How Big are Russia's Foreign Exchange Reserves?

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Russia's foreign exchange reserves have nearly doubled from $12.5 billion in January of 2000 to $23.3 billion in August 2000. This addition of $10.8 billion may be more important than it looks if the amount in the beginning of 2000 was less than $12.5 billion. Imbalances in the official statistics suggest that foreign exchange reserves may be overstated. If the actual volume of foreign exchange reserves is significantly lower than reported, foreign exchange apart from gold might have been on the brink of depletion at the beginning of 2000. If so, then the expansion of reserves in 2000 is a life-saver.

How big are Russia's true foreign exchange reserves? To find an answer, we need to examine monthly balance sheets of the Central Bank, the debt records of the Ministry of Finance, and the collective balance sheets of the monetary authority, which comprises jointly the Central Bank of Russia and the Ministry of Finance.[2] A boring historical journey, no doubt, but it contains implications for the future. The real size of foreign exchange reserves may determine whether the Central Bank can keep the ruble from falling and inflation from rising, and the Russian government from defaulting again on its external debt—when and if commodity prices and export revenues subside.[3]

Who Owns Foreign Exchange Reserves?

Foreign exchange reserves signify liquid, convertible claims on other nations in the hands of a country's public authority. They include foreign convertible currencies and liquid securities owned by a public body designated by the government. Foreign exchange in private hands of households and enterprises (even state-owned enterprises), whether in currency or deposits or securities, is

[1]We would like to thank several readers for their valuable comments which helped us better understand Russian accounting practices, look into new issues, and significantly revise the previous version of this article. The usual disclaimer applies.

[2]Hereinafter, unless otherwise indicated, the data comes from the web site of the Central Bank of Russia, http://www.cbr.ru, various pages and tables. These data are in Cyrillic (Windows-1251), which is installed on every browser. Most of these data can also be located on the English version of the Central Bank's site, http://www.cbr.ru/eng. We are referencing every important number and add explanatory notes on calculations. This may complicate the reading but is necessary for an audit. Readers may skip these footnotes and just notice that they are there.

[3]On why the current economic system in Russia begets serial defaults, see *From Predation to Production*, Chapter 1 on this site.

outside of domain of official foreign exchange reserves. This may be wrong in any practical sense: The government at a time of crisis can confiscate privately held foreign assets, especially those of state-owned enterprises. But the narrow definition of foreign exchange reserves is important in the bookkeeping sense because it accounts for the country's readily available, convertible assets for supporting its currency and the balance of payments (imports versus exports).

What is this public body designated by the government to own and manage foreign exchange reserves? As we mentioned earlier, it is called *the monetary authority* and it combines the familiar organizations, the Central Bank and the Ministry of Finance. In various countries, additional organizations can also be included. In Russia, the monetary authority adds to its makeup a recently established agency known as the Agency for Restructuring Credit Organizations (ARCO). One can see that the monetary authority is an institutional and accounting construct by definition, not a separate organization, not a mechanical body with its own building, offices, and separate staff. In the precise terminology of the International Monetary Fund, the balance sheet of this construct, the monetary authority, "consolidates the accounts of the central bank with the accounts arising from monetary functions undertaken by other institutions. These functions include the issuance of currency, the holding of international reserves, and the conducting of [International Monetary] Fund account transactions."[4]

In accounting terms, the balance sheet of the monetary authority includes the entire balance sheet of the Central Bank, select items from the accounts of the Ministry of Finance (explained in detail later), and the assets and liabilities of ARCO. The Central Bank manages the accounting of the monetary authority and publishes its own separate balance sheet as well as that of the broader monetary authority, incorporating Ministry of Finance items. From this accounting perspective, the Ministry of Finance is split. One part of the Ministry of Finance manages fiscal affairs: it taxes, spends, and borrows—primarily issues government bonds. This part of the Ministry of Finance is called in the accounting sense *the fiscal authority*. Another part of the Ministry of Finance joins the Central Bank in forming the monetary authority. In most modern economies, including Russia, the participation of the Ministry of Finance in the monetary authority is peripheral; the Central Bank plays a central role. The monetary authority prints money and manages the debt portfolio of the fiscal authority: sells and buys its bonds by printing and withdrawing money, respectively. In addition, the monetary authority owns and manages the country's foreign exchange reserves.

It is the matter of the orderly fiscal debt of modern governments, as opposed to ad hoc debt taking and repaying (or rather not repaying) by traditional states, that separates the fiscal and the monetary authority and often conceptually splits the Ministry of Finance between the two: The fiscal authority issues interest-bearing bonds and "buys" money (which constitute zero interest bonds), the monetary authority buys bonds and "sells" (prints and mints) money. Never mind that some parts of each of these authorities may be located in the same ministry, in the same building, and share the

[4]The IMF, *International Financial Statistics Yearbook 1997* (Washington, D.C.: The IMF, 1998), p. xiii. In Russia, the balance sheet of the monetary authority consolidates the accounts of the Central Bank of Russia and the relevant items of the Ministry of Finance and ARCO. See, http://www.cbr.ru/dp/Denvl_00.htm.

same secretary and the same printer. In the accounting sense, they are on the different sides of the balance sheet. One authority's asset is another authority's liability, and vice versa.

This accounting distinction plays an interesting trick with the very concept of the government. The definition of the government in the accounting sense is also different from usual perceptions and political analysis. The government in social sciences combines the legislature, the executive, the judiciary; central banks are usually treated as part of the executive. The accounting reasoning is based on the distinction between the fiscal and the monetary authorities: The fiscal authority taxes, spends, and borrows, primarily issues bonds; the monetary authority prints money and manages the debt portfolio of the fiscal authority (sells and buys its bonds by printing and withdrawing money, respectively). The term "the government" in this accounting framework has a different meaning from the proverbial government of public perception and social sciences—a much more narrow meaning. It is largely the fiscal authority, the borrower of money (the seller of bonds). In addition, it is a depositor of funds (government agencies hold accounts with the Central Bank and the Treasury Department of the Ministry of Finance). This is why one encounters on the balance sheet of the monetary authority such articles as "claims on the government" on the asset side and "government deposits" on the liability side.

We have gone into a long-winded, perhaps, boring discussion of terms, but a clear understanding of them is essential to answer the question posed at the outset, namely, what is the true size of Russia's foreign exchange reserves.

An Accounting Miracle?

The addition of $10.8 billion to reserves from January to August 2000 is more impressive than it looks because the Central Bank of Russia simultaneously paid back $2.5 billion to the IMF on its loan.[5] Thus the Central Bank of Russia (hereinafter CBR or the Central Bank) purchased $13.3 billion and increased its *net* international reserves by this amount.[6]

An equally impressive development took place before that but went unnoticed: During September-December 1998 and all of 1999, the Central Bank repaid $3.3 billion to the IMF and

[5]Calculated from the balance sheet of the monetary authority, http://www.cbr.ru/dp/Denvl_00.htm, converting ruble values into dollars at the applicable monthly exchange rates, from http://www.cbr.ru/publications/Bbs08r_00.pdf, p. 33. The data on foreign exchange reserves is at http://www.cbr.ru/dp/dp_gold_00n.htm. The IMF loan stood at $19.0 billion in August 1998 and was reduced by successive repayments to $15.7 billion in January 2000 and to $13.2 billion in July 2000.

[6]Net international reserves constitute foreign exchange reserves less the IMF loan. A loan repayment is equivalent to an increase in net international reserves.

loaned $6.65 billion to the government for repaying its external debt.[7] The Central Bank of Russia acquired almost $10 billion for these purposes. During this period, however, foreign exchange reserves did not change. They stood at the same $12.5 billion in September 1998 and in January 2000, with minor fluctuations in between.[8] The dollars purchased on the market were paid to creditors, not added to reserves.

This forgotten story of 1998-99 contains a mystery. In order to purchase $10 billion, the Central Bank had to have a commensurate amount of rubles to pay for the acquisition of dollars at the exchange rate of the day. The average exchange rate for the period from September 1998 to January 2000 was about R25 to $1. So the Central Bank needed R250 billion. It could print money, or borrow it by selling government and other bonds, or raise it as capital from investors. It did not sell any government bonds and could not sell defaulted bonds after August 1998; actually, the value of bonds on the books increased.[9] It has no investors to raise capital from. Unlike the U.S. Federal Reserve System, the Central Bank of Russia is a government agency, not a private corporation. Its sole owner, the government, did not increase its capital and was in no position to do so in view of the Great Default.

