

## New Data Confirms the Basic Relationships in the Russian Economy: Ten Years of the New Economic System Revisited

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Recent official Russia data indicate that in 2001 Russian gross domestic product (GDP) grew by 5 percent. The revised growth rate for 2000 is 9 percent. The beginning of 2002 marks ten years since the onset of policy based on the triad of stabilization, liberalization, and privatization. By 2002, the index of real GDP relative to 1991 (taken as 100) stood as 71.9. Cumulatively, during this ten-year period, 1992-2001, Russian GDP fell by almost 30 percent. By comparison with the U.S., this is equivalent to the depth of the Great Depression. In the Russian context, a GDP decline of 30 percent amounts to a recovery since the same index of real GDP was 60.7 at the end of 1998.

In chapter 1 of *From Predation to Prosperity* and in several subsequent articles<sup>1</sup> we proposed that economic growth in Russia is influenced to a significant extent by a basic relationship. This is the relationship between the stock of receivables, which reflects the velocity of payments in the economy, and the money stock, which enables and constrains payments. The greater the stock of receivables relative to the money stock the slower the payments in the economy and the lower economic growth, which may even turn negative. For purposes of presentation, figure 1 shows this basic relationship in reverse: The lower the stock of receivables relative to the stock of money (that is, in the diagram, the higher the stock of money relative to the stock of receivables), the higher economic growth. We explained the inner logic of this basic relationship in detail in the above cited chapter 1 and later articles. The current article simply tests the postulated relationship with new growth data for 2001 and revised data for 2000 and puts this relationship in the 10-year perspective. (For the reader's information and verification, we attach the ten-year data series in Table 1 at the conclusion of this article).

The relationship holds for the entire 10-year period, with different strengths (elasticities) in individual years. Importantly, the sign of the relationship is always right in every single year: the greater the stock of receivables relative to the money stock, the lower the index of real GDP (the lower economic growth or the deeper contraction), and the smaller the stock of receivables relative to the money stock, the higher the index of real GDP and economic growth. During this ten-year period, the path of GDP changed from steep contraction in 1992-1996 to stagnation in 1997 to resumed contraction in 1998 to recovery in 1999-2001. This was exactly, indeed precisely the path of the postulated force behind economic growth, the inverse ratio of the stock of receivables to the money stock. This relationship thus holds both downward and upward, at a time of contraction and at a time of recovery alike.

