



---

Center for Economic Policy Analysis

**Russia: Globalization, Structural Shifts and Inequality**

Alexander Vorobyov and Stanislav Zhukov  
(Institute of World Economy and International Relations)

CEPA Working Paper Series I

Globalization, Labor Markets, and Social Policy  
A Project Funded by the John D. and Catherine T. MacArthur Foundation

Working Paper No. 19

February 2000

Center for Economic Policy Analysis  
New School University  
80 Fifth Avenue, Fifth Floor, New York, NY 10011-8002  
Tel. 212.229.5901 • Fax 212.229.5903  
[www.newschool.edu/cepa](http://www.newschool.edu/cepa)

LT revision. 11/99

**RUSSIA: GLOBALIZATION, STRUCTURAL SHIFTS AND INEQUALITY**

Alexander Vorobyov\*

Stanislav Zhukov\*

\* Institute of World Economy and International Relations, Moscow Russian  
Academy of Sciences,

Moscow, December 1999

Sweeping historical processes shape out what is vaguely defined as “Russia’s transition”. These interrelated and mutually reinforcing processes include an all-out attempt at economic liberalization combined with external opening of the national economy; disintegration of the Soviet (and Russian) empire; a demographic crisis threatening to lead to depopulation; progressive political and economic decentralization; degeneration of the inherited economic system; and deep institutional changes and restructuring of the social fabric of the society.

The outcomes include large and increasing levels of foreign debt; extreme dependence of the production process, investment, and consumption, on foreign trade and continuing inflows of foreign currency; and effective control of local markets by foreign capital. External or global factors and forces now dominate the Russian economic and political scene.

By introducing convertibility of the national currency and liberalizing both current and capital accounts of her balance of payments, Russia fully exposed herself to globalization. In this paper we ascribe to globalization a narrow functional meaning. Convertibility—with minor exceptions the exchange rate regime in force from the end of 1994 until August 1998—combined with free movements of capital and hard currency pushed local producers into global competition. For Russia, with an economy historically built upon absolute and relative prices (and production costs) totally different from prevailing world prices, entering into global competition was an enormous shock. Seen in this perspective globalization is the driving force in Russia’s transition.

This paper is organized in six sections: post-Soviet social and economic chaos, external liberalization, dual economic structures, “shadowization” of economic activity, segmentation of labor markets, and conclusion.

### **Post-Soviet social and economic chaos**

Depending on one's ideological inclinations and personal preferences the ongoing Russian transition can alternatively be seen as a full-fledged catastrophe or a cardinal re-shaping. Summarizing this yet unfinished drama is beyond anyone’s individual capacity. Contemporary Russia is in chaos, fuelled by the disintegration

of the empire, the demographic crisis, degeneration of the inherited economic system, political and economic decentralization, and rapidly rising income inequality.

*Disintegration of the empire:* Disintegration of the USSR led to a surge in migration flows among the former Soviet republics. Intensive inter-republican migration is rooted in the Soviet past. In the second half of the eighties 700-800 thousand people were leaving Russia annually. The reverse flow amounted to 850-950 thousand per year (see table 1). In the nineties, the number of outward migrants from Russia decreased substantially, while the opposite flow remained high and even increased. In 1992-1997 Russia was absorbing about 550 thousand migrants net (inward migrants minus outward ones) per year. Assuming that 80% of incoming migrants were settling permanently, by the beginning of 1998 recent migrants accounted for 5-6% of the total Russian population.

Table 1. Demographic changes in the nineties

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Population, million*	143.8	145.1	146.3	147.4	148.0	148.5	148.	148.7	148.4	148.3	148.0	147.1	146.7
- urban residents, %	73	73	74	74	74	74	73	73	73	73	73	73	73
Net migration, thousand	236	120	82	115	184	17	253	440	810	520	355	365	301
- CIS and the Baltic	238	129	103	161	287	105	356	554	914	613	440	433	362
- Far abroad	-2	-9	-21	-46	-103	-88	-103	-114	-104	-93	-85	-68	-61
=outward migration	722	774	792	739	729	675	673	483	337	347	292	233	213
- CIS and the Baltic	719	764	771	693	626	587	570	369	232	229	191	150	133
- Far abroad	3	10	21	46	103	88	103	114	104	118	101	83	80
=inward migration	957.5	894	874	855	913	692	926	923	1147	867	647	598	514
- CIS and the Baltic	957	893.5	874	855	913	692	926	923	1146	842	631	583	495
- Far abroad	0.5	0.5	0	0	0	0	0	0	1	25	16	15	19
Economically active population, million		75.4	75.5	73.9	76.0	75.2	74.0	72.6	73.0	72.6	73.0	72.5	72.2
Employment, million		75.4	75.5	75.6	75.3	73.8	72.0	70.9	68.5	66.4	66.0	64.6	63.6
Natural increase of population, thousand		968	779	577	333	104	-207	-734	-870	-832	-818	-737	-705
Rate of natural increase of population(per 1 000)	6.8	6.7	5.3	3.9	2.2	0.7	-1.5	-5.1	-6.1	-5.7	-5.3	-5.2	-4.8
- birth rate(per 1 000)		17.2	16.0	14.6	13.4	12.1	10.7	9.4	9.6	9.3	8.9	8.6	8.8
- death rate(per 1 000)		10.5	10.7	10.7	11.2	11.4	12.2	14.5	15.7	15.0	14.2	13.8	13.6
Life expectancy at birth, years	70	70	70	70	69	69	68	65	63.9	64.6	65.9	66.7	

\* - year beginning

Sources: The Commonwealth of Independent States in 1997, p.430; The Commonwealth of Independent States in 1998, pp. 428-429; Statistical Survey, N2, 1999, p.10; N1, 1998, pp.7-8; N1, 1997, pp.7-8; Socio-Economic Situation in Russia, NXII, January-December 1997, pp.291,295; Russian Statistical Annual 1996, pp.36,71-72; 1994, pp.17,38-39,43,55,60-61; Russia Demographic Annual 1996, pp.486-489; 1997, p.103; Population of Russia – 1994, pp.17,33; Countries – Members of the CIS, 1992, p. 328.

Most inward migrants are of working age and add to the employed labor force. Resettlement in post-Soviet economic space is expensive—migrants usually have to accept any work conditions and payment flows that they can find. Assuming that four-fifths of inward migrants in 1986-1998 are of working age and that 80% of them find jobs, they constitute no less than 10-11% of employed workers in the Russian economy. The combined share of re-settlers and illegally working temporary migrants in the total labor force can be conservatively estimated at 12-14%<sup>1</sup>.

*Demographic crisis and depopulation:* The population of Russia decreased in absolute terms after 1992. In 1993-1998 the decrease reached 750-800 thousand per annum. The reasons are a decline in the birth rate and a parallel rise in the death rate. In 1995 the death rate started to fall, but that could be the result of statistical manipulation. Until 1998 the drop in the residential population was offset by the massive inflow of migrants. Russia's population in 1989-1998 remained stable.

Demographic tendencies are extremely inertial. In the view of experts, present demographic processes are rooted in the Soviet past and just happened to coincide with the economic transition.<sup>2</sup> In the coming decades Russia will face depopulation. According to the official forecast depopulation in the best scenario stops in 2002. In 2010 the population is expected to recover to the present level of 147 million. By 2015 it will increase slightly to 147.2 million. In the worst scenario, which in our view is more probable, depopulation will continue until 2015 when the total will be 138 million<sup>3</sup>.

*Progressive political and economic decentralization:* The Soviet economic and political system was characterized by an extremely high degree of centralization. Economic agents and quasi-political elements were subordinated to the center within a strict hierarchy. An appropriate metaphor for the system was a “single factory”.

---

<sup>1</sup> Some estimates put the number of illegal workers in Russia on January 1, 1999 at more than 5 million or about 8% of the labor force – *Izvestia*, 18 June 1999, p.2.

<sup>2</sup> Vishnevskiy A. *The Demographic Potential of Russia*, pp.103-105.

<sup>3</sup> Expected Population of the Russian Federation until 2015, p.2.

After the break-up of the Soviet Union, ethnic, regional, ideological, religious, economic, and other contradictions that had accumulated over decades were relatively peacefully accommodated by the establishment of 89 political and economic entities at the sub-federal level within the Russian Federation. These units had existed in the Soviet system, but then they had only had an administrative meaning.