What did the Central Bank do? It printed R144 billion and borrowed—that is, attracted in deposits from banks and the government—another R175 billion.[10] Those two numbers sum to R319 billion. But, at the same time, the Central Bank extended R181 billion in credit to deposit banks.[11] Subtracting that amount from the printed and borrowed rubles leaves R138 billion at the Central Bank's disposal. This amount could only buy $5.5 billion, not $10 billion.

To raise the remaining $4.5 billion, the Central Bank had to either use some exotic off-the-books sources or to dip into its existing foreign exchange reserves. Exotic off–the-books sources could conceivably include confiscation of dollars from export revenues and a secret donation. But

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[7]Calculated from http://www.cbr.ru/Denvl_98.htm, http://www.cbr.ru/Denvl_99.htm, http://www.cbr.ru/Denvl_00.htm, http://www.cbr.ru/banktoday/balance99.htm, and http://www.cbr.ru/an_report/chapt_3_1_99.pdf, p. 168.

[8]http://www.cbr.ru/dp/dp_gold_98n.htm, http://www.cbr.ru/dp/dp_gold_00n.htm. Foreign exchange reserves include liquid foreign assets such as currencies and securities of Western governments and also monetary gold. The balance sheet of the monetary authority features foreign assets, which are larger than foreign exchange reserves. The difference consists of illiquid and semi-liquid foreign assets denominated in fully inconvertible or externally inconvertible currencies. For the dynamics of foreign exchange reserves, possible changes in the illiquid portion of foreign assets are immaterial.

[9]http://www.cbr.ru/banktoday/balance98.htm, http://www.cbr.ru/banktoday/balance99.htm, and http://www.cbr.ru/an_report/chapt_3_1_99.pdf, p. 168.

[10]Calculated from http://www.cbr.ru/Denvl_98.htm, http://www.cbr.ru/Denvl_99.htm, http://www.cbr.ru/Denvl_00.htm.

[11]Calculated from Ibid.

it is the government, not the Central Bank, that can confiscate dollars or receive a donation. The Central Bank, unlike the government, does not have small arms with which to confiscate dollars or nuclear arms with which to encourage a donation. But if there were confiscation or a donation, the government would not have needed to borrow $6.65 billion from the Central Bank in the first place. Exotic options out, the Central Bank had to withdraw the missing $4.5 billion from its foreign exchange reserves. In this case, foreign exchange reserves could not have remain unchanged at $12.5 billion from September 1998 to January 2000. This would have been an accounting miracle, akin to feeding 5,000 people with 2 fishes and 5 loaves of bread. Apart from divine intervention, accounting miracles do not happen. With reserves unchanged and other funding sources absent, payments and purchases must balance. There are no accounting miracles, only irregularities.

The Breakdown of the Balance Sheets

A brief accounting exercise finds some $4.5 billion missing. There is more. Examining balance sheets reveals additional gaps. Taken separately, the monthly balance sheets of the monetary authority (remember: this is a definitional construct combining three sets of funds), the Central Bank, and the debt records of the Ministry of Finance raise no apparent problems. By definition and design, each balance sheet balances. Any excess of assets over liabilities constitutes equity. If discrepancies arise, they fall into a balancing article of "Other items (net)." It is when one tries to put the three data sets together in a consistent manner that they do not fit. One item falls out. This is the $6.65 billion loan of the Central Bank to the government for repaying its external debt.[12] This CBR dollar loan is listed as an asset, specifically as a claim on the government, on the balance sheet of the Central Bank. It is listed in the Ministry of Finance accounts as a liability in addition to other various internal and external debt items in its tables. But it is missing on the balance sheet of the monetary authority, where it belongs as an asset.

The mystery begins. The $6.65 loan is missing not just as a line item. Such an omission could be explained by various broad aggregations. Rather, it is missing as an amount for which there is no room within the tight structure of all assets and liabilities present and accounted for on the balance sheet of the monetary authority. When one tries to add the ruble equivalent of $6.65 billion (R180 billion) accumulated by January 2000, two things happen. The matching amount of liabilities is not there and the orderly breakdown of assets gets out of order and breaks down.

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[12]We calculate this amount as $6.65 billion on the basis of the monthly ruble increments of this loan on the balance sheet of the Central Bank, at http://www.cbr.ru/banktoday/balance99.htm, converted into dollars at the exchange rate of the previous month. This loan accumulated from September 1998 through October 1999. There are no implied dollar increments after November 1, 1999. Apparent additions and reductions in rubles after this date are due to exchange rate fluctuations. The Central Bank simply takes the accrued ruble amount of the loan, valued at $6.7 billion at the exchange rate of November 1, 1999, and carries it over, converting (appreciating and depreciating) it at the exchange rate on the first day of each month. Various Central Bank statements in mid-2000 list this loan as worth $6.5 billion because they apply a slightly appreciated ruble exchange rate to the final sum. For the same reason, the Ministry of Finance in April 2000 evaluated this loan as $6.4 billion, at http://www.minfin.ru/macrorus/zadolj.htm. This is a minor discrepancy. In any case, it does not affect the ruble-denominated balance sheets which we are constructing because we quote the ruble amounts as reported. But when we refer to this loan in dollar terms, we will use the properly calculated sum of $6.65 billion.

Nevertheless, let us try to add R180 billion and see what happens. Table 1 assembles what one can call the "collective balance sheet" of the Central Bank and the Ministry of Finance from September 1998 to July 2000. This is the true *but unreconciled* balance sheet of the monetary authority. It takes as its basis the reported balance sheet of the monetary authority[13] and combines it with the line items found in the Ministry of Finance debt records (the CBR dollar loan to the government)[14], and articles on the balance sheet of the Central Bank.[15] From the balance sheet of the Central Bank, we take the data on government bonds and the CBR dollar loan to the government and also on the Central Bank portion of the IMF loan to Russia. The resulting collective balance sheet of the Central Bank and the Ministry of Finance is *by definition* the balance sheet of the monetary authority (including ARCO). The balance sheet we compile (see Table 1 below), is different from the reported balance sheet of the monetary authority in four respects:

(1) It is comprehensive and all-inclusive.
(2) It disaggregates magnitudes, contains a detailed breakdown, and makes it impossible to hide anything.
(3) It is transparent.
(4) It is unreconciled and out of balance and order.

Shortly we go over the collective balance sheet in Table 1 article by article. This exercise can be understood with the help of the following example. Anyone who has paid a dinner bill can follow it. Assume you have three dollar notes in your wallet, of various denominations (say, $20, $10, and $1). These are your assets ($31). You had soup ($6), steak ($18), and coffee ($3). These are your liabilities ($27). On balance, you have $4 left. This is your equity. This is all there is to it. Keep in mind this example and you can easily audit Table 1 and the rest. There are three asset articles, three liability articles, and equity. The collective balance sheet of Russia's monetary authority is exactly like this.

There are major asset articles: (1) Foreign assets, (2) Claims on the government, and (3) Claims on deposit banks.

There are three major liability articles: (1) Foreign liabilities, (2) Reserve money, and (3) Government deposits.

There are also one minor asset article (Claims on enterprises and households) and one minor liability article (Time and foreign currency deposits), but they amount to pennies, relatively speaking, and we can safely ignore them. And there is equity, and also a balancing article called "Other items

[13] http://www.cbr.ru/Denvl_98.htm, http://www.cbr.ru/Denvl_99.htm, http://www.cbr.ru/Denvl_00.htm.

[14] http://www.minfin.ru/macrorus/zadolj.htm, http://www.minfin.ru/voz/svedr.htm, http://www.minfin.ru/voz/sveden.htm.

[15] http://www.cbr.ru/banktoday/balance98.htm, http://www.cbr.ru/banktoday/balance99.htm, and http://www.cbr.ru/an_report/chapt_3_1_99.pdf, p. 168.

(Net)," to account for the remaining discrepancies. This ends the balance sheet. Now let's review the specific articles.