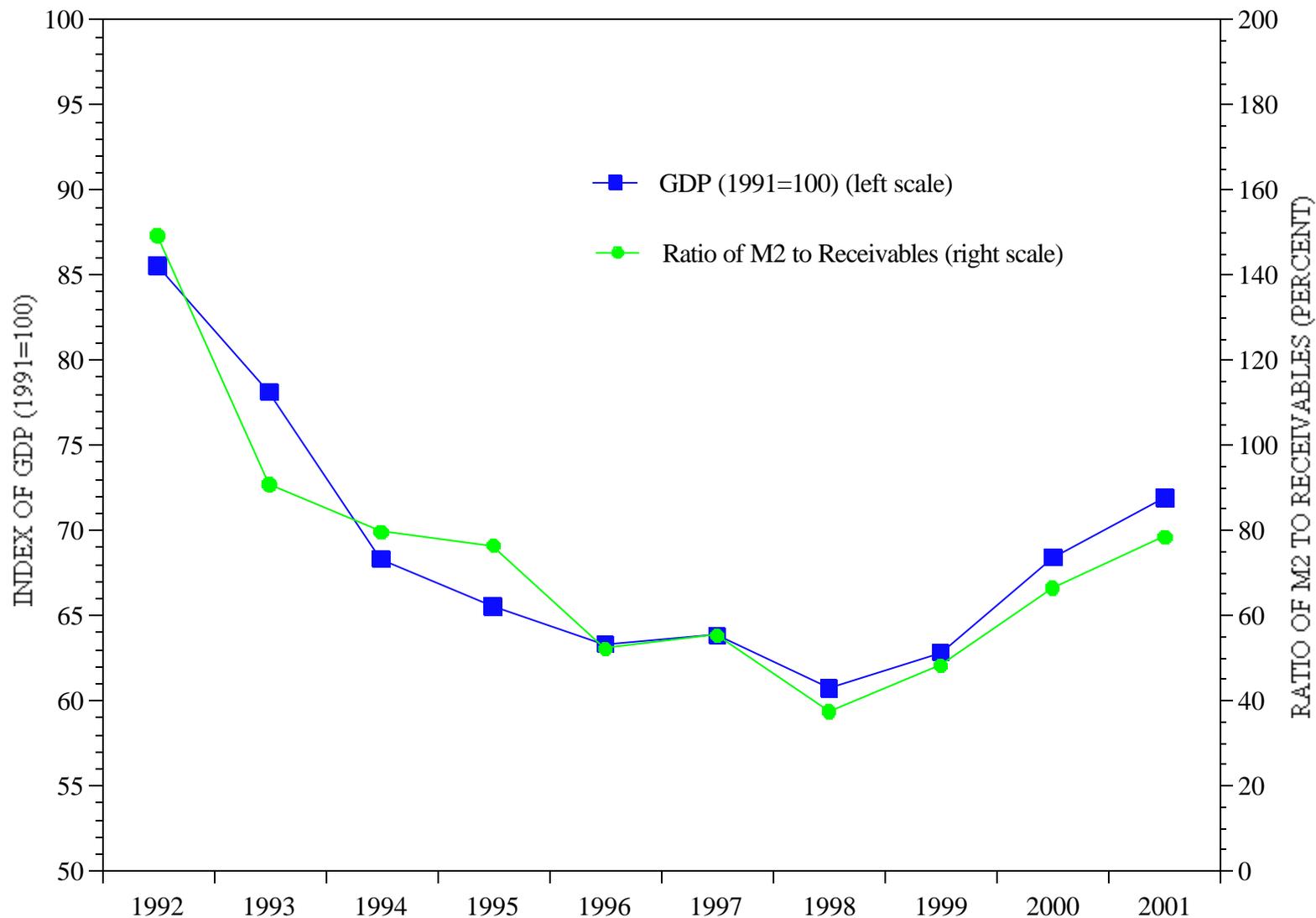
We explained in earlier articles (see footnote 1) why and how the path of the stock of receivables relative to money and the path of economic growth had both reversed in 1999. This concerns a seemingly peripheral phenomenon of capital controls. Capital controls take different shapes in different countries.

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<sup>1</sup>See, e.g., "The Secret of Russian Economic Growth," "Can More Liberal Subsidies Spur Growth," "Bush and Putin at the Ranch," and, "Russia's Fiscal Pattern Redux."

**FIGURE 1**

INDEX OF GROSS DOMESTIC PRODUCT (GDP) (1991=100) AND THE RATIO OF M2 TO RECEIVABLES (YEAR-END),  
RUSSIA, 1992-2001



Notes: The difference between the scales of the two axes indicates the change in the velocity of consumer spending (money velocity).

Sources: Gross Domestic Product and enterprise receivables: Russian State Committee on Statistics; the monetary aggregate M2: Central Bank of Russia

They usually involve restrictions on capital inflows (to prevent abrupt outflows and currency crises). In Russia, capital controls focus on the curtailment of outflows. Since after the Great Default of August 1998, it is the policy of the central Bank which mandates repatriation of export revenues, initially at the rate of 75 percent, and, lately, 50 percent. The impact of this policy on the overall economy and its domestic components, such as accumulation of receivables and the path of output, is an accident of the size of the export sector. Russia happens to be one of the world's largest exporters of natural resources, particularly energy. The rise of world commodity prices in 1999-2001, combined with mandated repatriation of export revenues, resulted in a large influx of foreign exchange relative to the size of the Russian economy.