Under current arrangements each national and regional unit elects its own president or regional governor with similar powers, governing practices, and parliament. Economically strong regions, which in practice means those with access to export resources, and politically mobilized regions (as a rule on ethnic basis) follow independent economic policies. The emergence of a new ruling class at the sub-federal level allowed the former communist and Soviet *nomenklatura* to infiltrate smoothly into newly created local power structures and enhance their numbers. Those employed in administration (excluding police and juridical and penitentiary systems) in 1990-1998 increased by a factor of 1.65; by the end of the period they accounted for 4.7% of the total labor force.

*Degeneration of the inherited economic system:* By the beginning of the eighties the Soviet economy had exhausted its development potential. Thereafter, it was kept afloat by exports of oil and gas and after the mid-eighties by rapid accumulation of foreign debt. The first independent estimates of economic performance showed that Soviet (and also Russian) GNP started to decrease in 1986/1987. Official Russian statistics register negative growth rates since 1991 and no attempts to revise the old series have been made as yet.

The official data show that in 1998 Russian GDP was 57% of its level in 1990 (see table 2). The drop in production spreads over all sectors with the exception of finance and credit. It is especially deep in construction, industry, and transport and communications. In terms of the components of final demand, the largest reduction was registered in investment—in 1998 it was only one-fifth of its 1990 level.

Table 2. Results of socio-economic development in the nineties (1990=100)

	1990	1992	1995	1996	1997	1998
GDP	100	81	62	60	60	57
- Agriculture	100	88	68	65	66	58
- Industry	100	77	51	49	50	47
- Construction	100	59	40	34	32	29
- Transport and communications	100	79	52	49	48	46
- Trade	100	93	86	87	92	90
- Finance and credit	100	123	148	146	158	145
- Other	100	86	70			
GDP per capita	100	81	63	60	60	57
Gross domestic investment	100	51	31	25	24	22
Employment	100	96	88	88	86	84
- Agriculture	100	104	100	95	89	90
- Industry	100	93	75	72	65	62
- Construction	100	87	69	65	63	56
- Transport and communications	100	97	90	90	88	83
- Trade	100	97	114	116	148	158
- Finance and credit	100	123	204	199	194	183
- Other	100	96	95	100	96	96
Average wage*	100	64	45	51	53	49
Unemployment (%)						
- official	...	0.8	2.8	3.5	3.1	2.6
- ILO definition	...	4.8	8.5	9.6	10.8	11.9

\* - wage due

Sources: National Accounts of Russia in 1991-1998, p.15; Russian Economic Trends. Monthly Update, 7 October 1999, table 5; The Commonwealth of Independent States in 1998, pp.429-430; Socio-Economic Situation in Russia, January - December 1997, p.7; Review of Russian Economy, III, 1997, pp.109-110; II, 1998, p.35; Russian Economic Trends, I, 1997, p.124; Statistical Handbook 1996. States of the Former USSR, pp.380,383,385-387 and table 9.

As Russia's population in 1998 hadn't changed from the beginning of the decade, GDP per capita fell in proportion to the decrease in output. The fall in numbers employed was less than the drop in production, i.e. there was negative labor productivity growth. Only the industry and construction sectors lost more than one-third of their labor forces. Employment in trade, finance and credit, and administration actually increased. Nonetheless, for the first time since the thirties Russia faces significant unemployment. The number of officially registered unemployed reached its maximum in 1996, and fell significantly in 1997 and 1998. But measured by international standards, the rate of unemployment continues to rise and in 1998 reached 11.9% of the economically active population.

The real average wage in the first half of the nineties dropped by more than 50%. In 1996-1997 and in the first half of 1998 it recovered slowly, but following

the economic collapse in August, 1998, wages fell again to give a year-long average of 49% of their level in 1990.

*Institutional and social transformation:* The liberalization and privatization shocks caused an almost immediate cleavage of the quasi-egalitarian Soviet society—which basically had been divided into the *nomenklatura* and the rest of population—into proto-classes. An important indicator was a sharp differentiation of household income levels (see table 3).

Even according to official data, the Gini coefficient increased from 0.23 in 1990 to 0.379 in 1998. An adjusted Gini coefficient rose from 0.341 in 1991 to 0.470 in 1997.<sup>4</sup> The ratio of the average income of the richest 10% of population to the

Table 3. Dynamics of inequality in the 90s

	1990	1991	1992	1993	1994	1995	1996	1997	1998
Share of quintile in total income									
Lowest 20%	9.8	11.9	6.0	5.8	5.3	5.5	6.2	5.9	6.3
Second 20%	14.9	15.8	11.6	11.1	10.2	10.2	10.7	10.2	10.5
Third 20%	18.8	18.8	17.6	16.7	15.2	15.0	15.2	14.9	14.9
Fourth 20%	23.8	22.8	26.5	24.8	23.0	22.4	21.5	21.5	21.0
Fifth 20%	32.7	30.7	38.3	41.6	46.3	46.9	46.4	47.5	47.4
Gini coefficient	0.23	0.26	0.289	0.338	0.409	0.381	0.375	0.375	0.379
Adjusted Gini coefficient		0.341	0.370	0.439	0.465	0.450	0.481	0.470	
Income of the richest 10% to the poorest 10%									
official	4.4	4.5	8.0	11.2	15.1	13.5	13.0	13.5	13.4
adjusted		8.9	12.4	15.0	21.5	18.7	25.3	23.3	
Population with income below the minimal subsistence level									
million									
as % of total population	...	17	49.8	46.8	33.2	38.8	31.6	30.7	35.0
	...	11.7	33.5	31.5	22.4	24.7	21.4	20.8	23.8
Population with income below the physical survival level									
million									
as % of total population	...	1.4	7.0*						26.4**
	...	1.0	4.8*						18**

\* - December 1992

\*\* - population in the extreme poverty, December 1998

Sources: Russian Economic Trends, March 11,1999,tables 6 and 16; Izvestia, 26 January 1999,p.1; Shevyakov A. Improvement of Methodology of Measuring of Level of Living, p.9; Statistical Review, N2, 1998, p.13; N1, 1997, p.12; Review of Russian Economy, II, 1998, pp.58-59; II, 1993, pp.40,93; Socio-Economic Situation in Russia, NXII, December 1998, pp.260,268; Russia – 1997. Socio-Demographic Situation, p.169; Russian Statistical Annual 1996, pp.116,118; Russia -1993, Economic Conjunction, p.82

<sup>4</sup> Correction of the official data is necessary because in the official budgetary samples groups with different levels of income are represented disproportionately. Low income groups in the samples are “over-represented” while high income earners are “under-represented”. For a detailed adjustment methodology see: Shevyakov A. Improvement of Methodology of measuring of Level of living, pp.1-9

average of the poorest 10% increased from 4.4 to 13.4 according to official estimates, and from 8.9 to 23.3 in the adjusted data.

In 1992-1993 the income of one-third of Russia's population was below the minimal subsistence level. Between 1994 and the first half of 1998 the below-subsistence population share decreased to one-fourth. However, after the collapse in August, 1998, it started to increase rapidly, rising to 38.2% in January, 1999, for a total population of 56 million. By December 1998 around 18% of the population or more than 26 million people lived in extreme poverty.

### **External liberalization**

In 1992-1996 Russia fully liberalized external transactions, first on the current account and then on the capital account. The macroeconomic problems that prompted these steps are easy to describe. The major reason for liberalization of balance of payments was "hard currency strangulation."<sup>5</sup> In the late sixties and especially the seventies the former Soviet economy caught a specific form of "Dutch disease." Seemingly unlimited expansion of oil and gas production produced a rising inflow of easy petrodollars which became the driving force for investment and intermediate and final consumption. The supply of energy and the increasing inflow of hard currency largely explain Soviet economic dynamism in that period. With the exhaustion of rich oil deposits and the end of the easy petrodollar era, the Soviet (and Russian) economy passed into a trajectory of degeneration.

An unavoidable series of internal and external shocks of an economic, social, and political nature resulted in a considerable loss of production. Studies date the beginning of the production decline to 1986-1987.<sup>6</sup> With a short interruption in 1997, when GDP increased an insignificant 0.8%, the decline continued over a dozen years. The GDP decline in the nineties mirrors drops in oil output and hard-currency export earnings (see table 4). The linkage is especially close for the period 1991-1995 until export earnings were restored and the post-Soviet, Russian

---

<sup>5</sup> On macroeconomic effects and implications of "external strangulation" see: Taylor L. *Economic Openness – Problems to the Century's End*, pp.37-42

<sup>6</sup> See: *Ekonomika i zhizn*, N40, October 1992,p.13; *Ekonomist*, N5, 1992,pp.22-23

economy found new mechanisms of adjustment in the form of arrears or non-payments for intermediate inputs, mostly energy-related.