Table 1.
Collective Balance Sheet of the Monetary Authority
(the Central Bank and the Ministry of Finance), 1998-2000, in Billions of Rubles

	9/1/1998	1/1/1999	1/1/2000	7/1/2000
Assets				
1. Foreign assets	117.9	286.3	383.4	639.5
2. Claims on the government	257.1	525.4	572.0	537.9
2a. Government bonds	132.9	202.5	240.4	249.2
2b. IMF loan to the Finance Ministry	127.1	331.4	344.3	290.8
2c. CBR dollar loan	*0.0*	*49.9*	*174.1*	*180.9*
3. Claims on deposit banks	22.2	76.4	203.5	213.0
4. Claims on enterprises and households	0.5	0.6	0.4	0.4
Total assets	397.7	888.7	1,159.3	1,390.8
Liabilities				
1. Foreign liabilities	150.5	401.6	424.2	371.2
2. Reserve money	186.4	263.7	439.7	602.8
2a. Monetary base	161.7	199.0	306.0	397.2
Currency in circulation	133.4	187.8	266.5	321.8
Mandatory reserves	28.3	11.2	40.0	75.4
2b. Bank demand deposits	24.7	64.7	133.7	205.6
3. Government deposits	9.9	41.9	75.9	170.0
4. Time and foreign currency deposits	0.4	1.8	1.6	2.8
Total liabilities	347.2	709.0	941,4	1,146.8
5. Capital accounts (Equity)	62.9	118.1	151.8	151.7
Total liabilities and equity	410.1	827.1	1,093.2	1,298.5
Other items (Net)	-12.4	61.6	66.1	92.3

Memorandum items				
Net International Reserves, $ billion	-3.1	-5.5	-1.5	9.6
Net Domestic Assets	194.3	314.3	346.8	128.9
Bank and government demand deposits	34.6	106.6	209.6	375.6
Foreign Exchange Reserves, $ billion	12.5	12.2	12.5	21.0

1. Foreign assets

Foreign assets include foreign exchange reserves (also called international reserves, or gross international reserves) and illiquid or semi-liquid foreign assets denominated in currencies either completely inconvertible or not freely convertible on the external market outside of their countries (e.g., the Russian ruble, the Ukrainian hryvna, etc.). Usually, foreign assets only slightly exceed foreign exchange reserves because central banks prefer to keep reserves in liquid, externally convertible currency instruments. In principle, however, it is possible that two countries with fully inconvertible currencies, which trade exclusively with each other, would keep only their trading partner's respective currency as their foreign assets, and no dollars at all. In addition, the definition of the illiquid portion of foreign assets can be stretched to include some domestic assets. We will discuss this aspect later. Liquid foreign assets, which usually constitute the bulk of foreign assets in central bank portfolios, are foreign exchange reserves. They consist of currency, government securities, and other liquid assets in externally convertible currencies (such as the U.S. dollar, German mark, Japanese yen, etc.), and also monetary gold.[16] The simplest way to think of normal foreign assets is this: dollars, U.S. Treasuries, and a few Ukrainian coins.

2. Claims on the government

Claims on the government include everything the national and sub-national governments owe to the Central Bank and the Ministry of Finance. The emphasis is on the word everything. By definition, claims on the government are all-inclusive. Let us itemize them.

2a. Government bonds

Claims on the government include government bonds in the portfolio of the Central Bank. Claims on the government also include direct, unsecuritized Central Bank credit to the government in domestic currency, for which the Central Bank prints money. Since 1995, the law on the Central Bank prohibits issuing direct, unsecuritized domestic credit to the government. The amounts issued before 1995 were eroded by subsequent inflation and are not itemized on the balance sheet of the Central Bank. Although ruble-denominated government bonds have been in default since August

[16]According to various sources, Russian reserves of monetary gold may also actually contain platinum and palladium, but this is immaterial as long as these metals are as good as gold in terms of liquidity and price-adjusted volume.

1998, they remain as an asset on the balance sheet of the Central Bank because writing them off would wipe out the Central Bank's equity and place it technically on the brink of insolvency. So the choice, an easy one, is to keep the truly junk bonds on the balance sheet or go bankrupt.

2b. The IMF loan to the Finance Ministry

In recent years or decades, another big item emerged as an asset on the balance sheet of the monetary authority in various countries: the IMF loan to the Ministry of Finance. Why is this a claim of the monetary authority on the government? Because of the letter "M." No, "M" does not stand for mendacity. It stands for the word "Monetary" in the name of the IMF. And the IMF is not (repeat: not) officially in the business of giving loans to governments for subsidizing their budget deficits. It is in the business of extending loans to monetary authorities only. And it strictly adheres to its historical mandate. So the Ministry of Finance, in its capacity as part of the monetary authority, takes an IMF loan and re-lends it to—you guessed it right—the Ministry of Finance in its capacity as part of the government. Does this mean re-lending to itself? You should not ask this question. It is the loan of the monetary authority to the government (an asset of the monetary authority) and the IMF loan to the monetary authority (a liability of the monetary authority). The involvement of the Ministry of Finance on both ends (the dollars move from one internal account to another) is a purely technical accounting transaction. So the IMF loan to the monetary authority enters the balance sheet of the monetary authority on both the liability side and the asset side. It enters the liability side as a loan from the IMF; it enters the asset side as a loan to the Ministry of Finance. This procedure creates not one, but two articles on the balance sheet of the monetary authority, as presented in Table 1: Article 1 called "Foreign liabilities," on the liability side of the balance sheet, and article 2b, "IMF loan to the Finance Ministry," on the asset side.

Does this mean that they must be equal? Only if there are no other IMF loans to the country. However, the IMF also extends a more straightforward loan, the foreign exchange loan to the Central Bank, for supporting domestic currency. This loan adds to the article "Foreign liabilities" on the liability side. Foreign liabilities on the balance sheet exceed the IMF loan to the Finance Ministry exactly by the amount of the IMF loan to the Central Bank. A question immediately arises: What happens with the IMF loan to the Central Bank on the asset side? If the Central Bank does not spend it to support the currency, the loan ends up in foreign exchange reserves and adds to article 1, "Foreign assets," on the asset side of the balance sheet, which we discussed above. If the Central Bank spends its IMF loan, it does not enter foreign assets. (More exactly, it adds zero to the article "Foreign assets". But then the Central Bank acquires other assets for IMF dollars, such as government bonds, or reduces its liabilities, by purchasing back the earlier released rubles).

We accordingly estimate the IMF loan to the Ministry of Finance as the difference between the total IMF loan to Russia, listed on the balance sheet of the monetary authority, and the IMF loan to the Central Bank, listed on the CBR balance sheet. This method slightly exaggerates the IMF loan to the Finance Ministry because, in addition to the IMF loan, foreign liabilities include small amounts of other foreign loans. As we will see shortly, the error is equal to R3 billion in September 1998 and R2 billion in July 2000, but R13 billion in January 2000; these magnitudes can be ignored

for our discussion.

2c. CBR dollar loan

There is also one more item in Table 1 among the claims on the government—a highly unusual one. This is the dollar loan of the Central Bank to the government for paying its external debt. This line item is unusual because, usually, the Central Bank purchases government bonds and pays in domestic currency (which it prints). Then the government uses domestic money to purchase dollars on the market in order to pay its external debt. There is no point for the Central Bank to extend a dollar loan to the government and then print rubles in order to purchase dollars to replenish the reserves. It would make more sense to give the government a domestic loan (buy its bonds) and let the government buy its own dollars. The previous mechanism would apply if the currency is internally convertible. If it is not, the government can swap its bonds to the Central Bank in exchange for dollars. In all these usual cases, the Central Bank would have government bonds denominated in rubles, instead of a dollar loan to the government, on its balance sheet as an asset. But after the Great Default of August 1998 on internal debt, the Russian government could not issue new bonds. It was, at the time, trying to renegotiate the discount reimbursement of the bonds in default. At the same time, the law did not allow the Central Bank to issue unsecuritized domestic credit to the government. As a result of these circumstances, the Central Bank had to extend a direct dollar loan to the government and list it as such—which is why this highly unusual item emerged on the balance sheet of the Central Bank. Under normal circumstances, the ruble amount of this loan would have been added to the total of government bonds.