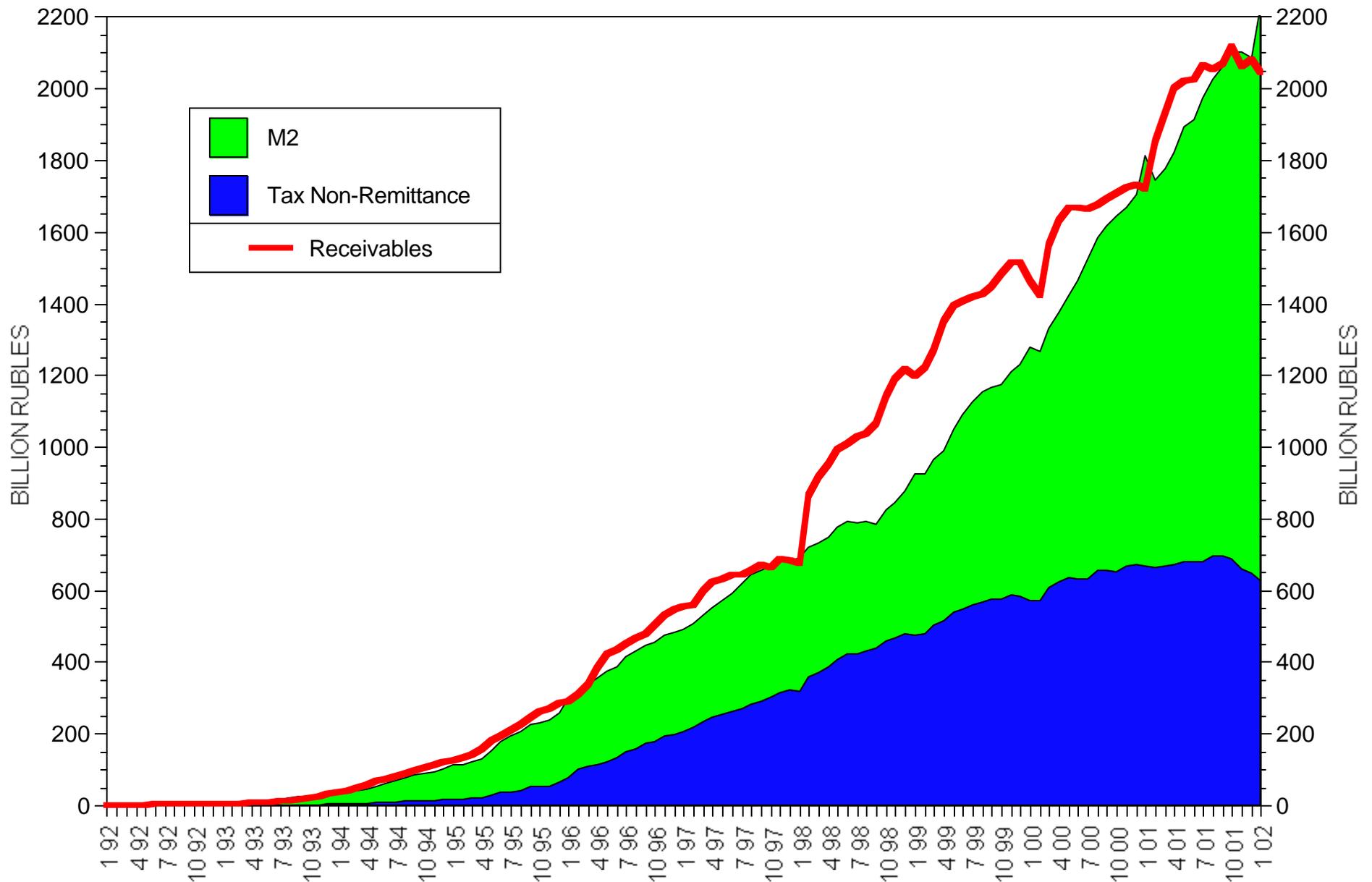
This large influx (although still a net capital outflow in the capital account) helped dissipate payment arrears and reduce the stock of receivables relative to the stock of money. As a second-order effect, the velocity of payments increased and, given a vast idle capacity after years of great contraction, economic growth followed in 1999-2001. (Again, see table 1 and figure 1).

This course of events takes us from mechanical matters (the velocity of payments, its relationship to the money stock which enables and constrains payments, and the correlation of this relationship with the index of real GDP) to their underpinnings, incentives. For no one in the real economy—certainly not enterprise owners and managers—targets economy-wide growth or contraction. Growth and contraction are an unintended consequence of incentive-based behavior of enterprise owners and managers transmitted through the economic system. And their behavior aims not at growth or contraction but at market profits and government subsidies, in the best (for them) available combination. The latter, again, depends on the economic system which embodies incentives.

