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Author(s): Selcuk Caner and Manouchehr Mokhtari

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SELCUK CANER AND MANOUCHEHR MOKHTARI

Arrears and Their Implications for Economic Performance in the Russian Federation

One of the main problems that occur in economies in transition is the accumulated stock of arrears or the nonpayment of short-term liabilities. Arrears are overdue liabilities of enterprises, governments, and individuals. Arrears consist of unpaid trade credits to trading partners, unpaid wages to workers, and delinquent and deferred taxes. Arrears are expected to occur in the early phases of transition from a command economy to a market-based economy as a result of adjustment towards a cash-based mode of exchange.

However, while it is somewhat mitigated in other countries in transition, the problem of arrears continues to be one of the major financial problems in the Russian Federation. While some argue that a high level of arrears is not a major threat for economic growth, it will have a profound effect if the average maturity of overdue liabilities remains very long, as is the case in the Russian Federation.¹ In particular, arrears in the form of trade credits and taxes restrict the cash flow to suppliers, as well as the government, thereby affecting production, investment, and government services. We particularly focus on the effects of arrears on government fi-

Selcuk Caner is affiliated with Bilkent University, Ankara, and the U.S. Treasury. Manouchehr Mokhtari is affiliated with the University of Maryland, College Park.

nances and decompose the components of tax arrears to the government. The budget deficits experienced by successive governments are the direct result of increasing arrears. Furthermore, a few industries dominated by a small number of large enterprises—particularly oil and gas, energy, heavy metals and construction—account for most of the arrears in the Russian economy. These industries account for more than three-quarters of the tax arrears. More than half of tax arrears are generated from the value-added tax (VAT). This implies that companies in fact collect the tax but do not remit to the tax authorities. All this points to the inadequate restructuring in the Russian economy since the beginning of market-oriented reforms in 1992.

Transition is characterized by reallocation and restructuring, which produce a sharp decline in output followed by a gradual recovery.² The economic performance of Eastern European countries and the former Soviet Union (FSU) since 1991 has been characterized by these two mechanisms. Reallocation has been achieved by swift price liberalization, and removal of subsidies to state enterprises (i.e., introduction of hard budget constraints), followed by a decline in the output of state firms and its substitution by the private sector and imports. However, the collapse of state enterprises has often surpassed expectations, while the growth of private sector has remained inadequate. The decrease in economic activity has been primarily due to unanticipated changes in the way agents interact in the economy, including the increase in illegal activities, barter, and the lack of financial means for output adjustment. Furthermore, the effects of macroeconomic policies that affect aggregate demand have varied from one country to another, in most cases depending on the response of state firms. The beginning stage of transition has become important. For example, countries with vertically integrated enterprise systems also have lagged in adjusting to new market conditions. Vertical integration has facilitated inter-enterprise trade credits and arrears between trading partners. The Russian tax laws also do not include arms-length provisions between related businesses, and further encourages expansion of inter-enterprise credits.

Restructuring has been associated with improved productivity,

an increase in unemployment, and privatization. Under restructuring, the existing production methods need to be replaced with new technologies, requiring retraining as well as fewer employees. In the case of the Russian Federation, a decrease in employment, among both workers and managers, has not happened at significant levels. Furthermore, large capital expenditures have been needed to upgrade and replace the existing capital stock necessary for restructuring. Since most firms do not have the funds to finance such expenditures, restructuring has been very difficult. First, retained earnings have either been inadequate, or have been used up by the workers and managers in non-production-related activities, such as housing and municipal services. Second, equity finance has been even more difficult due to the lack of protection of property rights. Third, large debt financing has been almost impossible due to low levels of credibility and lack of credit history.

In addition, the banking system has not been sufficiently developed in providing credits to industry. Since state firms have been unlikely to restructure under the circumstances, it has been necessary to privatize on a large scale. However, privatization has not generated the funds needed for capital expenditures by the formerly state-owned enterprises. Investment levels remained very low, even after large-scale privatization. In the Russian Federation, large enterprises have lacked the funding for capital expenditures essential for restructuring. Furthermore, they have continued their non-production-related commitments such as financing, training, and housing maintenance for employees. As a result of insufficient finance, gross fixed investment had declined to 9 percent of GDP by 1997.

Insufficient credit and own resources, coupled with tight monetary policy, have forced enterprises to seek sources of funds outside the usual financial markets. To finance their current operations and restructuring needs, enterprises—in particular, large quasi-state enterprises—have developed alternative forms of financing such as *veksels* (simply, traded IOUs) and offsets. Arrears, in particular, have required special attention due to their size and rapid growth under the tight monetary policies pursued by the Central Bank of Russia (CBR) since 1995. Aggregate arrears include inter-enter-

prise arrears, including banks, wage arrears to employees, and tax arrears to both the federal and regional governments.

In the Russian Federation, the lack of proper institutions—that is, a well-functioning stock market, a sound banking system, and a contract-enforcement mechanism—has contributed significantly to the accumulation of arrears.³ Arrears hold implications for economic growth, government finances, and consumption and savings. While they may be a cheap source of financing for large enterprises that can obtain large trade credits from their suppliers, arrears also have had the effect of increasing the cost of doing business elsewhere in the economy by contributing to illiquidity and business risks. In addition, nonpayment of taxes has distorted taxation, and has produced large budget deficits when tax collection efforts have been inadequate. The resulting budget deficits have further resulted in high interest rates. Furthermore, the arrears have implicitly amounted to the continuation of the practice of “soft budget constraints” in certain favored industries.