3. Claims on deposit banks

Claims on deposit banks (commercial banks, including the Savings Bank, or Sberbank) constitute liquidity credit issued by the Central Bank to deposit banks either directly or via the new Agency for Restructuring of Credit Organizations (ARCO). The latter was created by the monetary authority (jointly by the Central Bank and Ministry of Finance) after the Great Default of August 1998 when the banking system collapsed.[17] ARCO is part of the monetary authority. It transmits as credit the liquidity printed by the Central Bank. However, this credit is not listed on the balance sheet of the Central Bank. It appears only on the balance sheet of the monetary authority. The special reason why the Central Bank excludes this asset will be clear shortly.

4. Claims on enterprises and households

This tiny item, which we list for completeness only, represents direct Central Bank loans to enterprises and households. Of course, the bulk of domestic credit transmits through the banking system and is not part of the balance sheet of the monetary authority.

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[17]For a detailed discussion why it was bound to collapse and the pre-default balance sheets of the banking system, see our book *Fixing Russia's Banks* on this site. The book was published six weeks before the Great Default and predicted it as well as the banking crash.

So much for assets. Recall the above example of $20, $10, and $1 notes in your wallet making up $31 in assets. Now to liabilities.

1. Foreign liabilities

This is the IMF loan to the monetary authority, in total. It includes both portions of the loan, extended to the Central Bank and the Ministry of Finance. Its corresponding assets were discussed above. In addition to the IMF loan, foreign liabilities include small amounts of foreign loans from other sources, which do not affect our analysis and can be ignored. One more accounting reminder: Foreign exchange reserves (Gross international reserves) minus the IMF loan (in total) constitute Net International Reserves. We list the latter as a memorandum item in Table 1.

2. Reserve money

Reserve money represents liquid and quasi-liquid liabilities of the monetary authority. It includes the monetary base, which embodies currency printed and minted by the Central Bank, plus deposits of commercial banks with the Central Bank, which are cashable on demand.

2a. The monetary base

The monetary base, also called high-powered money, is created by the Central Bank—printed and minted. The monetary base consists of currency in circulation (notes and coins) and currency held in mandatory reserves of deposit banks at the Central Bank. The monetary base is the most liquid liability of the monetary authority. We calculate the amount of mandatory reserves by subtracting currency in circulation, listed on the monthly balance sheets of the monetary authority, from the monetary base, which is reported weekly by the Central Bank.[18]

2b. Bank demand deposits

The category of bank demand deposits encompasses various types of voluntary deposits and accounts held by commercial banks with the Central Bank beyond mandatory reserves. These include correspondent accounts for inter-bank clearing purposes and various interest-earning deposits. They also include such specific post-default Russian phenomena as Central Bank bonds. The government could not place bonds after the default. The Central Bank replaced the government in this role, not for fiscal reasons, but rather to withdraw (temporarily sterilize) excess liquidity from circulation. The government resumed issuing domestic bonds only in 2000 and only in small amounts. Central Bank bonds can be treated as quasi-demand deposits because of their short (one-to-three month) maturity and because bond holders can always use them as collateral for borrowing liquidity through the credit window of the Agency for Restructuring of Credit Organizations.

The designation "bank demand deposits" is ours. The monetary authority and the IMF do

[18] http://www.cbr.ru/press/.../press/id/000804_1154_DEN-BAS.htm and similar weekly reports.

not offer a generic term for this article but rather make an inclusive list (e.g., "correspondent accounts and other balances of credit organizations"[19]). We apply the term demand deposits by the familiar analogy with demand deposits of businesses and households with commercial banks. This language underscores the quasi-liquid nature of this category. Bank demand deposits essentially represent the monetary base temporarily withdrawn from circulation.

The Central Bank and many observers treat this process as akin to sterilization, when the Central Bank sells government bonds to banks and other buyers in order to absorb excess liquidity, for example, after printing money in the process of purchasing foreign exchange. Sterilization is thus a counter-acting operation, taking money in after it was printed and placed into circulation. We use the term bank demand deposits exactly in order to emphasize their difference from conventional sterilization instruments. Government bonds sold by the Central Bank as a means of sterilization constitute government liability. The Central Bank is not obligated to buy them back and thus return liquidity into circulation. But bank demand deposits with the Central Bank (including Central Bank bonds) are the Central Bank's own liability. They are cashable on demand. They are not sterilized on a sustainable basis. This is a temporary and fragile sterilization, not even a quasi-sterilization. Bank demand deposits are rather a quasi-monetary base, a latent monetary base, a potential monetary base, a temporarily withheld monetary base. Small clearing balances will remain in deposits, as in other countries, but the bulk can go into circulation when and if the time comes, and then the monetary base would explode.

3. Government deposits

Government deposits with the Central Bank and the Ministry of Finance represent money balances in accounts of various ministries and agencies of federal and sub-national governments. Everything we said about bank demand deposits applies to government deposits. The government holds its money balances in deposits cashable on demand. This is not sustained sterilization. It is just a temporary withholding of high-powered money from circulation.

4. Time and foreign currency deposits

Banks and government organizations hold a small amount of time and foreign currency deposits with the Central Bank for clearing and security purposes. The amount is small and inconsequential for our discussion.

So much for liabilities. Recall your bill for soup, steak, and coffee from the example above. The difference after subtracting liabilities from assets is equity; if it does not cover the difference in total, there is a balancing article, "Other items (net)," as in Table 1, quoted from the balance sheet of the monetary authority. Recall your equity after subtracting your dinner bill from your assets in dollar notes.

[19] http://www.cbr.ru/dp/sdds/meth_rus.htm, p. 2.

The balance sheet is finished. We added four memorandum items, which are not part of the balance sheet but are related to it and are useful for analytical purposes.

Foreign exchange reserves

The last such item is foreign exchange reserves—the liquid part of foreign assets from the balance sheet, which is as good as gold, or, better yet, as good as the dollar.[20]

Net International Reserves

The first memorandum item is net international reserves (NIR). NIR is equal to foreign exchange reserves minus foreign liabilities of the monetary authority (the total IMF loan). If net international reserves are positive, that is, existing foreign exchange reserves are greater than the total IMF loan, then the monetary authority has its *own* foreign exchange reserves. Otherwise all its foreign exchange reserves are borrowed and its has none on its own. If the net international reserves are positive, the monetary authority is solvent on the foreign account. If the net international reserves are negative, the monetary authority owes more foreign exchange than it has in reserves and is insolvent on the foreign account. It is technically bankrupt. One can see in Table 1 that it was insolvent on the foreign account before the buildup of foreign exchange reserves in 2000.

Net Domestic Assets

Recall the monetary base—item 2a on the liability side of the balance sheet. This is the money printed by the Central Bank: currency in circulation plus mandatory reserves of deposit banks at the Central Bank. The Central Bank prints money in exchange for purchasing either government bonds, claims on deposit banks (issuing credit of liquidity to them), or dollars and gold. The origin of the monetary base is thus foreign exchange reserves and domestic claims on the government and deposit banks.[21] The latter two domestic claims constitute the accounting item which the old economic literature called Internal Credit and international financial organizations dubbed Net Domestic Assets. Arithmetically, it is the monetary base minus net international reserves. Another way to calculate net domestic assets is to take gross domestic assets (total assets minus foreign assets) and subtract all domestic liabilities (total liabilities minus foreign liabilities), equity, and the net of other items. This gives an accounting sense of net domestic assets.

[20]The data on foreign exchange reserves is at http://www.cbr.ru/dp/dp_gold_98n.htm, http://www.cbr.ru/dp/dp_gold_99n.htm, and http://www.cbr.ru/dp/dp_gold_00n.htm.

[21]We ignore Item 4 on the asset side of the balance sheet, claims on enterprises and households, because it is tiny. Nevertheless, it may play a crucial role if the Central Bank prints money to purchase such claims, namely, when it discounts commercial paper. Historical cases abound, including hyperinflation in Germany in the early 1920s.

Bank and government demand deposits

This item simply sums up bank demand deposits and government deposits with the Central Bank to take a measure of the latent monetary base, of its temporarily sterilized buildup and future expansion.