Figure 2 shows, following a detailed discussion in chapter 1 and in “Russia’s Fiscal pattern Redux,” that enterprises use payment arrears (represented in the figure as the stock of receivables, which is all in arrears) to extract subsidies from the government and the public. There are numerous channels for enterprises to take subsidies, including tax non-remittance, monetary accommodation by the Central Bank, payroll arrears, tax offsets, unpaid rents on natural resources, and many others. Figure 2 focuses on the largest two channels, namely tax non-remittance and monetary accommodation. Since monetary accommodation works through the credit channel, the monetary base issued by the Central Bank multiplies by two in this channel. It so happens that in Russia, due to an exceptionally low deposit multiplier, the ratio of the money aggregate M2 to the monetary base has consistently hovered around 2 during the ten-year period 1992-2001. This means that multiplication of household deposits played little role in money creation (see *Fixing Russia’s Banks* for an extensive discussion) and the principal source of multiplication was bank credit made on the basis of currency issuance by the Central Bank.

To simplify matters and avoid arbitrary measurement choices, we thus use in figure 2 the money stock M2 as a first approximation of monetary accommodation. This monetary aggregate indeed qualifies as a proxy for the Central Bank subsidy to enterprises because, as we just said, Central Bank money printing, not household savings, is the principal source of bank credit. And the Central Bank issues money to stem tax non-remittance by enterprises.

FIGURE 2. THE SELF-ENFORCEABLE TAX SUBSIDY: THE RELATIONSHIP BETWEEN ENTERPRISE RECEIVABLES, TAX NON-REMITTANCE, AND MONEY, RUSSIA, 1992-2001



Note: All data are denominated in billion 1998 nominal rubles.

Sources: Receivables and tax non-remittance: Russian State Committee on Statistics.

Money: Central Bank of Russia.

We discussed this trade-off between the two channels of subsidy, tax non-remittance and monetary accommodation, in chapter 1. Figure 2 demonstrates this trade-off in the monthly series of data in which major subsidies, primarily tax non-remittance and monetary accommodation, sum up to the stock of enterprise receivables in arrears.

Enterprises build up payment arrears (the stock of receivables in figure 2) to put pressure on the government. Payments can—and periodically did—slow down to the point at which transactions halt, enterprises barely function, the supply chain breaks down, and tax remittance to the government squeezes to a trickle. At this point, or earlier, to prevent this crisis, the government is forced to accommodate enterprises through the monetary channel of subsidy. Prior to that and along the way, enterprises simply confiscate government tax revenues which they withheld from workers and collected from consumers. This confiscation forms tax non-remittance.