Creation of arrears to employees, as practiced by government and enterprises, has amounted to wage flexibility, while keeping unemployment low. Although the three types of arrears—namely, the inter-enterprise, wage, and tax arrears—are highly correlated, they have different characteristics. While they occur due to insufficient restructuring in the enterprise sector, sometimes they develop together, or act as substitutes for each other at different times. Inter-enterprise arrears have accrued in the form of unpaid trade credits. Wage arrears have occurred in distressed industries, primarily in public enterprises, agriculture, transportation, and construction. The reasons for tax arrears, however, are not clear, because large cash-based enterprises such as exporters in more open regions, have had tax arrears just as large as poorly adjusted enterprises. Although one could argue that tax authorities believe that the liquidation value of the firms may be less than their accrued tax arrears, tax authorities should not have allowed such a debt to accrue. Particularly, VAT is the main source of tax arrears, which indicates a lack of collection enforcement on the part of the tax authorities. In this study, we focus on the tax arrears, and provide a more detailed account of tax arrears.

Arrears developed with the start of tight monetary policy of the Central Bank of Russia (CBR) in 1995, and has accumulated very quickly. This phenomenon occurs in most transition economies. Alfandari and Schaffer (1996) did not consider the arrears problem in transition economies to be significantly different than in developed countries, based on a comparison of the ratio of trade credits to GDP. However, the collectible portion of the outstanding debt in the Russian Federation is probably very small compared to other countries. Furthermore, the value of the outstanding debt is highly discounted in the Russian Federation.

Another difference between the Russian Federation and the developed countries has been the volume of trade credit relative to bank credit. The ratio of trade credit to bank credit in the Russian Federation is 2.5, while in the United States it is only 0.5, and in the United Kingdom it is 0.33. This has been primarily due to the inadequate development of the banking sector in the Russian Federation, despite the existence of more than 1,700 banks. Alfandari and Schaffer (1996) found that bad debts are concentrated in financially distressed enterprises in most of the Central and Eastern European countries. However, in the Russian Federation, bad debts have not been confined to financially troubled enterprises. Large energy exporters with access to hard currency have often run large arrears with their suppliers and the tax authorities. Banks in the Russian Federation have been less likely to lend to the manufacturing sector than the energy sector, because manufacturing is less competitive in the world markets; yet, the energy sector has been one of the largest producers of arrears. Denisova (1997) attributed this to different credit policies of banks toward the energy and the manufacturing sectors.⁴

By the end of 1998, total credits by banks amounted to 412 billion rubles (36 percent of banks assets, or about 20 percent of GDP). Compared to credits to the private sector by the banking system, total arrears were more than one trillion rubles by the end of 1998. Credits to enterprises were 24 percent of the total assets of the banking sector. Overdue debt owed to banks by enterprises accounted for 13 percent of total credits to enterprises, or 3 percent of total banking sector assets. These ratios demonstrate that

bank credit to the industry was small in comparison to other transition economies such as Poland. So, limited availability of funds and the high cost of borrowing from the banking sector forced enterprises to find alternative sources for financing.⁵

While aggregate arrears problem in the Russian Federation is similar to bad debt problems experienced in other countries in transition, such as Poland and Hungary in 1992, the composition of arrears has been different. In Poland and Hungary most of the bad debts were to the banks, while in the Russian Federation inter-enterprise arrears have accounted for more than half of the overdue debt. This is because firms in most Central and East European countries started to apply hard budget constraints on each other early-on in transition (Calvo and Kumar 1993). Furthermore, while in Poland, the stock of accumulated arrears was a problem, in the Russian Federation both the stock and the flow of arrears have been large (Fan et al. 1996).⁶

In China, where the transition process started in the early 1980s, inter-enterprise arrears, in particular, appeared in the early stages of transition. While state-owned enterprises were facing soft-budget constraints, private and collectively owned enterprises were applying hard budget constraints. During the eleven years of Chinese reform (1985–1996), the duration of the overdue credit was about two months on average, which is comparable to developed economies. Early attempts to clear overdue trade credits resulted in no change in the stock of arrears (Gao and Schaffer 1998). Enterprises increasingly moved to using bank loans instead of trade credits. In China, as well as in the Central and East European countries, weak bankruptcy laws were not a factor in the development of arrears. Firms established hard budget constraints on each other without the bankruptcy laws.

Apart from common factors that emerge during transition, such as illiquidity, the rate of restructuring, inadequate contract enforcement, and bankruptcy laws, the Russian Federation differs from other transition economies in terms of its inability to develop a banking system as an alternative to trade credit, and its lack of voluntary enforcement of hard budget constraints. The use of tax arrears and the persistence of the growth of arrears for an extended

period are also unique to the Russian Federation.⁷ Unlike the monetary overhang, which was eliminated by removal of price controls, arrears can only disappear as a result of institutional change, including the introduction of new financial instruments that provide liquidity and contract enforcement. Given the widespread implications of arrears, elimination of nonpayment of liabilities requires institutional change, rather than quick policy, and will require a long time.

In the next section, we briefly outline the development of arrears in the Russian Federation. The third section discusses in detail the development of nonpayment taxes as a way of financing in the past five years. The fourth section reviews the implications of arrears as a financing instrument. In the last section, we conclude with a discussion of the implications of arrears and provide some recommendations for the elimination of arrears.

The Development of Arrears in the Russian Federation

Before the beginning of transition (i.e., until 1992), monetary-overhang was a major problem of the command economy in the Russian Federation.⁸ Monetary overhang was eliminated by price liberalization in 1992, which resulted with a three-fold price increase in the same year. However, nonpayment of liabilities have begun to be a major impediment to growth. Overdue non-payments or arrears grew from insignificant levels to 50 percent of GDP between 1993 and 1998. During the 1993–1998 period, tax arrears grew the fastest, at a monthly rate of 4.5 percent, while the second fastest growing arrears were wage arrears growing at a monthly rate of 3.6 percent (see Table 1). The provisions of the value-added tax (VAT) in the current tax code also have rewarded both sellers and purchasers for their nonpayment of current liabilities. The seller is not liable for the VAT collected if the payment is not received in cash, while the purchaser credits the VAT paid on the purchase even though he/she did not make any cash payment. In addition, the 1993–1998 period was marked by a decline in the use of formal institutions for finance and contract enforcement.