We can now examine the actual numbers on the balance sheet of the monetary authority in Table 1. Four observations stand out:

1. From September 1998 to January 2000 assets greatly increased relative to liabilities. Assets increased by R761 billion, liabilities, by R594 billion. This automatically increased equity and the balancing article, "Other items (Net)." The overall increase is equal to R167 billion, *not counting* the CBR dollar loan to the government. (If one adds the loan, the gap widens to R341 billion). Since capital of the monetary authority was not raised from investors, this mechanical increase in equity and the residual need an explanation. One possible explanation of the increase in equity and the net of other items would be an appreciation of foreign assets in ruble terms. Reported foreign exchange reserves remained unchanged in dollar terms between September 1998 and January 2000, at $12.5 billion. To relate their ruble appreciation to increases in equity and the net of other items, one has to take into account other appreciable assets and liabilities: the IMF loan to the Finance Ministry on the asset side and the total IMF loan on the liability side (article 1, "Foreign liabilities"). The net appreciation of foreign assets (appreciation of dollar-denominated assets less appreciation of foreign liabilities) from September 1998 to January 2000 amounted to R209 billion. It is natural that this appreciation would be capitalized, and what is not included in equity enters the balancing article, "Other items (Net)." But this raises another problem: excess appreciation which exceeds the rise in equity and the net of other items. This problem is relatively moderate, R42 billion difference between R209 billion in appreciation and R167 billion increase in equity and other items.[22] If it stopped at that, we could drop it. But there is also an increase in government bonds, from R132.9 billion in September 1998 to R240.4 billion in January 2000, at a time when no new government bonds were issued. We will document this issue in detail shortly. If the difference, R107.5 billion, was also due to ruble appreciation of dollar-denominated bonds, we face about R150 billion in asset appreciation which simply has no room—no matching liabilities (because appreciation was not purchased by printing rubles) and no matching equity and other items. So we still face R150 billion to R167 billion net increase in assets unaccounted for.

2. There are no matching liabilities not only for this R150 billion or R167 billion *net* increase in assets, but also for the entire CBR dollar loan to the government, which stood at R174 billion in January 2000. These assets had to be acquired one way or another—purchased,

[22]Minor changes could occur due to the portfolio structure of foreign assets and liabilities and the dynamics of cross-currency exchange rates, e.g., between the dollar and European currencies. The IMF loan is denominated in SDRs, which reflects the weighted average of cross-currency exchange rates of major currencies, while some 90 percent of Russia's foreign assets are denominated in U.S. dollars.

transferred from other accounts (like the IMF loan to the Finance Ministry automatically adds to assets), credited (like claims on deposit banks), or appreciated in ruble terms (as foreign assets and other dollar-denominated assets, including the IMF loan, did). Commensurate liabilities had to be accumulated—money printed or borrowed from domestic or foreign sources—except in the case of net asset appreciation. The latter is capitalized in equity.

3. On the asset side, claims on the government are out of order. Their three components—government bonds, the IMF loan to the Finance Ministry, and the CBR dollar loan to the government—do not add up. Summed up, they exceed the total amount of claims on the government by approximately the magnitude of the CBR dollar loan. At each point in time, the sum of government bonds and the IMF loan to the Finance Ministry roughly add up to the total value of claims on the government. The minor discrepancy, from R3 billion to R13 billion, is due to a slight overestimation of the IMF loan on both the asset and liability sides because we did not subtract, for the lack of data, other foreign liabilities. There is absolutely no room here for the Central Bank dollar loan to the government. It is simply not on the balance sheet as part of the claims on the government among the assets of the monetary authority. This is why we printed it *in italics* in Table 1. It must be there in the balance sheet sense and it is not there as the numbers fill up the balance sheet. By January 2000, the CBR dollar loan to the government in the amount of R174 billion, or $6.65 billion, is missing as a claim on the government.

4. There is also no room for this R174 billion ($6.65 billion) asset among the assets in general. If one adds it as an additional item on the asset side of the balance sheet—since it is not part of claims on the government there—the balance sheet falls apart. There are no matching liabilities and no additional equity there. In order to balance this additional item, one will have to increase by this amount the balancing article "Other items (Net)," in a purely mechanical way. But it is not increased in the reported balance sheets. The entire balance sheet is out of order.

Points 1 and 2 on the above list present a problem in search for an explanation. Points 3 and 4 indicate more than a problem—it is an outright breakdown.

Compare this situation with your dinner balance sheet in the above example. You have $20, $10, and $1 notes in your wallet on the asset side. You have the bill for soup ($6), steak ($18), and coffee ($3) on the liability side, and $4 in equity. Then they tell you that your equity is $7, not $4. This can be explained. Perhaps they did not charge you for coffee, it was on the house. Or steak was a daily special, at discount. This can be researched and discovered. But if they tell you that in lieu of a $10 note you have three $5 notes and your assets are still equal to $31, this is more than an accounting miracle. This is incredible—in the sense, not credible. Or utterly impossible and plain wrong. But this is exactly what happens with the assets on the collective balance sheet that constitutes Russia's monetary authority.

What would be one's immediate guess in this situation? Consider your dinner balance sheet.

Is it possible that they counted one $5 note twice and you really have only two $5 notes in your wallet in lieu of a $10 note, not three $5 notes? You have $20, two $5 notes, and $1. This immediately settles your balance sheet. Let us consider a similar possibility and redraw the balance sheet of Russia's monetary authority.

A Reconciliation of the Balance Sheets

Redrawing a country's financial statements is a statement in itself. It is a statement on the veracity of Russia's financial records and the validity of its claims to renewed solvency. It is also a statement on the accounting prowess and soundness of the IMF, which reprints and endorses Russia's balance sheets and other records.[23] Most importantly, it is a statement on the method.

The standard accounting framework cannot account for the systemic difference of post-Communist economies, namely, that enterprises and banks have open access to government finance and can confiscate public income.[24] For this reason, the balance sheet of the banking system lists as assets and capital what in reality is a liability: tax revenues collected from households and not remitted to the government. The standard balance sheet shows banks well-capitalized and solvent whereas a reconstructed balance sheet reveals their negative capital and structural insolvency.[25] For the same reason, the conventional fiscal budget overstates government revenues and understates expenditures and the budget deficit by 10 to 15 percent of GDP: It does not subtract from revenues the taxes not remitted in cash and does not add to expenditures the credit from the Central Bank to enterprises through the banking system for remitting tax revenues.[26] Lack of proper accounting separation between the government and the Central Bank causes other overstatement of assets. It is at the heart of the accounting gap which we face here.

Table 2 offers a corrected and reconciled balance sheet of the Central Bank and the Ministry of Finance, on the same selected dates from September 1998 to July 2000 as Table 1.

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[23]The IMF, *International Financial Statistics July 2000* (Washington, D.C.: The IMF, 2000), pp. 654-655.

[24]For a detailed discussion, see *From Predation to Prosperity*, Chapters 1 and 2, on this site.

[25]For a detailed discussion, see *Fixing Russia's Banks*, especially Tables 1, 2, 4, and 5 on this site.

[26]See *From Predation to Prosperity*, Chapter 1, on this site.

Table 2
Reconciled Balance Sheet of the Monetary Authority
(the Central Bank and the Ministry of Finance), 1998-2000, in R billion

	9/1/1998	1/1/1999	1/1/2000	7/1/2000
Assets				
1. Foreign assets	117.9	286.3	383.4	639.5
1a. Foreign securities, currency, and gold	117.9	236.4	209.3	458.6
1b. CBR dollar loan to the government	0.0	49.9	174.1	180.9
2. Claims on the government	257.1	525.4	572.0	537.9
2a. Government bonds	132.9	202.5	240.4	249.2
Ruble bonds	101.9	101.9	101.9	101.9
Dollar bonds	31.0	100.6	138.5	147.3
2b. IMF loan to the Finance Ministry	127.1	331.4	344.3	290.8
3. Claims on deposit banks	22.2	76.4	203.5	213.0
4. Claims on enterprises and households	0.5	0.6	0.4	0.4
Total assets	397.7	888.7	1,159.3	1,390.8
Liabilities				
1. Foreign liabilities	150.5	401.6	424.2	371.2
2. Reserve money	186.4	263.7	439.7	602.8
2a. Monetary base	161.7	199.0	306.0	397.2
Currency in circulation	133.4	187.8	266.5	321.8
Mandatory reserves	28.3	11.2	40.0	75.4
2b. Bank demand deposits	24.7	64.7	133.7	205.6
3. Government deposits	9.9	41.9	75.9	170.0
4. Time and foreign currency deposits	0.4	1.8	1.6	2.8
Total liabilities	347.2	709.0	941,4	1,146.8
5. Capital accounts (Equity)	62.9	118.1	151.8	151.7
Total liabilities and equity	410.1	827.1	1,093.2	1,298.5
Other items (Net)	-12.4	61.6	66.1	92.3

Memorandum items				
Net International Reserves, $ billion	-3.1	-7.8	-8.0	3.1
Net Domestic Assets	194.3	364.2	520.9	309.8
Bank and government demand deposits	34.6	106.6	209.6	375.6
Foreign Exchange Reserves, $ billion	12.5	9.4	5.9	14.4

We found earlier that the most serious accounting problems arise on the asset side, within article 2, "Claims on the government," especially with respect to the CBR dollar loan to the government. Let us focus on this article and see if its corrections can reconcile the entire balance sheet. To peruse the above dinner parable, let us see whether the equity is higher because there was no charge for coffee and whether there are some fictitious assets because they counted one of the $5 notes twice.

