent the ruble's depreciation, one of which was a change in the way of selling export proceeds in foreign currency. Under the former regulation, export enterprises had to sell 50 percent of their export proceeds in foreign currency to the authorized banks. In accordance with Order of CBR as of September 11, 1998, No. 347, enterprises were required to sell 50 percent of their export proceeds at the authorized interbank market rates through the authorized banks.

Furthermore, a special transaction session was organized in the interbank markets in accordance with Regulation of CBR as of September 28, 1998, No. 57. The session was held in the morning, during which transactions were limited for the purpose of import payments, and so on. The regular session was held in the afternoon. The share of obligatory sales by export enterprises was raised from 50 percent to 75 percent in accordance with Federal Law, No. 192 as of December 29, 1998 (enacted from the day of official announcement). In spite of a series of measures, the nominal ruble exchange rate continued to de-

valuate, reaching 20 rubles per USD in December 1998. The real effective exchange rate also depreciated from 132.00 in the second quarter of 1998 to 77.07 in the fourth quarter of 1998 (1995=100).

The special session in the interbank markets was abolished on June 29, 1999 in accordance with Regulation of CBR, No. 77 as of June 16, 1999. The share of obligatory sales of export proceeds was decreased from 75 percent to 50 percent in accordance with Federal Law, No. 130 as of August 8, 2001 (enacted from the day of official announcement). The nominal exchange rate was 27.00 rubles at the end of 1999, 28.16 rubles at the end of 2000 and 30.14 rubles at the end of 2001 (*Biulleten' bankovskoi statistiki*, 2000, No. 3, p. 32, 2001, No. 3, p. 33, 2002, No. 5, p. 36). The real effective exchange rate began to appreciate in 1999, standing at 82.13 in the fourth quarter of 1999, and reaching 100.57 in the fourth quarter of 2000 and 109.51 in the fourth quarter of 2001 (1995=100).

Finally, let us analyze the depreciation effect of the ruble on output by sectors. Table 13 indicates the investment situation, in which the rate of total investment increase is expressed as 100. Therefore, if the rate of investment increase in a sector exceeds the rate of total investment increase, the former will be indicated as higher than 100, and vise versa. In 1999, the indicators for nearly all manufacturing industries were over 100. In particular, "nonferrous metals", "lumber-processing and papermaking", "light industry" and "food" recorded high rates of investment increase. However, the rates of investment increase for "lumber-processing and papermaking", "light industry" and "food" fell below that for all industries in 2000 and 2001. As shown in Table 9 above, "light industry", "machinery, metal working industry", and "food" showed the

Table 13. Rate of investment increase by sectors

(total=100)

	1999	2000	2001
Total	100.0	100.0	100.0
All manufacturing industries	131.0	107.1	169.6
Electricity	31.5	60.5	172.4
Oil and natural gas	139.1	175.9	230.4
Steel	115.0	99.9	190.7
Nonferrous metals	221.5	131.2	202.1
Chemicals and petrochemicals	91.9	102.6	181.2
Machinery and metalworking	129.4	56.2	102.0
Lumber-processing and papermaking	284.7	82.5	−51.5
Construction materials	141.1	115.1	89.5
Light industry	177.2	6.6	34.6
Food	213.0	9.8	21.7

Source : Calculated by this author on the basis of *Rossiiskii statisticheskii ezhegodnik*, 2002, p. 343.

greater growth. The share of imports in aggregate demand in these industries was relatively larger. On the other hand, the oil and natural gas industry exceeded the rate of investment increase for all industries for all three years.

4. Summary and Conclusion

In this paper, we discussed the economic background and consequences of the financial crisis from viewpoints of the current account, budget deficit, loans from non-residents and ruble exchange rate policy.

Russia's current account was generally in surplus before 1997. However, it turned to deficit from the second quarter of 1997. The main reasons for this change were the decline in oil prices (in 1997 and 1998), the increase in imports (in 1997) and the decrease in exports (in 1998). Immediately after the crisis, the current account turned positive, and its volume as a percent of GDP expanded dramatically, boosted by a surge in oil prices. On the other hand, the saving rate tended to be in excess of the investment rate. After the crisis, the saving rate increased sharply, whereas the investment rate remained at a low level until 2000. In 2001, the investment rate reached 22.1 percent, which was reflected in the increase in imports of machinery, equipment and transportation facilities. As to the sources for fixed capital investment, the situation remained nearly unchanged. Own funds generally accounted for a larger part of investment sources, while bank loans amounted to only 2 - 6 percent.