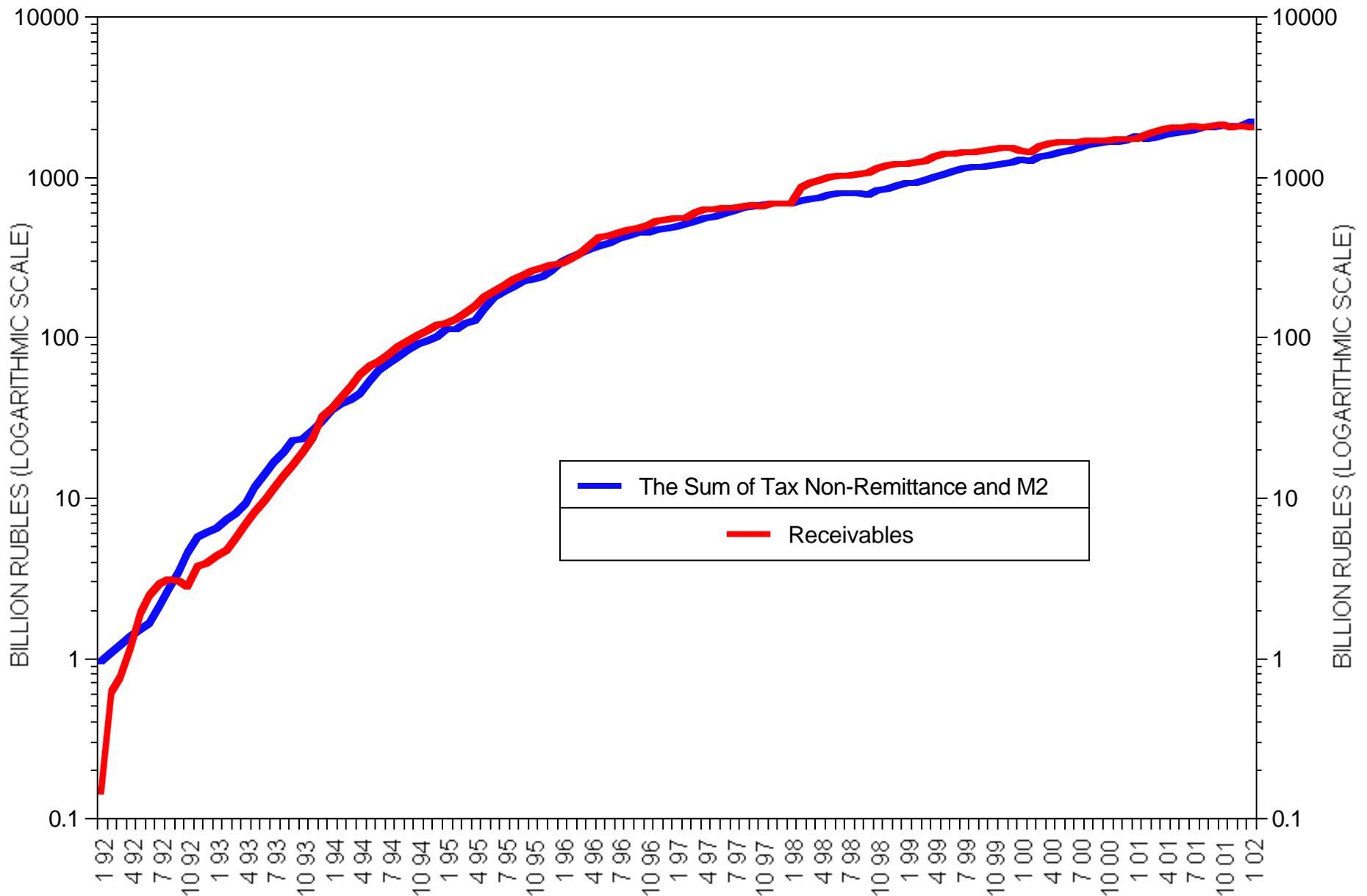
Tax non-remittance thus induces monetary accommodation, and the two channels of subsidies become complementary. In turn, monetary accommodation dissipates tax non-remittance to some extent, and the trade-off between the two channels of subsidies occurs. This complex relationship indicates that when the buildup of arrears accelerates, both tax non-remittance (first) and monetary accommodation (soon thereafter) also accelerate, after which tax non-remittance partially dissipates while monetary accommodation grows.

In the period 1999-2001 the share of tax non-remittance in subsidies decreased, due to the impact of forcibly repatriated export revenues. The government could enforce more tax remittance without endangering the halt of payments between enterprises and the stalling of future tax remittance. The share of subsidy through the monetary channel increased. At the same time, the buildup of receivables decelerated, due to the same factor of mandated repatriation of foreign exchange revenues and increased liquidity in enterprise bank accounts. Together, these changes within the economic system produced the mechanical effect discussed earlier and reflected in figure 1, namely an increase in the ratio of the money stock to receivables. Economic growth in 1999-2001 was an unintended consequence of this development.

Figure 3 presents on the logarithmic scale the same summing up of major subsidies towards the volume of the stock of arrears as in figure 2. The logarithmic scale more visibly captures the entire ten-year period of 1992-2001. The linear scale in figure 2 smothers the depicted relationship because of the high inflation in the early 1990s and also exaggerates the short-term discrepancies. The logarithmic scale captures the essence of the relationship regardless of shorter-term influences. Both figures show that the equivalence of enterprise claims on the government (in the form of buildup of arrears) and the accommodation of these claims through major subsidy channels hold on a monthly basis, with a few periodic and short-term fluctuations, during the entire ten-year period 1992-2001.

The new data for 2001 adds to the test of the earlier postulated systemic relations in the Russian post-Communist economy—systemic relations both motivated in the behavior of enterprises and their

FIGURE 3. THE SELF-ENFORCEABLE TAX SUBSIDY: THE RELATIONSHIP BETWEEN ENTERPRISE RECEIVABLES, TAX NON-REMITTANCE, AND MONEY (LOGARITHMIC SCALE), RUSSIA, 1992-2001



Note: All data are denominated in billion 1998 nominal rubles.  
 Sources: Receivables and tax non-remittance: Russian State Committee on Statistics.  
 Money: Central Bank of Russia.

mechanical and unintended consequences. Many complex factors and developments influence fiscal and monetary matters and economic growth. But a few basic relationships between enterprise subsidy extraction, reactive government fiscal and monetary policy, and economic growth hold consistently throughout the ten years of post-Communist economic reality.