IMF loan to the Finance Ministry

This article presents no problems. As we calculated earlier, the monetary authority repaid a $3.3 billion portion of this loan from September 1998 to January 2000 and returned another $2.5 billion in January-July 2000; at the same time, the remainder appreciated in ruble terms. Both these repayment and appreciation affected the IMF loan on the liability side of the balance sheet of the monetary authority (article 1, "Foreign liabilities") and its Ministry of Finance portion on the asset side of the balance sheet. Together with the listed volume of government bonds, the IMF loan to the Finance Ministry, with all its counteracting dollar and ruble changes, roughly adds up to the reported amount of claims on the government. We can leave the IMF loan to the Finance Ministry untouched and quote it in the reconciled balance sheet in Table 2 as it stands in Table 1.

Government bonds

The increase in government bonds from R133 billion in September 1998 to R203 billion in January 1999, to R240 billion in January 2000, and to R249 billion in July 2000 raises a simple question: Are they all denominated in rubles? The old ruble bonds have been in default since August 1998. After the default, the government did not issue and place new bonds until February 2000.[27] This is after our period under examination, September 1998-January 2000. Only small amounts were issued in February, March, April, June, and August 2000 (e.g., R3.5 billion in August 2000).[28] One can observe in Tables 1 and 2, line 2a on the asset side, that the value of government bonds on the balance sheet increased only by R9 billion in 2000. These were very short, three-month and six-month bonds, which means that some were retired when others were issued. According to the

[27] http://www.minfin.ru/vcb/vpfgcb.htm, http://www.minfin.ru/vcb/n240200.htm,

[28] http://www.minfin.ru/vcb/n240200.htm, http://www.minfin.ru/vcb/n030800.htm, http://www.minfin.ru/vcb/n210400.htm, http://www.minfin.ru/vcb/n090600.htm, http://www.minfin.ru/vcb/n030800.htm.

financial press, all new bonds were placed with deposit banks, not with the Central Bank. An inconsequential increase of R9 billion in 2000 can be easily explained if we can account for a substantial increase, by R107 billion, between September 1998 and January 2000, when no new bonds were issued. This is the period of our interest.

Herewith a simple solution: Not all bonds in the Central Bank portfolio of government bonds before the Great Default of August 1998 were denominated in rubles. Some were the Russian government's dollar-denominated bonds, of which there were several issues. Their ruble value on the books significantly appreciated as the ruble fell from September 1998 to January 2000 and slightly appreciated thereafter, when the ruble nearly stabilized. Let us suppose that of R133 billion of government bonds before the default of August 1998, the Central Bank held R102 billion worth of ruble-denominated and R31 billion of dollar-denominated bonds. At the then exchange rate of R6.2 to $1, this yields $5 billion of dollar-denominated bonds. We know that there was a mix, but we do not know the exact proportion. We estimate the values of ruble and dollar bonds for each point in time to fit the path of the monthly bond amounts and exchange rates from August 1998 to July 2000. The dollar-denominated bonds would have appreciated from R31 billion before September 1998 to R101 billion in January 1999, to R138 billion in January 2000, and to R147 billion in July 2000. Thus an increase of R107 billion in government bonds on the books of the Central Bank from September 1998 to January 2000 would be due simply to the revaluation of their dollar-denominated portion. Then the entire difference between the ruble value of government bonds between September 1998 (R133 billion) and January 2000 (R240 billion), R107 billion, could be explained by the appreciation of dollar-denominated assets.

The bulk of this appreciation was capitalized in the equity of the Central Bank and the monetary authority (R89 billion increase from September 1998 to July 2000). The residual automatically moved the rest of the above appreciation into the balancing article "Other items (net)." This is just a hypothesis which fits the historical facts and the balance sheet. Hence in Table 2 we break article 2a, government bonds, into dollar and ruble bonds. We hold ruble bonds constant after September 1998 and let dollar bonds appreciate and capitalize the equity. An asset free of charge, so to speak, and thus increased equity—like the coffee on the house and more equity in your wallet in the dinner parable.

Consider an alternative if this hypothesis is wrong. Suppose the government surreptitiously issued R107 billion in new bonds from September 1998 to January 2000 and the Central Bank purchased them. Unless the government had procured rubles in the amount commensurate with the discounted face value of bonds, it would have no reason to issue bonds. So there were no dollar-denominated bonds in the first place and nothing to appreciate in ruble terms on this account. All appreciation that took place affected only foreign assets and was capitalized in equity, with the remainder ending up in the balancing article "Other items (Net)." The bonds were purchased, and the rest of the increase in the monetary base and in the sum of bank and government demand deposits roughly accounts for Central Bank credit to deposit banks. Everything fits except the $6.65 billion of the Central Bank loan to the government which could not have been purchased. There are no matching liabilities for its purchase during this period from September 1998 to January 2000. In a

word, no money was issued to buy these dollars. We are back to the accounting miracle—the payment of dollar debts without printing rubles for purchasing dollars—with which we started this article. Was then the Central Bank dollar loan to the government withdrawn from foreign exchange reserves?

The hypothesis that part of government bonds was dollar-denominated and appreciated solves the problem of an increase in the ruble amount of bonds at a time of no new issues. But it opens up wide another problem: If dollar-denominated government bonds appreciated, there is little room for appreciation of net foreign assets discussed above. There is not enough increase in equity and the net of other items to cover all possible appreciation. This again points out in the direction of foreign exchange reserves that could not remain unchanged. All roads seem to lead to the proverbial Rome.

The dilemma is this: If government bonds did not appreciate but rather were issued and purchased, there is no room—that is, no rubles printed during September 1998-January 2000—for purchasing dollars, paying dollar debts, and *at the same time* keeping foreign exchange reserves from depletion. This means that foreign exchange reserves were smaller than reported. But if government bonds contained a dollar portion, which did appreciate during this period, there is no room for the appreciation of all *net* foreign assets (foreign assets and the IMF loan to the Finance Ministry minus foreign liabilities). This also means that foreign assets, particularly foreign exchange reserves, were smaller than reported. Whether government bonds increased in ruble volume or in ruble value (the dollar and ruble volume remained unchanged), foreign exchange reserves had to be significantly smaller than reported.

CBR dollar loan to the government

Finally, let us revisit the Central Bank dollar loan to the government. It builds up in dollar terms from September 1998 to November 1999, when it reaches $6.65 billion, or R174 billion. Its slight growth in ruble terms thereafter reflects its appreciation due to the declining ruble exchange rate.[29] Our earlier analysis of the collective balance sheet of the Central bank and the Ministry of Finance in Table 1 found no room for this loan among the assets in general and claims on the government in particular. The corrected balance sheet in Table 2 suggests a unique reconciliation: It was counted twice in Table 1, like one of the $5 notes was counted twice in the dinner story.

However, we find no double counting on the balance sheets of the Central Bank and of the monetary authority. The official balance sheet of the monetary authority does not contain double counting because it does not include the CBR dollar loan to the government. This balance sheet presents only an aggregate article of claims on the government. When we disaggregated it in Table 1, it turned out to sum up only government bonds (quoted from the balance sheet of the Central Bank) and the IMF loan to the Finance Ministry (calculated from officially reported balance sheets as explained above). The CBR dollar loan to the government is excluded from the reported balance

[29]Calculated from http://www.cbr.ru/banktoday/balance99.htm, http://www.cbr.ru/banktoday/balance00.htm and monthly exchange rates.

sheet of the monetary authority. This is how the balance sheet mechanically balances. No double counting here, only *not counting*.