Table 1

Tax, Inter-Enterprise and Wage Arrears, December 1993–December 1998

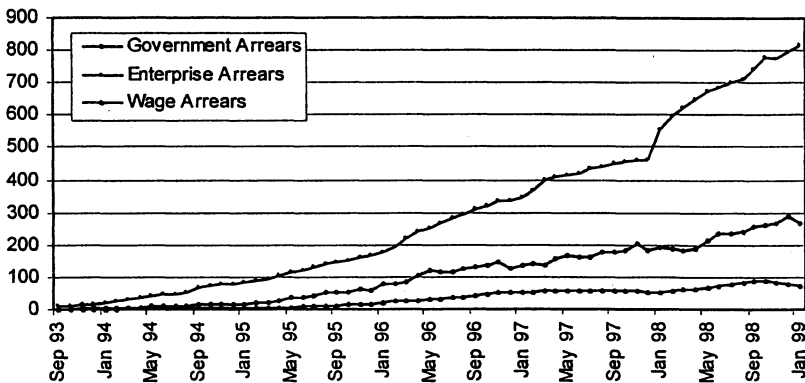
Type of arrears	Average real growth rate (%)		Stock of arrears* (Current prices) Rubles, billions	Share of GDP (%)
	Monthly $\Delta X_t / \Delta X_{t-1}$	Annual $\Delta_2 X_t / \Delta X_{t-12}$		
Tax	4.5	44.0	267.7	9.9
Enterprise	2.6	26.1	970.0	39.1
Wage	3.6	32.1	72.6	2.7
Total	2.9	28.6	1,310.3	48.7

*Enterprise arrears as of the end of 1998, included arrears owed to other enterprises (815 billion rubles), arrears to pension funds (120 billion rubles), and overdue long-term debt to banks and other credit institutions (34 billion rubles).

The explosive growth of arrears since 1993 has been characterized as follows (see Figures 1–3):

- The increase in arrears has coincided with the tight monetary policies of the CBR and the elimination of soft budget constraints. The CBR started its tight monetary policy in 1995 to reduce the high inflation rate that had prevailed in the Russian Federation since 1992. Before the start of tight money policy, growth in arrears was not a significant problem because debtors were using inflation financing. The CBR gradually removed some of the soft constraints on large enterprises, in terms of direct credits. That is, the availability of cheap credit to large enterprises was largely reduced, if not totally eliminated, thereby limiting the net domestic assets of the CBR.⁹ Thus, the direct link between monetary policy and enterprise finance was broken. Before the implementation of tight monetary policy, large state enterprises were financed directly by the CBR. At the end of the fiscal year, all the outstanding debts of enterprises were paid by the CBR. In fact, in during the high inflation years of 1992 to 1995, the central banks of former Soviet countries issued credit to each other's enterprises. As a result of the CBR's tight monetary policy,

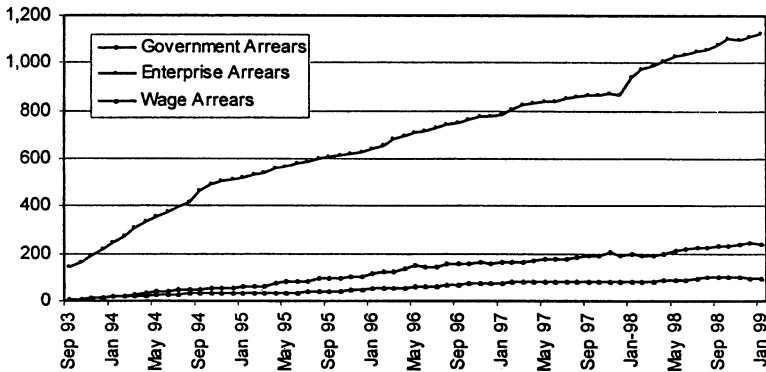
Figure 1. **Stock of Overdue Receivables to Consolidated Budget, Overdue Receivables to Enterprises and Wage Arrears** (September 1993–January 1999, billions of current rubles)



consolidated budgets suffered large deficits when enterprises started falling behind in the payment of their tax liabilities. As a share of GDP, tax collections started to decline. Furthermore, this points to the lack of policy coordination between the CBR and the Ministry of Finance.

- Inadequate development of formal institutions for contract enforcement (i.e., special courts, law, and enforcement), which are essential for free market-based growth, have contributed to the accumulation of arrears. Private creditors, including the banks, have not been able to resolve their claims on borrowers through the court system. Bankruptcy proceedings have been very slow and, in the cases where bankruptcy rulings were obtained, liquidation of assets has not been possible. Also, the government has not exercised enough rigor in collecting its due tax revenues.
- While large enterprises, as well as the government, have benefited in the short run, the accumulation of arrears has amounted to increased tax evasion, has slowed financial development, and has resulted in the contraction of credit markets. By either delay-

Figure 2. **Stock of Overdue Receivables to Consolidated Budget, Overdue Receivables to Enterprises and Wage Arrears** (September 1993–January 1999, billions of 1995 rubles)

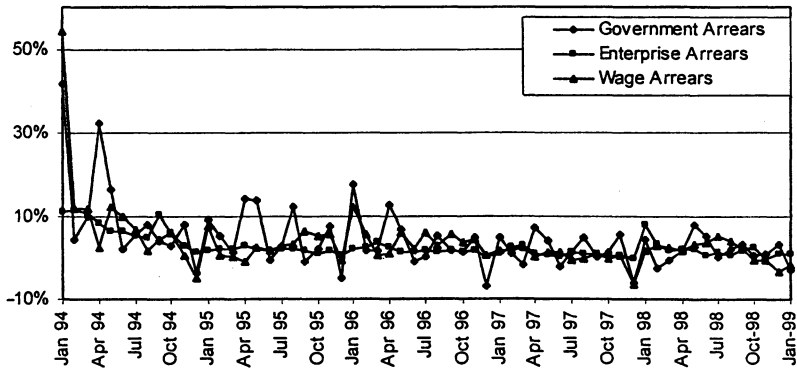


ing or not paying short-term liabilities such as trade credit or wages, enterprises and governments have engaged in off-the-books financing. For example, trade credit is not shown in the balance sheets of enterprises. On the other hand, governments, both federal and regional, can keep their budget deficits within targets by not paying their short-term liabilities. Also, contract enforcement has become ineffective, diminishing the credibility of the government as a third-party enforcer.