Russia's budget deficit was one of the most significant causes of the Russian financial crisis. Since 1995, the Russian government was required to finance a budget deficit, without depending on loans extended by the Central Bank. In order to attract foreign investment, the Russian government gradually opened the government bond market to non-residents. Non-residents' share of the government bonds outstanding reached approximately 30 percent. In connection with the inflow of foreign capital, banks began to operate actively in the forward and future contracts market. Thus a situation conducive to depreciation of the ruble was formed in the banking system. Furthermore, the fact that about 50 percent of federal tax revenue was expended for servicing debt should have raised doubts about the solvency of the Russian government. After the crisis, the situation changed and the federal budget ran a surplus in 2000 and 2001. However, to a large extent this surplus depended on oil and natural gas duties.

Loans extended by non-residents also contributed to instability of the Russian banking system. Banks dealt with the imbalance in their open foreign positions by extending loans in foreign currency. After the crisis, the inflow of foreign capital generally remained at a low level. The share of loans denominated in rubles gradually increased, accounting for over 60 percent.

In mid-1995, a fixed ruble rate corridor was introduced. The Russian government and CBR gradually depreciated the ruble rate range, temporarily introducing a crawling peg. The real effective exchange rate was largely overvalued in 1995, and for several years it remained at that level. We consider that exports of oil and gas led to an overestimation of the ruble, which resulted in a large amount of imports of inexpensive goods and a low level of output in Russian industries. Therefore, the advantage of Russian natural resources seemed to exert a negative influence on Russia's economic growth. Because of the Russian financial crisis, the real effective exchange rate decreased from 130 to less than 80 (1995＝100). While the drastic depreciation of the ruble exerted a negative influence on the Russian economy, it contributed to an increase in output both in import substitution industries and in export-oriented industries. The real effective exchange rate had been gradually appreciating, which together with the decline in oil prices and a world economic slowdown, caused deceleration of growth.

The Russian economy achieved GDP growth of 5.4 percent, 8.3 percent and 5.0 percent in 1999, 2000 and 2001, respectively, and industrial production has increased, surpassing the pre-crisis level. The real income of the population is also improving. However, there still remain weaknesses in many aspects as mentioned above. In order for the Russian economy to grow further, it will have to slough off its dependency on the oil and natural gas industry, ensure that banks fulfill their function of financial intermediation, and mobilize household savings.

Research Associate, Hokkaido University

Notes

1) IMF (1998) distinguishes a number of broad types of economic or financial crises, including currency crisis, banking crisis, systemic financial crisis and foreign debt crisis (for detailed definitions, see IMF (1998), pp. 74-76). In this paper, we utilize the term "financial crisis" as a broad concept encompassing the four classifications of IMF (1998).

2) The Russian government carried out a currency re-denomination on January 1, 1998, which equated one new ruble to 1000 old rubles. In this paper, we use the new monetary unit.

3) Data are available at the web site of Russian Trade System (http : //www.rtsnet.ru).

4) For the gradual deregulation of government bond operations for non-residents, see Entov et al. (1999), Chapter 3.

5) The average annual yield rate on short-term government bonds was 34.73 percent on December 1, 1997 (*Tekushchie tendentsii v denezhno i kreditnoi sfere*, 1998, No. 2, p. 32) whereas the annual rate of increase of the consumer price index in 1997 was 11.0 percent (*Sotsial'no-ekonomicheskoe polozhenie Rossii*, December 1997, p. 174).

6) For the exchange rate policy before 1997, see OECD (1997).

7) For the same opinion, see Tabata (1999), p. 53.

8) Data related to foreign trade are based on *Rossiiskii statisticheskii ezhegodnik*, 2001, pp. 608-610, 2002, pp. 618-621.

9) According to Finance Minister Zadornov, the actual amount of loans from CBR was 23.5 billion rubles (*Izvestiia*, January 21, 1999, p. 4).

10) Liabilities for delivery of foreign exchange in "Russian banks' liabilities for financial derivatives" contain financial forward settlement contracts, options, and fixed term transactions included in currency swaps which fall due not earlier than on the third day after completing the contract.