At the same time, the balance sheet of the Central Bank, which is part, indeed the bulk of the monetary authority, does include the CBR dollar loan to the government. And this balance sheet also balances. R174.1 billion in January 2000 and R180.9 billion in July 2000 of the CBR dollar loan to the government are present on the balance sheet of the Central Bank and absent on the balance sheet of the monetary authority, and both balance sheets still balance. Recall that increases in equity and "Other items (Net)" can be attributed to the appreciation of government bonds and/or foreign assets and thus do not hide any missing asset. So whether one includes R181 billion or whether one excludes R181 billion, everything balances no matter what.

How can this be? The balance sheet of the Central Bank subtracts R188 billion in January 2000 and R197 billion in July 2000 from another asset, claims on deposit banks, which represent Central Bank credit to domestic commercial banks. The balance sheet of the Central Bank lists R22.0 billion of credit to deposit banks in September 1998, R9.3 billion in January 1999, R15.7 billion in January 2000, and R15.6 billion in July 2000.[30] Compare them with the same amount in September 1998, R22.2 billion, on the balance sheet of the monetary authority and then, over the widening gap, with R76.4 billion in January 1999, R203.5 in January 2000, and R213.0 billion in July 2000 (see Table 1). The legal reason for this gap and this exclusion is straightforward: Although the Central Bank printed this money and issued this credit, it was transmitted through the Agency for Restructuring of Credit Organizations. The latter, as we have explained, is part of the monetary authority, but, being an arm of the Central Bank, is not an official part of it. So the balance sheet of the Central Bank balances only due to the exclusion of the bulk of one asset in the amount commensurate with the inclusion of the Central Bank dollar loan to the government. No double counting here, only *not counting*.

But both claims on deposit banks and the CBR dollar loan to the government must belong to the balance sheet of the monetary authority. They must also belong to the balance sheet of the Central Bank as assets because it created liabilities for their acquisition—printed or borrowed money. Holding everything else constant, *not counting about R180 billion of one asset means double counting of R180 billion of another asset* and cannot mean anything else.

There are only three assets to speak of on the balance sheet: foreign assets, claims on the government, and claims on deposit banks. Claims on deposits banks are there, and there is no double counting on their account. Claims on the government include government bonds (both ruble and dollar bonds), the IMF loan to the Finance Ministry, and CBR loan to the government. Government bonds are there and the IMF loan to the Finance Ministry is there, and there is no double counting on their account. This leaves the Central Bank loan to the government and foreign assets. The double counting must be among them—an overlap. On the one hand, the Central Bank loan to the

[30] http://www.cbr.ru/banktoday/balance98.htm, http://www.cbr.ru/banktoday/balance99.htm, http://www.cbr.ru/an_report/chapt_3_1_99.pdf, p. 168, and http://www.cbr.ru/banktoday/balance00.htm.

government is excluded from the official balance sheet of the monetary authority. On the other hand, as we pointed out earlier, it was arithmetically impossible during the period from September 1998 to January 2000 within the bounds of existing liabilities, which are monetary constraints, to meet three targets at once: (1) to pay back $3.3 billion of the IMF loan, (2) to lend $6.65 billion to the government, and (3) to retain foreign exchange reserves unchanged.

This takes us back to the subtle definition of foreign assets. They consist of foreign exchange reserves, also called international reserves, and illiquid and semi-liquid foreign currencies and securities from countries without externally convertible currencies. The latter may legally and definitionally include assets denominated in domestic currency and domestic assets denominated in foreign currencies. The subtle legal language differs from country to country. The Central Bank of Russia provides this framework in its methodological commentary: It defines foreign assets as "international reserves" (foreign exchange reserves) and "less liquid, non-reserve assets." The latter include "other assets of the Bank of Russia placed with non-residents, including assets in non-convertible currencies and in the currency of the Russian Federation."[31] A Russian government note denominated in either dollars or rubles and deposited with a Central Bank-owned commercial bank abroad (or in our office safe, for that matter) fully qualifies.

The Central Bank dollar loan to the government fully qualifies as a foreign asset of the "less liquid, non-reserve" variety. On the balance sheet, it has no room within claims of the government, which are completely filled up with government bonds and the IMF loan to the Finance Ministry. Table 2 moves it on the asset side from article 2, claims on the government, to article 1, foreign assets. This eliminates the overlap between claims on the government and foreign assets. This also eliminates the double counting of about R180 billion in any month of 2000 and of the amounts of the CBR dollar loan as it accrued from September 1998 to November 1999. This procedure reconciles the collective balance sheet of the Central Bank and the Ministry of Finance and creates a reconciled balance sheet of the monetary authority. Table 2 thus divides foreign assets into article 1a, "Foreign securities, currency, and gold," and article 1b, "CBR dollar loan to the government." To peruse the dinner balance sheet, your $10 note is disaggregated into $5 notes, but the double counting of one of the $5 notes is eliminated, and you have two $5 notes, making up $10. Your dinner balance sheet is now in order.

This reconciliation and re-arrangement of the balance sheet do not reduce the amount of foreign assets in either ruble or dollar terms. Total foreign assets remain the same in Table 2 as in Table 1. It is their composition that becomes revealed. The article "Foreign assets" on any officially reported balance sheet never said that these are all dollar-denominated securities, currency, and gold. It always said that this is a mix of foreign exchange reserves and "less liquid, non-reserve assets". It did not specify the mix. Table 2 specifies it. This automatically reduces the officially reported volume of foreign exchange reserves.

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[31] http://www.cbr.ru/dp/sdds/meth_rus.htm, pp. 2-3.

Foreign exchange reserves

The memorandum items in Table 2 incorporate this correction. Foreign exchange reserves remain the same, $12.5 billion, in September 1998. They decline to $9.4 billion in January 1999 against $12.2 billion officially reported. They further decline to $5.9 billion in January 2000 against $12.5 billion officially reported. And they increase to $14.4 billion in July 2000 against $21.0 billion officially reported. In September 2000, reported foreign exchange reserves reached $23.8 billion. They actually stood at $17.15 billion if one subtracts the $6.65 CBR loan to the government.

Net International Reserves

The net international reserves undergo the same $6.65 adjustment in Table 2. Their negative size was greater in 1999 than indicated in Table 1 and their positive volume in 2000 is smaller than official reports imply. They were -$7.8 billion in January 1999 and -$8.0 billion in January 2000. They became positive in 2000. In July 2000 they stood at $3.1 billion—a modest amount if compared with $9.6 billion in Table 1, but much more impressive if compared with the extent of their negative magnitude in January 2000. Negative net international reserves mean that the total IMF loan exceeds total foreign exchange reserves. Whatever foreign exchange reserves the country has, they are not its own and it still owes dollars, even after one subtracts all its dollar-denominated securities and currency and its stock of gold. This means that the monetary authority is insolvent on foreign account. It was insolvent before the foreign exchange reserves buildup in 2000. This makes this buildup ever more important. It pulled Russia's monetary authority from insolvency to solvency on foreign account.

Foreign exchange reserves, again

In November 1999, when the Central Bank discontinued extending its dollar loan to the government, officially reported foreign exchange reserves stood at $11.75 billion.[32] If our accounting reconstruction is correct, then, after subtracting the value of the CBR loan to the government, they really fell to a dangerously low level of $5.1 billion. Of this, $4.7 billion was monetary gold. Foreign currency and securities were depleted to $0.4 billion. This may explain why the Central Bank loan to the government had to be discontinued. The Central Bank was in no position to continue lending. Apart from gold, its foreign exchange reserves were empty. Without the windfall of export revenues due to rising commodity prices in 2000, Russia was on the brink of another default.

Actually, it is this depletion of foreign exchange reserves in November 1999 and an averted default that make us skeptical about our calculations. Would the Russian government and the monetary authority risk another currency collapse and default so soon after the Great Default of August 1998? That we cannot answer. All we know is that the accounting reconciliation we have undertaken leads us to subtract $6.65 billion from Russia's foreign exchange reserves in November

[32] http://www.cbr.ru/dp/dp_gold_99n.htm

1999 and thereafter. We can only surmise that it is this risk of a new currency collapse and default that led the monetary authority to hide its foreign exchange depletion.