The primary reasons for liberalization of the balance of payments, however, were not strictly macroeconomic, but rather grew from the worsening crisis of the state budget. All-out price and institutional liberalization of the national economy that began in 1992 resulted in a collapse of the public finances.

Table 4. Russia's macroeconomic aggregates in the nineties\*

	1990	1991	1992	1993	1994	1995	1996	1997	1998
GDP growth rate, %		-5.0	-14.5	-8.7	-12.7	-4.1	-3.5	+0.8	-4.6
Increase of crude oil production, %		-20.5	-13.6	-11.3	-10.2	-3.5	-2.0	+1.7	-1.0
Overdue crediting arrears, % of G				6.7	24.6	22.2	22.8	29.2	45.8
Goods trade balance (outside the C	-10.7	6.4	5.5	10.7	16.1	21.5	27.7	17.6	17.4
- export of goods	71.1	50.9	42.4	43.7	53.0	65.7	71.3	70.4	59.1
- import of goods	81.8	44.5	36.9	33.0	36.9	44.2	43.6	52.8	43.3
Goods and non-factor services trade balance (total), US\$ billion					17.6	20.5	23.0	17.4	17.4
Current account balance, US\$ billi									
Official	-4.5	3.5	4.2	6.4	8.9	7.8	12.0	4.0	2.4
Adjusted					0.3	2.9	-8.1	-14.3	-12.7
Inflow of foreign capital, US\$ billi									
Total					6.7	6.7	25.7	43.8	18.0
- foreign direct investment		0.2	-0.1	0.7	0.6	2.0	2.5	6.2	2.2
- portfolio investment			0.2	0.1	-0.01	0.1	8.9	17.3	8.0
- other					6.1	4.6	14.3	20.3	7.8
Govt. share in inflow of for. capital, %								49	75

\*- 1990-1991: balances of payments prepared by the IMF and official statistics, transactions with the Soviet republics are not covered; 1992-1993: official balances of payments, transactions with the CIS countries are not covered; 1994-1998: official balances of payments cover all transactions with the outer world. For understandable reasons, including the methodological ones, macroeconomic statistics on Russia for 1990-1993 are of extremely poor quality

Sources: Kommersant-Daily, 14 May 1999,p.9; Zhukov.S. Russia and World Capital Markets, IMEMO, 1999, table 1; Zhukov S. Russia: Economic Growth and Imperatives of Globalization, table 2; Sarafanov M. The Grave Will Correct,p.16; National Accounts of Russia in 1989-1994,p.55; Russian Economic Reform. Crossing the Threshold of Structural Change, p.53; The Commonwealth of Independent States in 1998,pp.56,258; Russian Statistical Annual, 1994, pp. 11, 238, 276, 320.

Dismantling the Soviet Union's public monopoly on foreign trade and privatization of oil, metallurgical, and other resource-intensive export industries as well as lifting of controls over alcohol and tobacco markets led to severe erosion of the tax base and in turn to a drastic reduction in state revenues. By 1997 receipts of the consolidated state budget declined to 26.8% of GDP, compared to 41% in 1990

and 48% in 1985.<sup>7</sup> In 1998 total revenues declined further to 24.5% of GDP, with tax receipts falling to only 20.3%. Tax revenues of the federal budget declined to 9.5% of GDP in 1997 and 8.8% in 1998.<sup>8</sup> Its inability to collect taxes sufficient to guarantee a minimal level of centralized expenditures and to perform basic functions of the state forced the government to rely heavily on foreign sources of finance.

There are just four main channels to generate foreign currency: a positive balance on foreign trade, foreign direct investment (FDI), credits and loans, and portfolio investment. For Russia, the first three were effectively closed.

The rise of world prices of raw materials and metals in 1995-1997 apparently allowed a positive balance on foreign trade. Export earnings returned to their historical levels of about US\$70 billion per year (see table 4). In 1996-1997 the reported trade surplus was about US\$20 billion per year. Nonetheless, the official balance of payments presents a cumulative value of export contracts *signed*, not actual payments by trade partners. If non-returned export earnings—one of the most widespread schemes for capital flight—are excluded, Russia's current account was positive in 1994-1995 only. Subsequent negative balances were \$8.1 billion in 1996, \$14.3 billion in 1997, and \$12.7 billion in 1998.

A poor investment climate, unfavorable geographical location, low quality of the labor force, unfinished adjustment of absolute and relative prices, and related factors make the Russian economy unattractive for foreign direct investment.<sup>9</sup> In recent years the gross inflow of FDI stabilized at about \$2-2.5 billion per year. The record inflow of \$6.5 billion in 1997 is fully explained by the privatization of the national telecommunications industry.

From the Soviet Union, Russia inherited a huge foreign debt. Until agreements with the Paris and the London clubs to reschedule the Soviet debt were reached in 1996-1997, the country muddled from one technical default to another. Problems with foreign creditors were repeatedly solved in an ad hoc manner. These

---

<sup>7</sup> State of the Monetary and Credit System and Payments in the Economy in 1998, pp5-6 and table 1 Supplement; Sinelnikov S., Anisimova L., Batkibekov S. et al. Problems of Tax Reform in Russia: Analysis of the Present Situation and Perspectives of Development, p.8. Figures for 1985 and 1990 are for the former Soviet Union, but are fully representative for the Russian Federation

<sup>8</sup> Ibidem

maneuvers eased debt service obligations, but minimized possibilities to receive substantial fresh credits and loans.

Under such circumstances, the only possible way to attract foreign capital was via portfolio investment. To this end, the Ministry of Finance launched ruble-denominated short-term bonds known as GKO-OFZ. In 1995 the GKO-OFZ market was opened to non-residents.

The monetary authorities introduced a host of measures to create guarantees for speculators in the GKO-OFZ . First, in 1995-1998 (before the catastrophe in August, 1998) the ruble was subjected to a "dirty float." At the beginning of each year the central bank announced upper and lower bounds on ruble fluctuations against the dollar. An exchange rate band or corridor was included in annual memoranda on macroeconomic policy submitted to the IMF.

Second, the largest local investor in GKO-OFZ was the Savings Bank (largely controlled by the central bank), which accumulates the lion's share of personal savings. A crash of ruble-denominated money instruments would mean the immediate collapse of internal savings mobilization; for this reason it was considered to be a low probability event.

Third, non-residents were allowed to hedge investment in ruble-denominated financial instruments by signing forward contracts with Russian banks. The latter took obligations to buy rubles at a fixed exchange rate. Some of these contracts were signed by the Central Bank.

Fourth, interest rates on the GKO-OFZ were kept at a very high level.

These measures in combination with rising world oil and metal prices and the reaching of agreement with foreign creditors on the former Soviet debt sent positive signals to global investors. In the first half of 1998 volume on the GKO-OFZ market reached 36.8% of GDP. At least one-third of the market was controlled by non-resident capital. Parallel financial markets emerged rapidly. By March 31, 1998 stock market capitalization rose to 18% of GDP or US\$81 billion in absolute terms—around 60-70% of the stock market was controlled by foreigners.

---

<sup>9</sup> For a detailed analysis of entry barriers for FDI see: Zhukov S. Russia: Foreign Investment and Perspectives of Economic Growth

Social impacts of external and internal financial liberalization were contradictory. In the short run, the large inflow of foreign capital led to rapid appreciation of the ruble. Wages and salaries expressed in nominal dollars increased, especially if compared to the dismal years of 1992-1995. Ruble appreciation generated a consumer import boom. Middle-income groups, first in the large cities, benefited substantially. Emergence of a Russian “middle class” became the show window for market transition. Low-income households and pensioners also benefited from ruble appreciation and low inflation. Arrears on wage and pensions continued to grow, but current payments became more regular.