This indicates the consistency of the economic systems which had emerged in 1992 and has endured since then. In chapter 2 of *From Predation to Prosperity* we characterized this new economic system as Enterprise Network Socialism. Figures 2 and 3 capture its essence, that is, how the network of enterprises through the payment system converts its receivables into government and public payables. And collects.

Figure 4 assembles the basic relationships discussed above in one sketch. In the center of the diagram, tax non-remittance and money issue sum up to the amount of receivables in arrears. The buildup of receivables in arrears leads to higher tax non-remittance, which is the most direct, automatic, self-enforceable way of subsidy extraction by enterprises. The arrow with the plus sign indicates this positive relationship. Tax non-remittance forces monetary accommodation—hence, the plus sign attached to the arrow from non-remittance to money. Money issue dissipates tax non-remittance as the trade-off between the two major channels of subsidy occurs—hence, the minus sign. Tax non-remittance encourages more buildup of arrears, as enterprises maximize the subsidy. Under the conditions of continuous excess invoicing, that is, under the current system of Enterprise Network Socialism, monetary accommodation also encourages more buildup of arrears for the same reason. But this is in the longer run. Immediately and in the short run, monetization dissipates arrears and contributes to a greater ratio of the money stock to the stock of receivables. The greater the stock of receivables, the slower are payments and the lower is economic growth (or the deeper is contraction). The negative sign from receivables to economic growth summarizes this ultimate relationship. Another final outcome of this system is public debt (and, eventually, serial defaults). This is depicted by the positive sign at the arrow leading from tax non-remittance to debt.

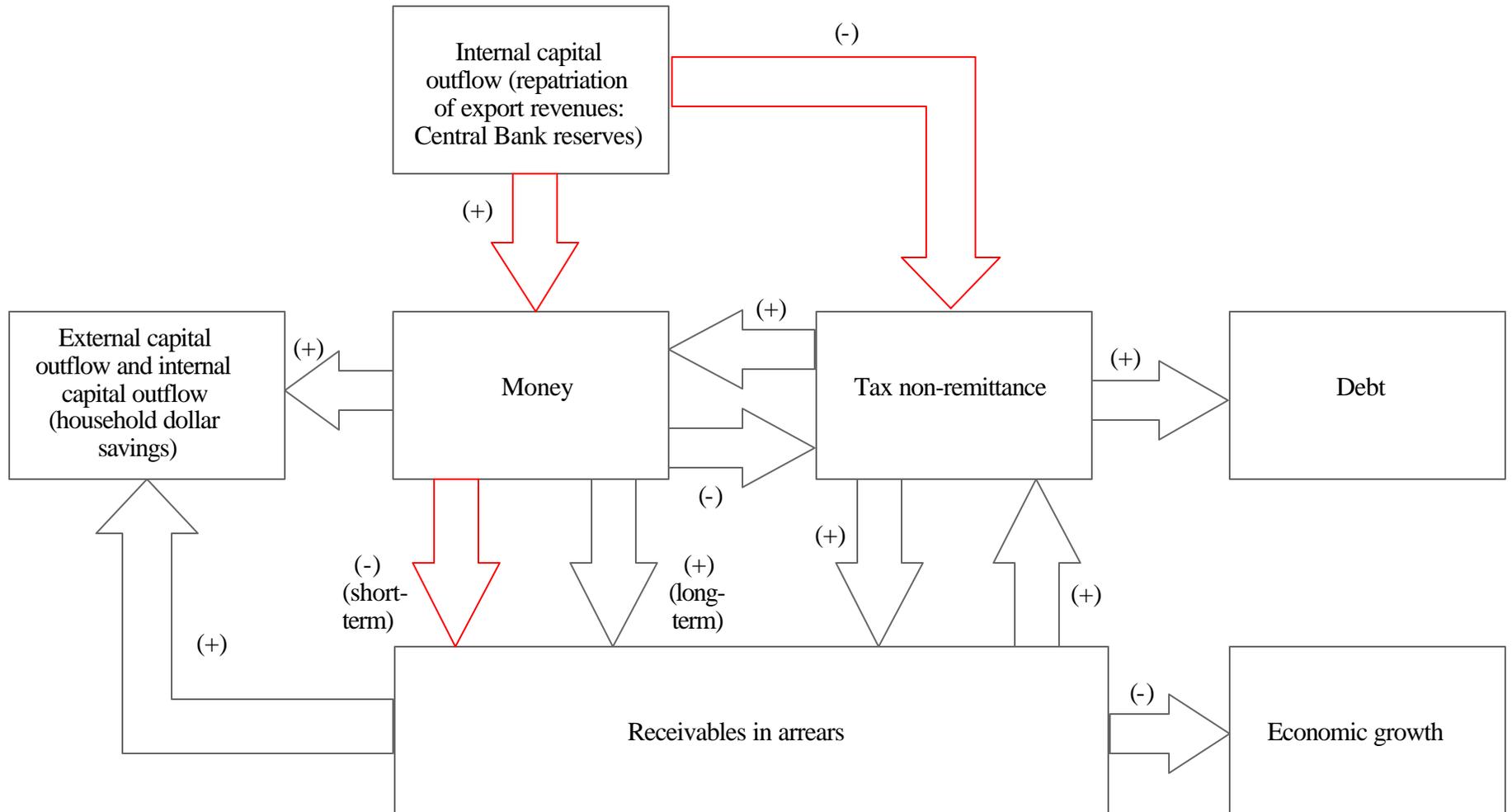
The top part of figure 4 sketches the peripheral factor which became crucial in 1999-2001 and led to economic recovery during these years. This is the fiscal and growth effects of the Central Bank policy of mandated repatriation of export revenues, which we outlined earlier. This repatriation policy moves the current account surplus from external capital outflow (dollars left by exporters abroad) to internal capital outflow, especially the buildup of Central Bank reserves.<sup>2</sup> This internal capital outflow increases the money supply, helps dissipate payment arrears in the short run and, most importantly, dissolves, in part, tax non-remittance on a continuous basis, which, in turn, reduces the buildup in arrears. Red arrows with relevant plus and minus signs outline these influences, which became so dominant in 1999-2001.