By the end of 1998, tax arrears were 25 percent of total stock of arrears, while arrears to credit institutions were 13 percent and wage arrears were about 8 percent. The remainder were arrears of enterprises owed to each other.

The different accumulation rates of the three types of arrears imply that they have resulted from different behaviors by enterprises, the government, and the workers. Inter-enterprise arrears are primarily accumulated through nonpayment of short-term liabilities to suppliers, which amounts to unpaid trade credit. This results in a less-than-efficient equilibrium in the product markets. Wage arrears are manifested as a form of wage flexibility, thereby avoiding layoffs expected under any restructuring.¹⁰ However, it

Figure 3. **Stock of Overdue Receivables to Consolidated Budget, Overdue Receivables to Enterprises and Wage Arrears** (September 1994–January 1999, billions of 1995 rubles)



is difficult to understand the motivation of governments in not enforcing the collection of taxes in arrears, while experiencing growing budget deficits. A possible explanation for this has been the unwillingness of government to trigger unemployment in the event of bankruptcy resulting from its claiming tax payments, the existence of government expenditure arrears, and an unwillingness to go after large enterprises. In addition, the ministries of defense and transportation have carried arrears with defense contractors, the fuel industry, and the utilities. Most local governments also have arrears to the utilities and fuel industries. Therefore, with government arrears outstanding, it has been more difficult to enforce tax payments.

Accumulation of the stock of arrears in the Russian Federation requires a reassessment of the government’s fiscal and monetary policies, because no self-correcting mechanism appears to exist that could control or abate the explosive growth in this phenomenon. This does not mean that government has not attempted to remedy the arrears problems. Indeed, on many occasions the government has issued many decrees or recommendations, or has sponsored laws that have been aimed at rectifying the arrears problems.

Among these, the frequency of presidential decrees intended to solve or mitigate the arrears problems stands out.

A selected number of policy changes have included:

1. A tax amnesty in 1993
2. A government decree on the elimination of government expenditures to enterprises in the first half of 1994, by means of a program of mutual offsets of overdue obligations in 1993 and in the first quarter of 1994
3. The 1994 mutual instruction of the CBR, the Ministry of Finance (MinFin), and the former State Tax Service¹¹ to withdraw the arrears on taxes and the other obligatory payments from the foreign currency accounts of enterprises
4. MinFin's issuance of treasury bills KO (*Kaznacheiskie Obyazatel'stva*), as method of payment between enterprises and the federal budget, starting in August 1994
5. The 1994 decrees on mutual settlements of arrears between enterprises
6. Allowing MinFin to make mutual settlements between the federal budget and enterprises, including payments of KOs.

Similarly, additional decrees were issued during 1996 and 1997. Among these were:

1. 1996 decrees on rescheduling enterprise debt to the federal government and local budgets over 7.5 years, on the condition that all future taxes are paid on time
2. A 1996 decree writing off all the debts owed by the agricultural sector to the federal budget, and setting lower electricity fees
3. A 1996 decree paying all debts to the defense industry
4. A 1997 plan for restructuring arrears via debt for shares, thus expanding the government's ownership of enterprises that owed taxes to the federal government
5. A 1997 decree paying all government wage arrears
6. A 1997 decree guaranteeing foreign credits to enterprises that did not have debts to the federal and local budgets and pension funds.

Overall, despite the fact that the intention behind all of these decrees and other acts was to alleviate the arrears problem, the stock of arrears continued its unyielding upward trend. In fact, the current level of arrears is the cumulative result of all previous measures employed by the government.

Most of these measures, particularly the ones in 1996 and 1997, were taken upon the International Monetary Fund's insistence on the elimination of tax arrears. However, the measures were short-lived. After a short period of slow growth in arrears at the end of 1994 as a result of government measures, the accumulation of arrears resumed. This was because the settlement of arrears was a one-time measure, while the basic structure of the financial relationships remained the same.

In particular, arrears started to accumulate very fast after the implementation of tight monetary policies by the CBR in 1995. Declining inflation reduced the ability of debtors to pay their obligations using inflation financing. Furthermore, financial repression between 1993 and 1997, as documented in Claassen and Granville (1997), reduced the ability of enterprises to finance their current expenditures by restricting the amount of credits available for borrowing within the banking system. This exacerbated the liquidity shortage in the economy and forced enterprises, as well as the government, to look into financing methods other than inflation financing.¹²

In the five years between December 1993 and December 1998, the total stock of arrears—as measured by overdue receivables to government at both the federal and regional levels, overdue receivables to enterprises, and overdue liabilities to individuals (the so called wage arrears)—increased by more than fifty-two times, as the stock of arrears increased from 22.09 billion to 1,161 billion rubles (see Figure 1). In 1995 prices, this amounted to more than a four-fold increase ($426.05 / 105.44$) for the same period. The average monthly rate of growth in the real stock of arrears for the period from December 1993 to January 1999 was about three percent per month (see Table 1). Similar patterns of growth have been observed among the subcomponents of the total stock of arrears. Hence, arrears are more than an inflation-induced occur-

rence. The fact that the aggregate stock of arrears is not stationary, and that the process is growing at a very rapid pace, requires a close review both at aggregate level and its sub-components (i.e., overdue payments to government, enterprise, and individuals).¹³

Historical increases in the total nominal and real stock of overdue payments for the 1993–98 period are shown in Figures 1–3. Figure 1 shows that the nominal stock of overdue payments (i.e., arrears) had an overall upward trend during 1993–98. Figure 2 shows a more interesting dynamic for the real counterpart of the stock of arrears.¹⁴ Both figures show that the real stock of arrears is somewhat smoother than the nominal stock of arrears. Smoothness of the real stocks of arrears, when compared with substantial fluctuations in the inflation rate during the 1993–98 period, suggests that the real economic activities may have internalized the arrears phenomenon as another factor in everyday transactions.