Table 5. Russian economy and foreign economic relations

	1994	1995	1996	1997	1998	1998 IH
Total foreign debt*						
as % of GDP	44	33	29	28	55	
as % of export**	159	129	124	120	173	
Russia foreign debt						
as % of GDP	4	5	6	7	19	
as % of export**	15	19	25	31	59	
Actual servicing of foreign debt						
as % of GDP	1.7	1.8	1.7	1.7	3.3	2.7
as % of export**	6.0	7.2	7.4	7.5	10.4	12.3
as % of federal budget receipts		15.2	15.6	14.3	33.2	25.1
GKO-OFZ outstanding as % of GDP	2.0	4.6	10.8	14.9	23.8***	36.8
Payments on GKO-OFZ to non-residents						
as % of GDP			0.4	0.8		1.3
as % of federal budget receipts			3.6	6.3		12.1
Cumulative payments on foreign debt and GKO-OFZ						
as % of GDP			2.2	2.5		4.0
as % of export**			9.2	10.8		18.0
as % of federal budget receipts			19.2	20.6		37
as % of current account balance			69	278		****
Stock market capitalization						
as % of GDP*****					8	18*****
US\$ billion					18	81

\* - Former Soviet and Russian foreign debt

\*\* - goods and non-factor services

\*\*\* - January-August 1998

\*\*\*\* - in the first half of 1998 balance of current account was negative

\*\*\*\*\* - year end

\*\*\*\*\* - as on 31 March 1998

Sources: Kommersant-Daily, 14 May 1999,p.9 and 19 November 1999,p.9; Finansovaya Rossiya, N43, 19-25 November 1998,p.2; The Central European Economic Review, Vol.7, N3, April 1999,p.18 and Vol.6, N5, June 1998,p.20; Russian Economic Trends, Monthly Update, 11 March 1999, tables 11, 13 and 16; Zhukov S. Russia: Foreign Investment and Perspectives of Economic Growth, tables 2 and 10; Zhukov S. Russia: Economic Growth

and Imperatives of Globalization, table; Yasin Ye., Gavrilentov Ye. On Problem of Russia's Foreign Debt Regulation – Voprosy Ekonomiki, N5, 1999,p.71

But the real winners from the liberalization were a tiny group of the new post-Soviet *nomenklatura*, who organized the pyramid of GKO-OFZ. Sophisticated schemes allowed this group to attain control over export earnings (in effect a rent on natural resources) and redirect the resulting financial flows in favor of cronies.

The financial bonanza driven by hot speculative capital and increasing foreign debt lasted for about two years. In August 1998 the bubble exploded. It is usually assumed that the Asian flu triggered the Russian catastrophe. However, detailed analysis of the balances of payments, public debt, and state budget shows that the crash was deeply rooted in the Russian economy per se.

In the first half of 1998 cumulative payments to non-residents on the internationalized part of the internal debt and on foreign debt reached 37% of the federal budget receipts, 18% of exports, and 4% of GDP (see table 5). Meanwhile the external current account in January-June, 1998 was negative and amounted to US\$5.1 billion.

On August 17, 1998 the government was forced to devalue the national currency, return to a freely floating exchange rate regime, and effectively default on the GKO-OFZ. By July 1999 the nominal exchange rate had reached 24.4 rubles per dollar compared to 6.2-6.5 before the crash. Consumer inflation rose to 70.8% in September-December, 1998 and to 16% in January-March, 1999.<sup>10</sup> Neither wages nor pensions were indexed to the price increases.

The crash of the financial bubble left the economy with at least two severe crises. First was a new crisis of foreign debt. Second was a new budgetary collapse. In 1998 Russia's foreign debt rose to 19% of GDP from 7% a year before, and amounted to 59% of exports. In the first half of 1998 cumulative debt service accounted for 37% of total federal budget receipts.

For years to come Russia will be caught in a debt trap. In 2000-2008 annual payments on foreign debt due amount from US\$13 to US\$19 billion.<sup>11</sup> Internal

---

<sup>10</sup> Information on Socio-Economic Situation in Russia,p.41; Russian Economic Trends, 11 March 1999, table 8

<sup>11</sup> Segodnya, 23 July 1999,p.5

social costs of these external payments will be dramatic. The problem is not just technical, but institutional as well. It is unrealistic to expect cohesive (if any) social policy from a bankrupt state. Even less should be expected from the new capitalist class that has emerged from the transition.

Together with external liberalization, the overall reshaping of Russia has produced powerful redistributive mechanisms, namely, inflation and privatization. In its turn redistribution has led to emergence of a dual economic structure and the “shadowization” of national economy and society.

### **Dual economic structure**

Absolute price levels and relative prices (and production costs) in the Soviet economy were strikingly different from prevailing world levels. An economic system created to support forced industrialization and scientific progress was subordinated to the needs of heavy, mostly military industries. Extremely low prices of energy and electricity discriminated against raw material sectors—they constituted the backbone of the Soviet economic system. In January 1990, for instance, the internal wholesale price of a metric ton of crude oil was 26 rubles or US\$15.20 at the heavily overvalued official exchange rate. Natural gas was equally cheap, and the wholesale price of one ton of coal was 12.2 rubles or US\$7.10.<sup>12</sup> In December 1991 a ton of crude oil at the market exchange rate cost only 0.4% of the average world price.<sup>13</sup>

This system functioned in a rather stable manner for about fifteen years beginning from sometime in the late sixties, but was destroyed in the eighties by the global oil shocks. The Russian (=Soviet) oil and gas industry as well as electricity (a major consumer of primary energy resources and supplier of intermediate inputs for all economic sectors) were crucially dependent on imports of modern technologies, equipment, and steel pipes. Rising investment requirements of the import-dependent oil and gas sectors, which could not operate in the old system of absolute and relative prices

---

<sup>12</sup> See: Russian Economic Reform. Crossing the Threshold of Structural Change, pp.vii,267

<sup>13</sup> Auslund A. Russia: Birth of the Market Economy, p.195

any more (with exhaustion of “easy deposits” and transfer of production to Siberia and to the Far Northern territories), forced the subsequent transition.

Even more crucial was the fact that in the late sixties and early seventies when world oil prices were moving upward, the Soviet fuel industry became the economy's largest source of hard currency export earnings. They were used to finance increasing imports of machinery and equipment, intermediate products, and consumer goods. For a short time, an increase in the physical volume of oil and gas production and exports combined with the parallel rise in world oil prices to create some dynamism in economic development. But economic growth based on mineral exports and fantastically low internal energy prices demanded constant increases in energy production and stable export earnings. Unsurprisingly, later decreases in world oil prices and an inability to maintain levels of production of mineral resources turned into a catastrophe for the Soviet (=Russian) economy.

With a sharp drop in world oil prices and a rise in the costs of energy production, the only way to ease the burden on the raw material sector was through a substantial cut in internal demand and complete re-orientation toward world markets. A forced increase of artificially low energy prices became inevitable—it was the only means available to overcome the market disproportions accumulated within the national economy for several decades.

Internal consumption was cut in two ways. One was curtailment of supplies to the former Soviet republics. A few years earlier, energy supplies to the COMECON countries had already been reduced. Second, internal prices of energy resources shot up. These moves permitted an increase in the physical volume of export to external markets and partially offset the drop in export earnings caused by falling world oil prices.

Naturally, in an economy with a dense network of forward and backward linkages—in 1992 intermediate consumption accounted for 58.5% of total output<sup>14</sup>—a change in the key internal price triggered intensive restructuring of absolute and relative prices (and costs). Leaders in price run of 1992-1997 were electricity and the fuel industry (see table 6).

Table 6. Index of price increases in various industries (Dec. to Dec., Dec. 1991=1)

	1997 to 1991	1995 to 1991	1997 to 1995
Electricity	11 425	7 419	1.54
Fuel industry	9 066	5 887	1.54
Transport (freight)	7 684	6 247	1.23
Petrochemicals	5 825	4 004	1.32
Construction*	5 212	2 673	1.95
Ferrous metallurgy	5 129	4 274	1.20
Chemicals	4 310	3 592	1.20
Construction materials	4 204	2 940	1.43
Machinery and metal working	3 483	2 639	1.32
Non-ferrous metallurgy	3 352	3 032	1.10
Food industry	2 896	2 194	1.32
Wood, timber, pulp and paper	2 405	1 988	1.21
Grain production	2 206	1 212	1.82
Cattle and poultry production	1 642	966	1.70
Payable services to population**	1 552	853	1.82
Light industry	1 144	867	1.32

\* - prices of capital construction

\*\* - purchasing prices

Sources: The Commonwealth of Independent States in 1997, pp.443- 444.

In 1992-1997 the wholesale price of electricity rose more than 11.4 thousand-folds, and the price of fuel went up 9.1 thousand-folds. Transportation tariffs (freight) and prices of chemicals, construction, and ferrous metals increased more than 5 thousand-folds. Agriculture, light and food industry, and payable services to the population were left out of the self-supporting price run.

Such significant differences in price dynamics largely explain the direction of structural change in the transition economy. These changes cannot be attributed to such usual explanatory factors as variation in productivity and/or extensive use of labor and capital. Our very crude calculation shows that differentials in changes of relative productivity (output per worker) between industries in 1990-1998 were insignificant (see Supplement, table I).