References

1. Bank for International Settlements. (BIS), *Consolidated international banking statistics*, available at http : //www.bis.org.
2. Biuro Ekonomicheskogo Analiza. (BEA), (1999), *Obzor ekonomicheskoi politiki v Rossii za 1998 god*, available at http : //www.budgetrf.ru/Publications/Magazines/bea/review/1999/bea1998review/bea1998review.htm. (in Russian)
3. Dement'ev, P., (1996), "1992-1995 gg. : Chto proiskhodit v denezhno－kreditnoi sfere Rossii," *Eko*, No. 1. (in Russian)
4. Entov, R., Sinel'nikov, S., Drobyshevskii, S., Arkhipov, S., Batkibekov, S., Kadochnikov, P., Ratnovskii, L., Trofimov, G., Trunin, I., and Shadrin, A., (1999), *Makroekonomicheskie i institutsional'nye problemy finansovogo krizisa v Rossii*, available at http : //www.iet.ru. (in Russian)
5. Goskomstat Rossii. *Rossiiskii statisticheskii ezhegodnik*. (in Russian)
6. Goskomstat Rossii. *Sotsial'no-ekonomicheskoe polozhenie Rossii*. (in Russian)
7. Goskomstat Rossii. *Statisticheskoe obozrenie*. (in Russian)
8. Illarionov, A., (1999), "Mify i uroki avgustovskogo krizisa : mify," *Voprosy ekonomiki*, No. 10. (in Russian)
9. Institut Ekonomiki Perekhodnogo Perioda. (IEPP), (1999), *Rossiiskaia ekonomika v 1998 godu : tendentsii i perspektivy*, available at http : //www.iet.ru. (in Russian)
10. Institut Ekonomiki Perekhodnogo Perioda. (IEPP), (2002), *Ekonomika-politicheskaia situatsiia Rossii*, June, available at http : //www.iet.ru. (in Russian)
11. International Monetary Fund. (IMF), *International financial statistics*. Washington D.C. : IMF.
12. International Monetary Fund. (IMF), (1998), *World economic outlook*, Washington D.C. : IMF, May.
13. International Monetary Fund. (IMF), (1999), *World economic outlook*, Washington D.C. : IMF, May.
14. *Izvestiia*.
15. Kuboniwa, M., (1999), "Changes in the industrial structure," *Russian economy at the crossroad : transition to market and SNA*, ed. Kuboniwa, M. and Tabata, S. (in Japanese)
16. Malleret, Thierry, Orlova, Natalia and Romanov, Vladimir, (1999), "What loaded and triggered the Russian crisis ?" *Post-Soviet affairs*, No. 2.
17. Organisation for Economic Co-operation and Development. (OECD), (1997), *OECD economic surveys 1997-1998 : Russian Federation*, Paris : OECD.

18. Organisation for Economic Co-operation and Development. (OECD), (2000), *OECD economic surveys 1999-2000 : Russian Federation*, Paris : OECD.
19. Popov, V., (1999), "Uroki valiutnogo krizisa v Rossii i v drugikh stranakh," *Voprosy ekonomiki*, No. 6. (in Russian)
20. *Russian economic trends*. (RET)
21. Sapir, Jacques, (1999), "Russia's crash of August 1998 : diagnosis and prescription," *Post-Soviet affairs*, No. 2.
22. Semenkova, E. and Aleksanian, V., (1995), "Razvitie rynka GKO-OFZ : uroki i perspektivy," *Voprosy ekonomiki*, No. 5. (in Russian)
23. Slay, Ben, (1999), "An interpretation of the Russian financial crisis," *Post-Soviet geography and economics*, No. 3.
24. Summers, L., (1998), *Russia in crisis*, the statement submitted to the US House Committee on international relations, 105th Cong., 2nd sess., September 17.
25. Sutela, Pekka., (1999), *The financial crisis in Russia*, BOFIT online, No. 11, available at http : //www.bof.fi/bofit.
26. Tabata, S., (1999), "National income and economic growth," *Russian economy at the crossroad : transition to market and SNA*, ed. Kuboniwa, M. and Tabata, S. (in Japanese)
27. Tsentr Razvitiia, (1999), "Bankovskii kriziz : tuman rasseivaetsia," *Voprosy ekonomiki*, No. 5. (in Russian)
28. Tsentral'nyi Bank Rossiiskoi Federatsii. (CBR), *Biulleten' bankovskoi statistiki*. (in Russian)
29. Tsentral'nyi Bank Rossiiskoi Federatsii. (CBR), (1998), *Otchet Tsentral'nogo Banka Rossiiskoi Federatsii za 1997 god,* Moscow : CBR. (in Russian)
30. Tsentral'nyi Bank Rossiiskoi Federatsii. (CBR), (2002), *Otchet Tsentral'nogo Banka Rossiiskoi Federatsii za 2001 god*, Moscow : CBR. (in Russian)
31. Tsentral'nyi Bank Rossiiskoi Federatsii. (CBR) *Tekushchie tendentsii v denezhno i kreditnoi sfere*. (in Russian)
32. Uegaki, A., (1999), "National account and capital movement," *Russian economy at the crossroad : transition to market and SNA*, ed. Kuboniwa, M. and Tabata, S. (in Japanese)
33. Web site of Bank for International Settlements. (http : //www.bis.org)
34. Web site of Bank of Finland, Institute for Economies in Transition. (http : //www.bof. fi/bofit)
35. Web site of Institute for the Economy in Transition. (http : //www.iet.ru)
36. Web site of International Petroleum Exchange of London. (http : //www. ipe.uk.com)
37. Web site of Russian Trade System. (http : //www.rtsnet.ru)
38. Web site of the Central Bank of Russia. (http : //www.cbr.ru)