Figure 1 shows that the growth rate in the real stock of arrears, after a series of sharp declines in the beginning of 1994, has tended to be stable, above zero but below 10 percent towards the end of 1994 and thereafter. Figure 1 also shows that a December decline and a January increase in the growth rate of stock of arrears has occurred on regular basis, although this was not highly pronounced during December 1997–January 1997 (but see December 1997–January 1998). When compared to the evolving levels of arrears (see Figure 2), the growth rate in arrears has been stationary (see Figure 3).

Tax, Enterprise, and Wage Arrears

Decomposing the total arrears into its components provides a better understanding of the contribution of each type of arrears to the aggregate. Enterprise arrears had reached 36 percent of GDP by the end of 1998, while tax arrears were 10 percent and wage arrears 2.7 percent of GDP. Comparison of the aggregate measure of arrears (see Figure 1) and its sub-components shows that the sub-components do not possess similar degree of smoothness in their positively evolving trends. However, Pearson correlation coefficients for these subcomponents are generally 0.98 or higher.

The real growth rates in the overdue receivables to government, enterprises, and individuals reveal that, similar to their levels, they are highly correlated as well (see Table 2). The reported Pearson correlation coefficients are generally higher than 0.5, and are highly significant for both monthly and annual measures of the growth rates. Among other things, high correlation among the levels of the overdue receivables to government, enterprises, and individuals (i.e., 0.98 or higher correlation coefficient), and the highly significant correlation among the growth rates of these variables, imply underlying common (i.e., long-run) trends that are worth exploring further. While it is often argued that some of the stock of arrears is being erased by inflation, thereby minimizing the effect of arrears on the economy, the growth in arrears in real terms still remains significant.

Overall, while subcomponents of arrears have trended upward, their growth rates have been stationary. Growth rates of arrears have constant mean and variance, implying that policy changes will have a permanent impact, where the impact of policy may be predicted.

Tax Arrears

Total tax arrears and deferred tax payments had reached more than 275 billion rubles by the end of 1998, or about 11 percent of GDP. This was a fivefold increase over three years. Including interest and penalties, tax arrears and deferred tax payments totaled more than 470 billion rubles by June 1998. The partial amnesty in June 1998 eliminated the accrued interest on all tax arrears. Furthermore, the share of tax arrears to the federal government had reached more than 60 percent by the end of 1998, after averaging about 55 percent in 1996 and 1997, while the regional share declined to less than 40 percent. This was primarily due to an increase in the federal share of enterprise profits tax arrears, despite better profitability after the middle of 1997, as well as a small increase in the federal share of VAT arrears.

Overdue tax liabilities consists of liability in arrears—that is, overdue tax liability and deferred tax payments, by mutual agree-

Table 2

Correlation of Growth Rates in Arrears, December 1993–December 1998

$\Delta X_t / \Delta X_{t-1}$ and $\Delta_{12} X_t / \Delta X_{t-12}$	Tax	Enterprise	Wage
Tax	1	0.51*	0.66*
Enterprise	0.81	1	0.57*
Wage	0.78	0.64	1

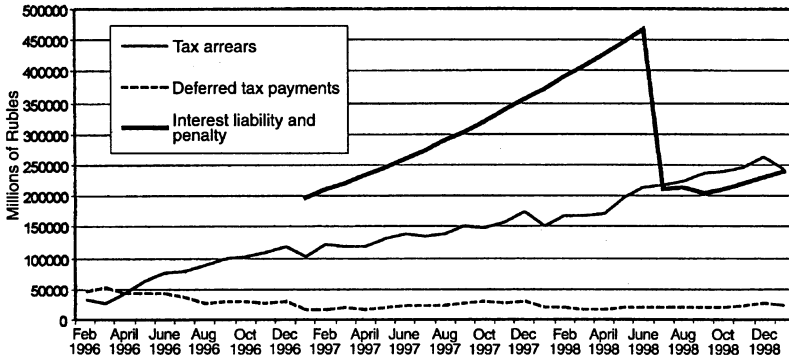
*Values in the top half of the above table are Pearson correlation coefficients for $\Delta X_t / \Delta X_{t-1} = (X_t - X_{t-1}) / X_{t-1}$; values in the lower half of the table are Pearson correlation coefficients for $\Delta_{12} X_t / \Delta X_{t-12} = (X_t - X_{t-12}) / X_{t-12}$

**Significant at the one percent level.

ment between the Ministry of Taxation and Fees, and local governments and the taxpayers. While both federal and regional overdue tax liability grew at about the same pace from the beginning of 1996 until the middle of 1997, arrears to the federal government started to accumulate faster. This may have been partly due to the change in the composition of arrears by type of tax, and to differences in the payment practices of federal and regional governments. While the federal government increasingly required cash payments for tax liability, regional governments continued the practice of non-cash payments for tax liability. It is particularly striking to notice the widening of the gap between federal and regional tax arrears after the official termination of the MinFin's offset (i.e., the mutual elimination of liabilities) program in February 1998 (see Figures 4 and 5).