Rather, structural shifts in the Russian economy in the nineties resulted almost exclusively from changes in relative prices and shifts in the distribution of profits and mixed income between economic sectors. The major beneficiaries were two groups of industries. The first comprised the fuel industry, electricity, and metallurgy, which were discriminated against in the Soviet economy in favor of

---

<sup>14</sup> See: National Accounts of Russia in 1989-1994, pp.151-153

heavy and military industries. Second came trade, financial and some other services, which benefited from the liberalization and all-out external opening.

Because of the data limitations we can only calculate the structure of GDP, the cost structure of value-added (or VA), and industrial shares in total profits and mixed income in current prices. For GDP we also present very tentative estimates in constant prices (see Supplement, table II, III and IV). However, even these limited data point to some important conclusions.

First, for the economy as a whole the shares of wage income and profits and mixed income in VA are nearly equal. Their combined share exceeds three-fourths of the total VA. Consumption of fixed capital accounts for less than one-fifth of VA. In trade and financial sector more than three-fourths and four-fifths of their respective VA levels go into the profit and the mixed income component. The relative importance of profits and mixed income increased significantly in industrial VA as well. Second, in industry the contribution of fixed capital to the generation of VA fell from 27.8% in 1989 to only 16.9% in 1993. That share is less than that of the economy in general. Third, the cost structure of VA in transport and communications and construction has changed insignificantly. Fourth, due to the overall redistribution of the nineties the lion's share of profits and mixed income comes from trade, the financial sector, and some sectors of industry and services. Finally, indirect information indicates that the rise of the share of profits and mixed income in industrial VA is explained by the relative expansion of the fuel industry, electricity, and metallurgy.

Summarizing, we return to the conclusion that current structural shifts in the make-up of GDP and changes in the factor composition of value-added are caused by a powerful process of redistribution. This in turn has been triggered by sharp changes in relative prices and the all-out external opening of the national economy.

Broadly speaking Russian industries can be divided into two sectors. The first is adjusting with a degree of success to the new economic environment. The second comprises degenerating and agonizing industries. The fall in production has been spread over the entire Russian economy, but the relatively better adaptability of

the first sector is explained by the fact that the new price and demand configuration allowed it to gain and/or suffer less from the overall reshaping.

Such structural shifts were easily predictable. Recalculation of the Russian input-output table for 1991 into world prices reveals that with the new relative prices industries separate into VA creators and destroyers. Table 7 compares the structure of profits in internal and world prices. Negative value added (precisely profits) is generated in agriculture, chemicals, and light industry. In the first variant of recalculation they are joined by food and coal industries. The latter is also unprofitable in the old Soviet prices.

Table 7. Industry breakdown of profits in Russian economy in 1991 in internal and “world average” prices (%)

	Internal Prices	World average prices*		
		I variant	II variant	III variant
Agriculture	14.0	-10.1	-9.7	-9.4
Industry	66.5	92.4	91.4	91.7
-electricity	2.8	22.6	20.8	18.6
- fuel industry	9.1	50.6	47.9	45.4
= oil and gas	9.2	50.5	47.6	45.0
= coal	-0.2	-0.02	0.2	0.3
= other	0.1	0.1	0.1	0.1
- ferrous metallurgy	3.2	4.5	4.2	4.0
- non-ferrous metallurgy	2.5	3.7	4.0	4.2
- chemicals and petrochemicals	5.2	-1.8	-1.5	-1.3
- machinery and metal working	24.4	4.5	4.8	4.9
- wood, timber, pulp and paper	3.3	8.1	8.4	8.7
- construction materials	2.5	3.3	3.9	4.5
- light industry	10.1	-2.3	-2.2	-1.9
- food industry	2.0	-2.1	0.9	3.5
Construction	6.2	5.5	5.5	5.6
Transport and communications	6.6	7.6	7.4	7.3
Trade	6.1	4.1	4.2	4.2
Other	0.6	0.5	0.5	0.6
Total	100	100	100	100
- Electricity and fuel	11.9	73.2	68.7	64.0
- other natural rent based industries	20.8	89.6	85.0	80.9

\* - recalculations was done in the variants under different assumptions

Source: Pitelin A, Popova V., Pugachev.V. Intra-sectoral Analysis of Russian Economy in World Prices, pp.67-68.

At world prices, the bulk of VA is generated in the fuel sector and some other industries based on natural resources and raw materials. In other words, the Russian (=Soviet) economy is a striking example of a natural resource rent economy. Since the late eighties it has spasmodically moved towards international standard

absolute and relative prices (and costs), causing increasing dualism within the inherited economic structure.

Shifts in structures of employment follow the same general directions (see table 8). The relative share of successfully globalizing industries is increasing, while degenerating sectors lose labor in relative and absolute terms. In 1992-1997 the share of electricity in total employment rose from 0.79% to 1.49%; fuel industry, from 1.16% to 1.72%; metallurgy, from 1.83% to 2.34%; finance and credit, from 0.5% to 1.2%. Shares of machinery and metal-working, light and food industry, and construction materials are on the contrary falling. More important is the fact that employment in the successfully globalizing industries increases in absolute terms, while in the degenerating industries it is falling.

Table 8. Industry's breakdown of employment (%)\*

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1997 as % of 1990	1998
Agriculture, forestry and fisheries	13.4	13.2	13.5	14.3	14.6	15.4	15.7	14.4	13.6	88	14.1
Industry	31.2	30.3	30.4	29.7	29.4	27.1	25.6	24.8	23.0	65	22.2
- electricity		0.79	0.85	0.96	1.05	1.10	1.20	1.30	1.49	162	
- oil and gas			0.32	0.38							
- coal		1.16	0.67	0.77	1.39	1.34	1.35	1.66	1.72	127	
- other fuel			0.07	0.06							
- ferrous metallurgy		1.13	1.03	1.16	1.24	1.15	1.16	1.56	1.39	106	
- non-ferrous metallurgy		0.70	0.62	0.75	0.85	0.80	0.88	1.00	0.95	116	
- chemicals and petrochemicals		1.63	1.60	1.64	1.74	1.57	1.55	1.63	1.54	81	
- machinery and metal working		13.93	13.87	13.14	12.48	10.93	9.90	9.63	8.67	53	
- wood, timber, pulp and paper		2.59	2.61	2.50	2.58	2.39	2.21	1.79	1.56	52	
- construction materials		1.58	1.86	1.88	1.72	1.62	1.56	1.26	1.10	60	
- light industry		3.30	3.24	2.78	2.67	2.49	2.13	1.73	1.48	38	
- food industry		2.23	2.50	2.52	2.45	2.42	2.41	2.25	2.16	83	
Construction	11.8	12.0	11.5	10.9	10.1	9.9	9.6	8.9	8.7	63	7.9
Transport and communications	7.9	7.7	7.8	7.8	7.6	7.8	7.8	7.9	7.9	88	7.6
Trade, public catering, material supply and distribution	7.9	7.8	7.6	7.9	9.0	9.5	9.9	10.3	13.5	148	14.5
Finance, credit, insurance and pensions	0.5	0.5	0.6	0.7	0.8	1.1	1.2	1.2	1.2	194	1.2
Administration	...	2.4	2.3	2.1	2.3	2.4	3.0	4.2	4.3	154	4.7
Other	27.3	26.1	26.3	26.6	26.2	26.8	27.2	28.3	27.8	101	27.8
Total	100	100	100	100	100	100	100	100	100	86	100

\* - figures in the table are tentative estimates. Official data on distribution of labor force by industries is lacking. Sources: Labor Market in the CIS Countries, p.260; The Commonwealth of Independent States in 1997, pp.431-432; The Commonwealth of Independent States in 1998, pp.429-430; Russian Statistical Annual 1996, pp.84,90; National Accounts of Russia in 1989-1994, pp.99,178; Statistical Handbook 1993, p.507.

Such large changes in relative positions of industries and the rapid social segmentation of a previously homogeneous (by income) population have led to socioeconomic differentiation. In the Soviet economy labor income accounted for three-fourths of the total. Combined with social transfers, wage and salary income provided more than 90% of total income (see table 9).