This systemic sketch of the engine of Enterprise Network Socialism in figure 4 is consistent with the empirical evidence and data series for the ten-year period from 1992 through 2001 in figures 1, 2, and

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<sup>2</sup>See “Can More Liberal Subsidies Spur Growth” for a discussion of external and internal capital outflows.

FIGURE 4. THE ENGINE OF ENTERPRISE NETWORK SOCIALISM



Notes:

1. The red arrows emphasize the relationship which became empirically dominant in 1999-2001.
2. In the short run, in the flow of funds sense, monetization dissipates arrears (hence, the minus sign).  
In the long run, as a matter of incentives, monetization stimulates arrears (hence, the plus sign).

3. Ten years is sufficient time to accept that we are seeing an economic system *sui generis*, with its own motivational and mechanical relationships, which are consistent over time and over periods of contraction and growth. This article has employed the latest data to test this proposition again, and the new data lends its empirical support.

Table 1. The Basic Data: The Money Stock, Receivables, and Output, Russia, 1992-2001

	Monetary aggregate M2 (billion rubles)	Enterprise receivables (billion rubles)	The ratio of M2 to receivables, year-end (percent)	Growth rate of real GDP	Index of real GDP (1991=100)
1992	0.958	0.146	149.0	-14.5	85.5
1993	6.4	4.3	90.7	-8.7	78.1
1994	32.6	36.0	79.5	-12.5	68.3
1995	97.8	123.0	76.3	-4.1	65.5
1996	220.8	289.3	52.1	-3.4	63.3
1997	288.3	553.2	55.3	0.9	63.8
1998	374.1	677.0	37.4	-4.9	60.7
1999	448.3	1,198.2	48.2	3.5	62.8
2000	704.7	1,462.6	66.5	9.0*	68.4
2001	1,144.4	1,721.4	78.4	5.0**	71.9
2002	1,602.6	2,045.1			

\* revised in 2002

\*\* preliminary

Sources:

Money: Central Bank of Russia

Receivables and GDP: Russian State Committee on Statistics