Between 1995 and 1998, real GDP declined at an average annual rate of about two percent, while the inflation rate was declining. Therefore, the increase in tax arrears has not followed the general macroeconomic indicators. While the share of federal and regional tax arrears has remained stable at about 55 percent and 45 percent, respectively, through the end of 1997, the share of tax arrears owed to the federal government was more than 60 percent by the end of 1998. Furthermore, tax arrears owed

Figure 4. Total Tax Arrears to the Consolidated Budget Tax Liability, Interest, and Penalty

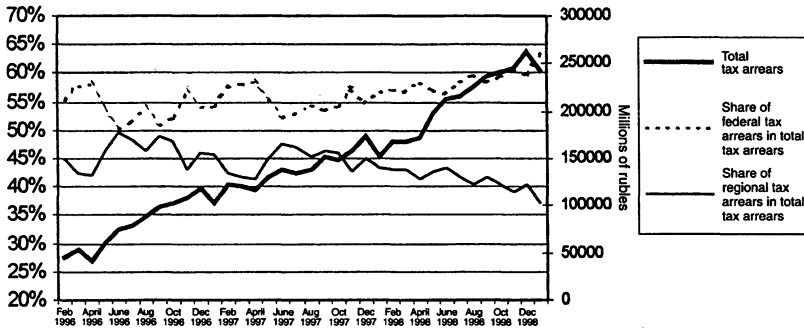


to the consolidated and federal budgets have been increasing constantly. Although there was a decline in the share of tax arrears at the beginning of 1998, the share of tax arrears as part of total arrears has been increasing again. Tax arrears owed to the consolidated and federal budgets are about 25 percent and 15 percent of total arrears, respectively, up from 15 percent and 10 percent since arrears started to accumulate. Although deferred tax payments constitute a small portion of the overdue tax liabilities, the share of tax deferrals by regional governments has been increasing.

Tax Arrears by Type of Tax

Decomposing the tax arrears to the consolidated budget indicates that the share of VAT had reached 53 percent of tax arrears owed to the consolidated budget by the end of 1998, up from 45 percent at the end of 1996. The VAT share of total arrears owed to the consolidated budget was 43 percent at the beginning 1997. The enterprise profits tax and natural resources tax each accounted for about 14 percent of arrears owed to the consolidated budget. A similar distribution existed for deferred taxes, as well. The increase in VAT indicates a worsening of cash flow problem in the economy. While VAT is collected by the taxpayers, it is not submitted to the

Figure 5. Tax Arrears



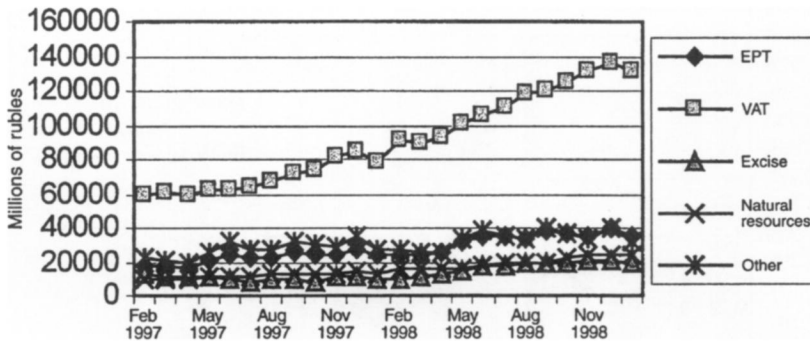
tax authorities. This amounts to government providing involuntary credit to enterprises. Since the federal share of the VAT is 75 percent, the federal budget is more adversely affected by increasing VAT arrears (see Figure 6).

The federal share of tax arrears, by type of tax, has been very stable over the past two years, with the share of VAT increasing gradually. Also, since most excise taxes are collected at the federal level, about 75 percent of excise tax arrears are owed to the federal government. Oil, gas, and alcohol products constitute the base of excise taxes. It is surprising that these industries, with their lesser cash-flow problems, can carry tax arrears.

The value added tax (VAT) increasingly accounts for a large share of tax arrears. The share of VAT arrears increased from 61 percent of total tax arrears, to 74 percent of total tax arrears, in 1997. Since VAT is the primary source of tax revenue for the federal government, increasing VAT arrears means a larger budget deficit with stable budget expenditures.

In addition, uncertainty about payments by the government produces significant discounts on any future expected payments. Discounts on non-standard payment instruments may be larger than the discounts on standard instruments such as treasury bills (GKO). When the size of the arrears is large enough, due to deep discounting, it will indirectly increase the interest rates.

Figure 6. Tax Arrears to Consolidated Budget by Type of Tax

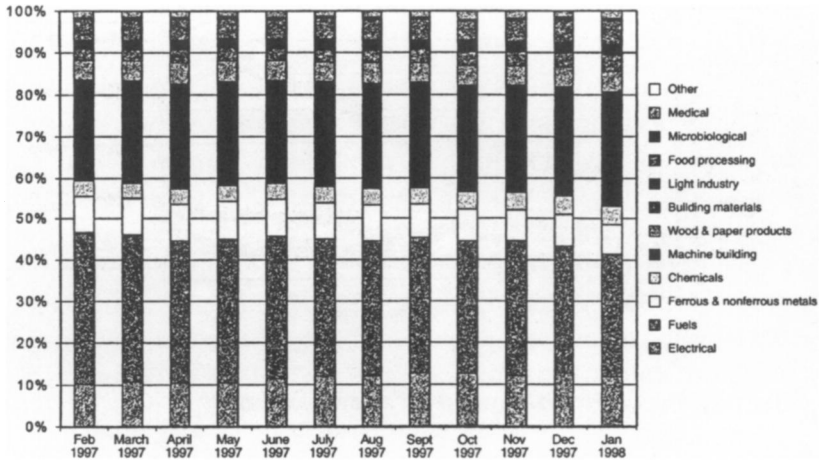


Distribution of Tax Arrears by Type of Industry

Manufacturing and fuels industries have accounted for more than 60 percent of total tax arrears to the consolidated budget, followed by construction and transportation with arrears shares of about 10 percent each. Within the manufacturing and fuels industries, fuels and machine building industries account for about 60 percent of all tax arrears to the consolidated budget. The fuels industry’s tax arrears are about 30 percent to 32 percent while machine-building industry’s tax arrears are about 28 percent to 30 percent. Since these two industries are also the largest suppliers of goods and services to budgetary organizations, it can be concluded that a portion of the tax arrears owed by these industries can be attributed to expenditure arrears owed by the federal and regional governments to these industries.