Table 9. Sources of household income in 1987 – 1998 (%)

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Wages and salaries	76.8	76.2	74.0	74.1	59.7	69.9	58.0	46.5	40.7	41.9	39.3	42.4
Social transfers	14.9	14.6	13.5	13.0	15.5	14.0	17.2	17.4	12.4	14.2	14.9	13.3
Entrepreneur and other income	8.3	9.2	12.5	12.9	24.8	15.0	19.1	31.8	40.5	38.6	13.0	16.5
Sales income											27.1	22.2
Property income											1.1	5.7
Total income	100	100	100	100	100	100	100	100	100	100	100	100

Sources: Russian Statistical Annual 1996, p.118; Statistical Review, N2, 1998, p.13; N1, 1997, p.12; Review of Russian Economy, II, 1998, p.27; Socio-Economic Situation in Russia, NXII, December 1998, p.263; Indicators of Economic Activity in "Household" Sector, pp.24-25; Russian Economic Reform. Crossing the Threshold of Structural Change, p.318

During the transition the relative importance of labor income decreased significantly. Still, in the first half of 1998 it accounted for 47.4% of total money income, exceeding all other sources. In the transition economy a large part of labor income is camouflaged as other income sources, thus its true share in total income is higher than indicated in the official statistics. Mass polls held in 1994-1997 repeatedly showed that wage and salary income accounted for 65-70% of total income.<sup>15</sup> The implication is that for the bulk of the population increasing income differentiation is explained by rising inequality in wages and salaries.

The distribution of labor income by deciles is presented in table 10. It reveals an intense redistribution during the transition years. In the period September 1991 – May 1996 the ratio of income of the 10% highest earners to the lowest 10% increased from 8.40 to 23.97. There is sharp and rising inequality between the second and ninth deciles, the ratio of their respective incomes widened from 3.34 in September 1991, to 6.31 in April 1994 and 6.32 in May 1996. During this period the combined share of the lowest three deciles in total wages and salaries declined from 13.5% to 8.0%. The share of the highest three deciles on the contrary rose from 52.3% to 62.5%. This rise almost exclusively went to the 10% highest income earners.

<sup>15</sup> Russia – 1997. Socio-Demographic Situation, pp.139-140,257

Table 10. Labor income distribution by deciles of wage and salary earnings

Decile	1	2	3	4	5	6	7	8	9	10
Gaps in wage and salary income (income level of the lowest 10%=1)										
September, 1991	1	1.57	1.97	2.32	2.69	3.08	3.58	4.24	5.25	8.40
April, 1994	1	1.95	2.24	3.75	4.77	5.89	7.26	9.35	12.31	23.37
April, 1995	1	2.03	2.92	3.87	4.95	6.20	7.81	9.96	13.41	26.41
May, 1996	1	1.95	2.79	3.66	4.67	5.81	7.18	9.09	12.32	23.97
Share of decile group in total wage and salary income (%)										
September, 1991	3.1	4.6	5.8	6.8	7.9	9.0	10.5	12.4	15.3	24.6
April, 1994	1.4	2.7	3.9	5.2	6.6	8.1	10.0	12.9	17.0	32.2
April, 1995	1,3	2.6	3.7	4.9	6.3	7.9	9.9	12.7	17.1	33.6
May, 1996	1.4	2.7	3.9	5.1	6.5	8.0	9.9	12.5	16.9	33.1

Source: On Differentiation of Wages of Employed at Enterprises (in Organizations) in the First Half of 1996, pp.71-72

One of the reasons for such sharp and increasing inequality is the widening gap in average wage and salary payments in different industries, implying a redistribution of the total wage fund between sectors. At the same time *interindustry* differences in wage and salary payments cannot explain such a sharp rise in inequality. *Intraindustry* differentiation in payments is an equally and sometimes more important explanatory factor of inequality.

More generally, Russia's inherited economic structure is splitting into successfully globalizing and degenerating sectors along intraindustry, enterprise, and even sub-enterprise lines. There exist many degenerating producers within each relatively well-adjusting sector (due to unfavorable location in remote areas, bankruptcy of suppliers and consumers, inability to export because of weak bargaining positions of the management, and numerous other factors). Often the line dividing "globalization" from "degeneration" faces an enterprise, in which case its success depends on the ability of management to restructure it into profitable and obsolete units. In general, besides some enterprises that depend exclusively on export demand, the overwhelming majority of Russian producers exist simultaneously in both "globalizing" and "degenerating" sectors.

From 1994 to the first half of 1997, due to the noticeable increase of world oil prices as well as to its continuing reorientation towards external markets, the fuel industry reached a somewhat stable plateau. Despite the appreciating ruble, export earnings allowed it to earn profits in national currency sufficient to support its own development. The stabilization of the two key prices—the crude oil price and

exchange rate—gave temporarily relief to the entire economy. Some industries even partially restored positions lost during the period of high and sectorally uneven inflation. In 1995-1997 leaders in the price run were construction, agriculture, and payable services to the population (see table 6).

Unfortunately, stability of the plateau proved to be short-lived. A sharp drop of world oil prices started in the second half of 1997, in a prelude to the collapse in August 1998. This time a new inflationary round was triggered by maxi-devaluation. It again allowed the fuel industry to increase its profits in national currency terms. We anticipate that the new inflationary surge will be shorter and less intense compared to the one in the first half of the nineties. First, the large-scale devaluation increased ruble profits of oil and gas sector sufficiently to ensure their own development. Second, further catching up of energy prices to world average levels could finally kill the inherited industrial structure, which had already largely failed to adjust to the pre-August, 1998 price levels.

### **“Shadowization”**

Analysis of structural changes in production, employment, and the distribution of income would be incomplete without considering the phenomenon of the shadow economy. The shift of a substantial part of production and consumption outside official recognition is a salient feature of the Russian transition. According to official statistics up to 20%- 25% of GDP is being created in the shadow sector.<sup>16</sup> Some radical estimates raise this figure to 40%.

The methodology used to evaluate shadow activities is not fully transparent and in some cases arouses reasonable skepticism. However, the fact that shadowization is not just a statistical phenomenon, but a powerful process with broad economic and societal implications, cannot be seriously doubted. In terms of scale and intensity of influence on the economy and social sphere, shadowization can be compared to collectivization of agriculture and socialist industrialization in the twenties and thirties or militarization in the sixties and seventies.

---

<sup>16</sup> National Accounts of Russia in 1989-1996, p.16

Shadowization is based on ambiguous privatization, arrears, and dollarization. Shock changes in relative prices, the transformation of property relations, often in a disguised form, and full-fledged external liberalization led to de facto establishment of a “three-currency” monetary system. Besides the use of rubles, economic transactions in the Russian economy are being facilitated by quasi-money rooted in the arrears and hard currency, mostly American dollars (see table 11).

Table 11. Alternative measures of money mass in Russian economy

	1 January 1999	1 January 1998	1 January 1997	1 January 1996	1 January 1995	1 January 1994
1. GDP, trillion RR	2684.5	2586.4	2256.1	1630.1	610.7	162.3
2. Overdue crediting arrears of enterprises, trillion RR	1230.6	756.1	514.4	362.0	150.5	11.3
<i>2:1, %</i>	<i>45.8</i>	<i>29.2</i>	<i>22.8</i>	<i>22.2</i>	<i>24.6</i>	<i>6.7</i>
3. Official ruble M2, trillion RR	452.5	374.1	295.2	220.8	97.8	34.6
<i>3:1, %</i>	<i>16.9</i>	<i>14.5</i>	<i>13.1</i>	<i>13.5</i>	<i>16.0</i>	<i>21.3</i>
3.1. Official ruble M0(cash), trillion RR	187.8	130.0	103.8	80.8	36.5	13.3
<i>3.1:1, %</i>	<i>7.0</i>	<i>5.0</i>	<i>4.6</i>	<i>5.0</i>	<i>6.0</i>	<i>8.2</i>
4. Hard currency M2, trillion RR		325.0				
<i>4:1,%</i>		<i>12.1</i>				
4.1 Hard currency M0(cash), trillion RR	404.6	240.0				
<i>4.1:1, %</i>	<i>15.1</i>	<i>9.3</i>				
5. Ruble and hard currency M2, trillion RR		699.1				
<i>5:1,%</i>		<i>27.0</i>				
6. Ruble and hard currency M0,(cash), trillion RR	592.4	370.4				
<i>6:1</i>	<i>22.1</i>	<i>14.3</i>				
7. Gross M2(2+3+4), trillion RR		1 466.1				
<i>7:1</i>		<i>56.7</i>				

Sources: Economic Conjunction of Russia in January-March, 1999, pp.53,63; Balance of Payments of the Russian Federation in 1998, Supplement, table 1; The Commonwealth of Independent States in 1998, p.439; Russian Economy in 1997. Tendencies and Perspectives, p.22; Socio-Economic Situation in Russia, NI, January 1998, pp.17,169; Russian Economic Trends, Monthly Update, 7 May 1998, chart 3; 30 January 1998, table 7; Review of Russian Economy, 1997, NII, pp.83-84; Russian Statistical Annual 1994, pp.9,269,276.