The Roles and Implications

The story of misreported foreign exchange reserves has to be read in perspective. The double counting of foreign exchange reserves carries different implications when it is treated as an accounting issue and as a policy issue. From the policy perspective, the Central Bank saved the government three times since the Great Default of August 1998.[33]

1. The CBR had enabled the government to repay $6.65 billion of its external debt which came due in late 1998 and 1999. By concealing the depletion of foreign exchange reserves, it avoided a currency collapse. So it navigated between a default and a currency crisis rather skillfully, even if at a cost of transparency.

2. The CBR rebuilt foreign exchange reserves in 2000, after they were depleted in 1999 stemming from the CBR dollar loan to the government. The CBR, in addition, stabilized the exchange rate at around R28 to $1. This enabled the government to purchase foreign exchange on the market at a relatively low exchange rate and continue to repay the external debt. This also created a cushion for future contingencies including further external debt repayments.

3. Most importantly, the Central Bank laid a foundation for a minimal fiscal order. It imposed a 75-percent mandatory sale rule on foreign exchange revenues of Russian exporters. This capital control brings export revenues into the open and forces enterprises to remit taxes. Simultaneously, the Central Bank replenishes foreign exchange reserves and mitigates devaluation. Rising energy and other commodity prices in 1999 and 2000 contributed to the increase in Russia's tax revenues and foreign exchange reserves *only inasmuch as* the Central Bank forced repatriation of export revenues.

The changing roles of the fiscal and monetary authorities

Paradoxically, the Central Bank assumes the principal function of the fiscal authority—the enforcement of tax remittance—leaving the government with more mundane functions of collection and spending. This new fiscal role of the Central Bank was especially important, indeed crucial after the Great Default of August 1998: The government could no longer finance its operations and budget deficits by placing bonds on the market. It still cannot in any significant capacity.[34] It could not

[33]Although the U.S. and international financial authorities routinely castigated the Central Bank for its mismanagement of the country's currency.

[34]The budget for 2001 envisages issuing bonds in the amount of R70 billion and redeeming R60 billion of earlier issues. The net financing is R10 billion, or $0.3 billion at the projected exchange rate, R32 to $1.

even obtain Central Bank monetization of budget deficits by selling new bonds. So the Central Bank, which could no longer serve the government in a traditional way by monetizing its deficits through bond purchases, assumed fiscal functions as a tax enforcer. The government was likely to face a series of new fiscal crises and a chain of additional defaults on external debt in 1999 and 2000 without the Central Bank capital control.[35]

Forced repatriation of 75 percent of export revenues adds a major function to the prior fiscal role of the Central Bank. Since the beginning of reforms in 1992, it has been the lender of first resort and financed budget deficits indirectly, by issuing credit to deposit banks, which they reissue to enterprises for remitting part of tax revenues.[36] This procedure explains an otherwise absurd aspect of the balance sheet of the monetary authority in both Tables 1 and 2. By mid-2000, claims of the monetary authority on deposit banks (Central Bank credit to banks) reached R213 billion, while bank demand deposits with the Central Bank reached R206 billion. Why not settle and clear the two claims and thus erase future excess liquidity? Why would banks borrow from the Central Bank (officially, from the monetary authority through ARCO) when they re-deposit almost the same amount back with the Central Bank? This is because what is owed *by* the Central Bank is owned by enterprises (banks re-deposit their deposits), which receive a quasi-fiscal subsidy for remitting tax revenues. In marked contrast, what is owed *to* the Central Bank is sunk (confiscated by enterprises and banks) and will never be returned. The liability of the monetary authority is real, while the asset is a bookkeeping appearance; that is, it keeps up appearances.

A government that cannot sell bonds cannot conduct the full range of fiscal policy. Ironically, it then conducts monetary policy, changing places with the Central Bank. The Great Default of August 1998 disabled major monetary functions of the Central Bank. The Central Bank could not conduct open-market operations by selling and buying ruble-denominated bonds and thus manage liquidity in the short run. We showed in Chapter 1 of *From Predation to Prosperity* why the monetary authority in Russia and similar post-Communist countries cannot conduct long-run monetary policy.[37] Now even short-run monetary policy is limited to foreign exchange operations (interest rate changes can also influence bank demand deposits to a small extent). Then the fiscal authority fills the void of monetary policy. The government deposits its accumulated balances from revenue collection with the Central Bank and thus temporarily sterilizes liquidity. Tables 1 and 2

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[35]See *From Predation to Prosperity*, Chapters 2 and 4, on this site, for a general discussion, based on the evidence from 42 post-Communist economies. It shows that liberal policies fail in the predatory, redistributive environment inherited from central planning, whereas non-market policies improve economic performance. The Russian experience with capital control after the Great Default is another example.

[36]For a detailed discussion, see *From Predation to Production*, Chapter 1, on this site. This chapter also explains why the official budget is a fake, the budget deficit is understated by 10 to 15 percent of GDP, and the reported budget surplus is an accounting misnomer. The very presence of Central Bank credit for remitting tax revenues creates a quasi-fiscal subsidy, which erases the budget surplus and masks a true budget deficit. Another addition to the budget deficit is the non-cash portion of reported taxes, which has to be subtracted from genuine government revenues (and thus added to budget deficit).

[37]*From Predation to Production*, Chapter 1, on this site.

show this unusual trend in 1999 and 2000.

In view of a rapid buildup of foreign exchange reserves in 2000, many observers feared an excessive money printing and called on the government to help the Central Bank sterilize money creation after dollar purchases. But in fact, the government has already done all it could. Observers called on the government to return liquidity to the Central Bank by retiring its debt. This is not feasible. If the government retires the pre-default bonds in the Central Bank portfolio, other bondholders, including foreign investors, would consider this action a reversal of the Great Default and lay their claims. This would threaten to both ruin government finances and deplete again the foreign exchange reserves of the Central Bank (when foreign investors sell their ruble proceeds). If, instead of the old bonds, the government repays the $6.65 billion Central Bank dollar loan, this would reveal the entire accounting reshuffle of late 1998-2000 and may cause a run on foreign exchange reserves. So the government does in terms of sterilization all it can: it deposits excess liquidity. This is of course a temporary and unreliable sterilization, unlike debt retirement, but no other course of action remains available under the current system.

Tables 1 and 2 list as a memorandum item the sum of bank and government demand deposits. Compare this sum with the monetary base because it can add to the monetary base on demand, at any moment. It increased from an amount equal to 1/5 of the monetary base in September 1998 to about 1/2 in January 1999, to 2/3 in January 2000, to 95 percent in July 2000. In August 2000, the sum of bank and government demand deposits reached R424.1 billion, exceeding the monetary base of R417.3 billion.[38] A hidden monetary expansion has already taken place. The monetary base can double when the flow of export earnings and foreign exchange revenues diminishes and the banks and the penurious government cash in—literally—their claims on the Central Bank.

Implications

As long as Russia runs a substantial surplus in merchandise trade and services and the Central Bank forces enterprises to repatriate 75 percent of export revenues, the government can avoid major budget deficits, meet external debt payments and support the ruble. Central Bank capital control of 100 percent would give it even greater capacity to cope with future financial crises, especially since the 75-percent rule is only partly met in practice. The present current account surplus can keep government and bank demand deposits intact, while avoiding a monetary explosion and high inflation. But if the inflow of foreign exchange dries up because energy prices decline or the Central Bank relaxes its capital and fiscal control, the situation can deteriorate drastically. Then a combination of foreign exchange reserves being significantly smaller than reported and a hidden monetary expansion carries serious problems for the future. Fiscal stability, price stability, exchange rate stability, and debt payment stability will be all endangered. The structural reality of high deficits, high inflation, devaluation, and defaults may resume haunting Russia again.

[38] http://www.cbr.ru/dp/Denvl_00.htm and http://www.cbr.ru/.../press/id/000804_1154-DEN-BAS.htm

"The snares of the world were its ways of sin. He would fall. He had not yet fallen but he would fall silently, in an instant. Not to fall was too hard, too hard; and he felt the silent lapse of his soul, as it would be at some instant to come, falling, falling, but not yet fallen, still unfallen, but about to fall." James Joyce, *A Portrait of the Artist as a Young Man*.