The regional distribution of tax arrears reveals that the arrears are concentrated in several regions with diversified tax bases. The industries in these regions are primarily manufacturing, oil, and minerals. These regions are primarily the City of Moscow and the Moscow oblast, St. Petersburg, Samara, Bashkiria, Sverdlovsk and Kemerovo regions. The Moscow region accounts for about 14 percent of all tax arrears in the Russian Federation.¹⁵ It is also worth noting that federal tax arrears are significantly more in these

Figure 7. Tax Arrears and Deferred Payments to Consolidated Budget by Subindustry, 1997



regions, relative to arrears owed to regional governments (see Figure 7).

Arrears as a Financial Instrument

It is commonly accepted that the primary reason behind the accumulation of arrears is the shortage of liquidity and credit that exists in the economy. In transition economies, arrears of all forms appear after the monetary authorities start to conduct tight monetary policies in their efforts to bring down inflation. Arrears also develop as restructuring starts to take place, particularly with the removal of direct state-sponsored credits to enterprises. In Denisova (1999), the cushioning effect of inter-enterprise arrears in response to the tight monetary policy was shown. Transfer of credit functions by the CBR to a weak banking system resulted in illiquidity in the financial system and increased the cost of borrowing. While the CBR made progress in developing financial instruments to improve liquidity, this was done in a trial-and-error manner.¹⁶ Inter-enterprise arrears are not perfect substitutes for bank credit,

and dampen the impact of the transmission of monetary policy through credit channels. However, only with more access to bank credit is the payment of arrears facilitated.

The effect of arrears is to reduce the cost of capital in an environment where the cost of financing capital is high, because of a credit shortage and uncertainty due to weaknesses of financial and regulatory institutions, as well as economic risks. Arrears also provide low-cost financing for enterprises with economic clout and governments, the two most significant agents in the economy.

Financing of capital determines the capital structure of a firm. Accordingly, three forms of financing are available for enterprises. These are retained earnings, equity, and debt. In general, deductibility of interest expenses from taxable income lowers the cost of capital and creates a bias in favor of debt financing. Calvo and Coricelli (1993) identified trade credit as the fourth source of financing.

In the Russian economy, creation of arrears has provided added incentives for debt financing, since the bankruptcy costs are almost non-existent and enforcement of tax laws is not adequate. Furthermore, lack of contract enforcement has created an environment where arrears become a cheap alternative to debt financing. Thus, creating arrears has amounted to implicitly lowering the required rate of return for a given level of debt/equity ratio for those enterprises with the ability to keep payments in arrears. Since the cost of equity increases with the debt/equity ratio, shareholders require a higher rate of return for exposure to higher risks due to higher leverage. Therefore, accumulating arrears with uncertain terms is a good alternative to borrowing from the banking system at high interest rates, with a known maturity or issue of equity. This practice amounts to implicitly hiding the true cost of capital to the enterprise. Thus, the need for restructuring and productivity gains disappears. However, nonpayments, while providing cheap credit to the debtors, increase the cost of capital to the creditors. In most cases it is the ultimate creditor—individuals and the government—who cannot pass on the cost of nonpayments to others. In addition, bankruptcy costs are negligible, thus creating further inducement for nonpayment.

Equity finance requires well-functioning financial markets with standard reporting and auditing practices for transparent corporate governance. Transaction costs of equity finance can be very high for economies without efficient financial markets. This is an evolutionary process, and equity finance remains as an expensive financing method in Russia, as well as in many other emerging markets. Use of retained earnings is not an issue at the moment in the Russian economy, since they are almost nonexistent. Therefore, accumulation of arrears in the form of unpaid trade credits, unpaid wages, and taxes serves as a convenient method of financing, thus implicitly lowering the cost of equity. Furthermore, the share of tax arrears in total arrears has been increasing, a trend that amounts to lowering of effective tax rates in the economy.

Different types of arrears may occur as a result of different motivations. For example, in the Russian Federation loss-making firms do not account for all the inter-enterprise arrears. Large vertically profitable enterprises also carry balances of arrears. Consequently, inter-enterprise arrears account for more than half of total arrears in the Russian Federation. The firms' expectations about the behavior of other firms, and the monetary authority, is a determining factor in the scale of arrears. When adjustment costs and the likelihood of a general bailout are high, tight credit will induce firms to resist imposing hard budget constraints on their customers, and to extend trade credit to high-risk buyers. This behavior is significantly different from the practice of trade credit in market economies. Although trade credit is viewed traditionally as a mean for sellers to finance buyer purchases at a lower cost than banks, or as an alternative payment term to increase product demand, it also serves as a contract to obtain information about buyer default risk (Smith 1987). Ferris (1981) also argued that trade credit reduces precautionary balances.

The likelihood of a bailout increases the value of the trade credit and further credit expansion. As pointed out by Perotti (1998), an indiscriminate aggregate credit policy across all enterprises provides an incentive for collusive behavior.¹⁷ Credibility of the central bank is the most important institutional factor in avoiding opportunistic lending by enterprises that otherwise would adjust

to tight credit policy. A difference exists between bank-financed and non-bank-financed enterprises. Bank-financed enterprises have less need to restructure when faced with tight credit, because these enterprises have a small number of nonpaying customers. To remedy the arrears problem, sufficient collateral is needed. Furthermore, tight credit policies must be reviewed to avoid expectation formation about a future bailout.