Arrears, initially thought to be a temporary phenomenon of the transition economy, are in fact expanding. By the end of 1997 overdue credit arrears of enterprises reached 28.3% of GDP and were twice official M2. In 1998 they increased to 45.8%(!) of GDP or about three times the ruble money mass. Just a few years ago in the beginning of 1994 they accounted for only 6.7% of GDP and were three times smaller than the official M2.

Initially arrears appeared as a defensive reaction on the part of the production system. It had become non-competitive in terms of the new relative prices (and costs) and had lost traditional demand in the form of purchases by the state. Unable to pay for raw materials and intermediate inputs, producers began to rely heavily on accumulation of arrears. The situation has not significantly changed since 1992. Regular write-offs of arrears accumulated in the real sector by successive governments in 1992-1999 sent producers clear signals that the authorities were also ready to maintain the system.

Gradually an increasing number of profitable enterprises have also moved under the roof of arrears. That was rational and expectable behavior as arrears allowed firms to receive resources and intermediate inputs free. Also, artificially created unprofitability allows enterprises to avoid paying taxes.

There exists a macroeconomic hypothesis, not supported by exact proofs, that the dynamics of overdue credit arrears of enterprises has a statistically significant negative correlation with “net errors and omissions” in Russia’s balances of payments.<sup>17</sup> If the hypothesis is correct, it means that payments between Russian enterprises are done via off-shore accounts in foreign tax havens.

Shadow transactions between economic agents within the Russian economic system are being helped by its overall dollarization. In 1997 the volume of hard currency in cash, circulating in Russian economy, was 1.8 times bigger than ruble M1 and amounted to 62% of ruble M2. The relatively high share of cash rubles in the total official money mass additionally helps many transactions to escape registration and taxes.

Given the size of the unreported economy, it is evident that the absolute money income of the population is higher than is statistically registered. For instance, adjusted account of the “household sector” in the social accounting matrix shows that a substantial and increasing share of labor income avoids reporting. In 1993 unreported wage payments accounted for 13.5% of the officially registered wage fund or 5.3% of GDP. In 1994 the corresponding figures rose to 20.8% and

---

<sup>17</sup> Gavrilentov A., Kosarev A. On Foreign Trade Statistics and Evaluation of Tendencies in Balance of Payments of the Russian Federation, p.9

8.5%, and in 1995 to 31.5% and 10.4% respectively<sup>18</sup>. Crude estimates from the Russian-European Centre of Economic Policy are comparatively modest. They state that actually paid wages and salaries in 1995 were 7.9% higher than the official figure. The discrepancy rose to 15.5% in 1996, 19.8% in 1997 and 18.3% in the first quarter of 1998.<sup>19</sup> These indirect estimates are supported by results of some polls.

In all cases mixed income flows—not pure wage income—are implied. A strict split of unreported income into wage and entrepreneurial components is not possible. In the chaotic Russian economy in many cases it is more profitable and convenient to receive a part of entrepreneurial profits in cash via wage payments. More widespread is the practice of camouflaging wages as interest income on bank deposits and insurance premiums, as both are not taxed.

In any case, substantial underreporting of income allowed some authors to arrive at favorable assessments of the social situation in Russia. Results to date of the economic transition also look brighter. However, these conclusions fail to recognize that shadow incomes are distributed more unevenly than official ones.

In 1997 a research group headed by S. Aivazyan made an attempt to quantify the scale of unreported income and also estimated its distribution among different income groups using a sophisticated econometric approach.<sup>20</sup> The results permit a more adequate understanding of the peculiarities of the transition and social stratification in contemporary Russia. The methodology rests on common sense and deep understanding of the institutional and structural features of the present economic system.

It postulates that the standard mathematical apparatus employed to distribute the population into income groups is not appropriate for the present Russian situation. The log-normal distribution used to classify the population into quintiles and deciles works more or less correctly in stable economies. However, for Russia with its shocking jump in socio-economic differentiation and sharp shifts in sources and structure of incomes a log-normal distribution gives distorted results. In a first stage one has to split the population into groups, which are homogeneous by income

---

<sup>18</sup> Indicators of Economic activity in “Households” Sector, p.25

<sup>19</sup> Review of Russian Economy, II, 1998, pp.27-28

<sup>20</sup> Aivazyan S. Model of Formatting of Russia’s Population Distribution by Size of Per Capita Income, pp.74-86

characteristics, so that the distribution of income *within* a group can be described log-normally. In a second stage, these homogeneous groups are “mixed” to receive standard decile characteristics. For the splitting and mixing procedures, bootstrap analysis, the Monte Carlo method, and qualified expert estimates are used.

This technique showed that 54% of personal income escapes official registration.<sup>21</sup> By both sources and structure of income Russia’s population has split into five homogeneous groups.

The first, with the lowest income, is made up of the unemployed, sporadically employed, non-working retired persons, stipend receivers, and low-paid blue-collars workers. The second group is represented by the employed in the budgetary and service sectors. The third includes wage and salary earners in the relatively successful fuel industry, ferrous and non-ferrous metallurgy, electricity, financial and banking services, and prospering traders. The fourth group comprises main shareholders and the highest managers from the fuel industry, metallurgy, and banking and finance. Low and middle levels of state bureaucracy, highly paid managers, low and middle personnel of the shadow economy, and a tiny share of intellectual and creative elite (=professionals) also belong to this group. The highest level of the state bureaucracy and heads of the mafia and the shadow economy make up the fifth group.

Relative shares of these five socio-economic groups in the total population, cumulative income, and respective per capita average incomes are presented in table 12. In October 1996 the first group with an average monthly income per capita of 350 thousand rubles (US\$64) accounted for 39% of Russia’s population. Its share in total cumulative income was 11.3%. At the opposite extreme were the fourth and the fifth groups with average monthly per capita incomes of US\$2,210 and US\$22,100 respectively. The combined share of these two groups in the total population was 4%, yet in the cumulative income it was 42.4%.

---

<sup>21</sup> Ibid, p.80

Table 12. Homogeneous income groups: shares in total population, cumulative income and average per capita dollar income (October 1996)

	Population, %	Income, %	Per capita income, US\$
Fifth group	0.03	3.0	22 100
Fourth group	3.97	39.4	2 100
Third group	17	23.1	302
Second group	40	23.2	129
First group	39	11.3	64

Source: Aivazyan...p.80; Russian Economic Trends, 11 November 1998, table 16

The adjusted distribution of Russia's population by income deciles is presented in table 13. The data flatly contradict the popular myth postulating the emergence of a middle class in wake of the transition. Russia-USA comparisons by quintiles show that if in America the combined share of the second and the third quintile groups in the total income reaches 26.5%, in Russia the same share is only 16.25%. The Russian fourth-quintile's share in cumulative income is 16.89%, well below the American level of 23.5%<sup>22</sup>.

Table 13. Russia's population differentiation by income groups

Decile	1	2	3	4	5	6	7	8	9	10
Gaps in income (income level of the lowest 10%=1)										
October, 1996	1	1.31	1.40	1.81	1.97	2.78	3.07	5.21	7.64	22.82
Share of income group in total income (%)										
October, 1996	2.04	2.68	2.85	3.70	4.02	5.68	6.27	10.62	15.58	46.56

Source: Aivazyan, p.84.

The Gini coefficient is 0.556 and the share of the highest quintile in total income is 62.14%. Such sharp inequality places Russia in much the same position as Brazil (the corresponding figures in 1995 were 0.601 and 64.2%), Zimbabwe (1990: 0.568 and 62.3%), Columbia (1995: 0.572 and 61.0%), Mexico (1995: 0.503 and 55.3%), Chile (1994: 0.565 and 61.0%), South Africa (1993: 0.584 and 63.3%) and other highly inegalitarian developing economies.<sup>23</sup> In none of the transition countries of Central and Eastern Europe has income inequality reached an intensity and scale comparable to that of Russia.

After the burst of the speculative debt bubble in August 1998, inequality in income distribution sharpened further. The share of income received directly in hard

<sup>22</sup> World Bank Development Report 1998/1999, p.199 and table 13

currency increased significantly from the lowest to the highest income strata. Massive devaluation hit first of all low-income ruble recipients, decreasing their real incomes significantly. Through mid-1999 the decrease had not even been partially compensated by indexation of nominal incomes in rubles. Average money income in the first and the second groups fell to US\$20-25 and US\$35-40 respectively. In other words four-fifths of the total population of Russia receive about US\$1 per day. At the same time high-income earners, who receive a large part of their income in dollars, benefited from the devaluation.

### **Segmentation of the labor market**

Increasing dualism of the economy and its progressive shadowization strongly affected the structure of the labor market. It has split into five overlapping segments: formal employment, hidden employment in the modern (=monetized) sector, hidden employment in non-monetized agriculture, officially registered unemployment, and hidden unemployment.