Wage arrears have different characteristics, although financially distressed enterprises with trade credit arrears are also likely to have wage arrears. However, workers' acceptance of delayed compensation is the result of a lack of alternative job opportunities. It is very likely that employees feel that they will be faced with a similar situation at another enterprise. Furthermore, nonwage benefits can be higher than the cash compensation to employees. Nonpayment of wages for extended periods is also tolerated by those seeking secondary jobs.

Tax arrears, the second-largest component of aggregate arrears, provide added incentive for resistance to restructuring. First, inter-enterprise arrears result in tax savings to the issuer of trade credit, as well as the buyer. Second, accumulation of tax arrears and the response of the tax authorities signals the resolve of the government. Tight credit policy, pursued on one hand, is rendered ineffective by the accumulation of tax arrears. The motivation of the government in allowing tax arrears is not clear. It is possible that the tax authorities do not consider sufficient collateral in enterprises with tax arrears.

Conclusions and Policy Options for Eliminating Arrears

Accumulation of arrears amounts to interest-free or below-market interest rate loans from the creditors, suppliers, government, and employees. Furthermore, arrears postpone the completion of restructuring and allow for the continuation of unprofitable businesses. Finally, it creates a business and a legal environment with significant financial uncertainties. While arrears may lower the cost of financing for some, they increase the cost of borrowing in

the aggregate economy. In anticipation of non-payments, suppliers demand higher prices, which amounts to an added risk premium for nonpayments.

Factors that contribute to the accumulation of arrears may be short-term or long-term. Short-term factors are, namely: liquidity shortage, high costs of borrowing, and financial repression of the banking system. The CBR's efforts to control monetary policy must be coordinated with the government's fiscal policies. Long-term factors include lack of institutional development and problems with legal enforcement. Hence, institutional reform should be comprehensive, rather than on a piecemeal.

In addition to creating cash-flow problems, accumulation of arrears is an indicator of the success of the transition process of the Russian economy. Inadequate restructuring in certain industries in the Russian Federation has manifested itself in less-than-transparent transactions, of which arrears are the most significant. Arrears started to accumulate as a result of tight credit policy. In response to the tight credit policy, enterprises allowed trade credit expansion to dampen the effects of credit shortage, while inflation was significantly reduced. However, arrears delayed the adjustment of enterprises to market conditions, coupled with a concurrent policy of allowing tax arrears to accumulate. The practice of soft budget constraints continued in a different form, which limited the development of a new financial system. In addition, tax evasion increased as expectations of a bailout formed, starting in late 1997.

Elimination of arrears must start with the government. First, government arrears to contractors and to government employees must be reduced with a short-term payment program. Currently, the amount of government expenditure arrears is unknown. The CBR, in cooperation with the Ministry of Finance, must develop financial instruments to facilitate liquidity and short-term payments. Simultaneously with expenditure arrears, tax arrears must be eliminated by restructuring tax debt, either by mutual agreement or by securitization. One also should reconsider the tight monetary policies during the transition, and their role in the development of arrears. As demonstrated in Denisova (1999), access to

bank credit in sectors where arrears are high would reduce the arrears and decrease the inflation rate. Long-term remedies for the elimination of arrears require building and supporting institutions that protect the rights of parties to contracts. Development of third party contract enforcement institutions is particularly important. Restructuring the banking system and improvement of banking supervision is another significant factor in overcoming the problem of arrears.

Notes

1. Alfandari and Schaffer (1996) argued that the arrears problem in Russia does not pose a problem, since it is only normal to substitute trade credit for bank credit during transition. However, the duration of the outstanding credit and the likelihood of repayment are the main problem. This is demonstrated in a survey of the 500 largest enterprises reported in the interdepartmental balance commission (1997), which found the average duration of overdue liabilities to be more than one year.

2. Blanchard (1997) provided an excellent review of preliminary steps in transition.

3. These are common factors in most countries in the early stages of transition; however, lack of institutional development is particularly prolonged in the Russian Federation.

4. Denisova (1997) showed that energy sector credits are governed by real interest rates, while credit is rationed for the manufacturing sector.

5. That is, high real interest rates for the energy sector and rationed credit for manufacturing.

6. An interesting finding in Fan et al. (1996) is that, although half of the enterprises in the Russian Federation are shareholders in a bank, this has no impact on credit allocation. Most banks in the Russian Federation exist in name only.

7. Among the Central and East European countries, only Romania has an arrears problem similar to that of the Russian Federation (Rostowski 1993).

8. Monetary-overhang is characterized as a large stock of savings, but fewer goods available for consumption, with strict price controls.

9. See Aslund et al. (1996).

10. Layard and Richter (1995) explained wage flexibility as the willingness of workers to accept pay cuts in order to preserve jobs.

11. Now, it is the Ministry of Taxes and Fees (MinTax).

12. According to the interdepartmental balance report (1997), nonpayments with a term of more than six months is practiced by more than 50 percent of the large enterprises in the Russian economy. This signals a serious cash-flow shortage in the economy. Enterprises use nonpayment methods to finance working capital and short-term investments.

13. Test for stationarity is not reported here.

14. Given that the stock of arrears is made up of different vintages, we computed the real stock of arrears by deflating changes in stock of arrears, say, $\Delta X_t = X_t - X_{t-1}$, over the appropriate price deflator P_t , and then summed $\Delta X_t / P_t$ to get the real stock of arrears $x = \sum_{i=1}^T \Delta X_i / P_i$.

15. Regional distribution of tax arrears can be provided upon request.

16. Balino (1998) described the development of monetary policy by the CBR.

17. Perotti (1998) demonstrated the effect of initial conditions on enterprise adjustment and the development of arrears under a tight credit policy. The central bank's aversion to output loss and high restructuring costs has encouraged enterprises to issue trade credit to bad-risk firms.

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