Such a configuration is not totally new for Russia. During Soviet times rural and a large number of urban residents, including those in the largest cities, were massively engaged in the production of potatoes, vegetables, and animal husbandry. Production was consumed within the household sector itself.

Crude estimates of absolute and relative sizes of the five major segments of the labor market are presented in table 14. As we have already noted, Russian employment data are poor. Even data on labor force distribution by industrial branches are lacking. Thus, only incomplete quantification is possible.

The deep contraction of economic activity in 1986-1998 made a significant part of formally employed labor excessive. Partial unemployment, amounting to 4-5 million people or 6-8% of the total formal employment, can be treated as a minimal estimate of the excess labor supply. A maximum estimate can be drawn assuming that production and employment fall proportionally. Under this assumption, excess

---

<sup>23</sup> Ibid, pp. 198-199. For some countries Gini coefficient and quintile distribution was received on the expenditure basis

Table 14. Employment by socio-economic sectors\*

	1992	1993	1994	1995	1996	1997	1998
Absolute numbers, million							
Formal employment	72.0	70.9	68.5	66.4	66.0	64.6	63.6
- minimal excessive employment (annualized number of partially employed)	...	3.3	4.8	4.5	5.8	4.1	...
- maximal excessive employment**	10.9	15.0	19.7	19.8	20.8	19.1	20.2
Hidden employment in modern sector***						9-12	
Economically active population	76.0	75.2	74.0	72.6	73.0	72.5	72.2
Official (registered) unemployment	0.6	0.8	1.6	2.3	2.5	2.0	1.9
Hidden (unregistered) unemployment	3.0			4.7	4.3	5.4	
Structure, %							
Formal employment	100	100	100	100	100	100	100
- minimal excessive employment (partially employed)	...	4.7	7.0	6.8	8.8	6.3	
- maximal excessive employment**	15	21	29	30	32	30	32
Hidden employment in modern sector***						14-19	

• - figures used by Maleva and Sinyavskaya differ slightly from the data in tables 1 and 2. To make the two series comparable we adjusted them on the basis of tables 1 and 2.

\*\* - figures calculated under the assumption that output per worker achieved in 1990 remains unchanged

\*\*\* - transactions in modern sector rest on ruble, hard currency and various quasi-money means of payment

Sources: Maleva T., Sinyavskaya O. Social Sphere, p.45; Vremya MN, 5 November 1998, p.3, sources to tables 1 and 2 and our estimates.

formal employment amounts to about 20 million people or 30% of the total employed. In reality the relationship between production and employment levels is not linear. Experts on the Russian labor market estimate that excess formal employment in 1997 was 12-14 million,<sup>24</sup> roughly equal to the average of our maximum and minimum estimates.

At the same time from 9 to 12 million people or 15-18% of the total labor force are connected to the sector of hidden employment.<sup>25</sup> This sector provides jobs to formally employed workers and employers, both registered and unregistered unemployed, retired persons and youth under the working age, as well as to legal and illegal workers from the CIS and abroad.

Indeed, labor market segmentation is still more complicated due to widespread secondary and multifold employment. Up to 35-40% of the Russian population have additional employment besides a basic formal job.<sup>26</sup> A special

<sup>24</sup> Russia – 1997. Socio-Demographic Situation, p.88; Vremya, 5 November 1998, p.3

<sup>25</sup> The low figure was received in the representative poll of the working population. The high estimate is given by one of the leading experts on the Russian labor market T.Maleva. See: Vremya, 5 November 1998, p.3; Perova I., Khahulina L Evaluation of Income from Unregulated Additional Employment, pp.29-31

<sup>26</sup> Russia - 1997. Socio-Demographic Situation, p.128

survey taken in 1997 revealed that 49% of those polled had one additional job; 32% had two jobs; 14%, three jobs; and 3%, more than three jobs<sup>27</sup>.

Excluding the agricultural sector, the bulk of hidden employment is generated at the interface between the national and world economies. Rather conservatively it can be estimated that more than two-thirds of hidden employment is generated by shuttle import trade conducted by physical persons, retail trade with legally and illegally imported goods, and a wide range of personal services rendered to the high income groups benefiting from liberalization and external opening.<sup>28</sup>

A special feature of hidden employment is a relatively high level of payments compared to those for formal employment. Sporadic jobs often pay well (by local standards), especially in comparison to wages in the degenerating sectors in the formal economy. Also, hidden employment is free of non-payments and arrears.

The multifaceted structure of the labor market partially eases social conflict. In the medium to long run, however, it contributes to the proliferation of marginal groups. About 12-14 million excess workers in the formal sector have been hanging on for the last decade. Enterprises with a major overhang of excess labor basically have no chance for revival. Excess labor just prolongs the agony of noncompetitive producers, and at the same time blocks the establishment of a market-type industrial organization. From the other side, new labor entering the market finds attractive niches in the hidden employment sector. The problem is that it has no serious future prospects.

## **Conclusion**

The transition in Russia has been accompanied by a profound split of the economy and society in general into two disparate sectors. One is the global sector, comprising those activities which gained (or lost less) from the ongoing restructuring of relative prices and which have integrated successfully into the

---

<sup>27</sup> Ibid,p.124

<sup>28</sup> More radical estimates put number of engaged into shuttle import only at 10-15 million – Vremya, 22 January 1999,p.4. This estimate looks exaggeration to us, but the problem is that reliable data is virtually non existent

global economy. The other is the degenerating sector, unable to function with the new price proportions and demand configuration.

The increasing dualism of the economic structure implies sharpening inequality in the distribution of monetary flows. Given that the most acute, however often disguised, source of inequality lies with the distribution of assets and natural resources, true socioeconomic disparity in contemporary Russia is much more pronounced than is reflected in statistics of monetary flows. Privatization of a few efficient enterprises and the parallel process of shadowization are the key mechanisms ensuring redistribution of incomes and assets in favor of tiny high-income groups.

Crude estimates show that the global sector provides employment to 20-25% of the labor force and guarantees a satisfactory level of living to 15-20% of Russia's total population. About 50 million of the "excess employed" and up to 110 million of the rest of the population comprise the opposite pole of poverty and deprivation.

Enormous gaps in incomes and lifestyles, typical for people belonging to the opposite sectors, are only part of the problem. The rest is due to the fact that profits generated in the global sector continuously leak out of the country. The underlying causes include the extreme openness of the economy and overall dollarization of the financial sphere, combined with a lack of public control over flows of physical resources and money. Under the circumstances, the post-Soviet ruling class is well positioned to accumulate personal wealth in hard currency outside the national banking system.

According to official data, the share of personal savings used to purchase hard currency increased from 3% in 1992 to 84% in 1997 (see table 15). Data adjusted for shuttle imports, tourism, and migrant remittances reveal a less pronounced but still impressive dollarization of personal savings. The lion's share of saving comes from high-income groups. Meanwhile, even inaccurate polls, which tend to camouflage the real priorities of the wealthy, reveal that rich families generating about 60% of all personal saving place up to 30% in accounts in foreign banks.<sup>29</sup>

---

<sup>29</sup> Ibid, pp.268-269

Table 15. Personal savings in Russia in 1990-1998

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 IH
<b>Official data</b>												
Savings as % of money income	6.3	7.1	8.3	12.6	29.4	18.9	23.4	28.7	23.9	25.2	25.6	27.0
Structure of savings												
Banking deposits	87	88	90		64	25	26	22	21	16	4	5
Cash rubles	8	7	5		33	72	39	16	15	6	7	12
Buying of hard currency (cash)	2	2	2	-	-	3	34	62	63	75	84	78
Bonds and stocks	3	3	3	-	3	0	1	0	1	3	4	5
<b>Adjusted data</b>												
Savings as % of money income						17.8	18.2	14.8	9.4	10.3	8.5	
Structure of savings												
Cash rubles						76	34	30	37	14	20	
Net buying of cash hard currency(buying minus selling)						-3	15	26	10	38	53	
Banking deposits, bonds and Stocks						27	51	44	53	48	27	

Source: The Commonwealth of Independent States in 1997, p.469; Socio-Economic Situation in Russia, NVI, January-June 1998, pp.208-209 and NXII, January-December 1997, pp.278,280-281; Grigoriyev L., Nikolaenko S Personal Savings of Population, p.5; Kashin Yu. Financial Actives of Population (Savings): An Approach to Evaluation of Level of Living, p.49; Russian Economic Reform. Crossing the Threshold of Structural Change, p.319.

The temporary increase of world oil and metals prices in 1995-1997 slowed the shock increase in inequality. A positive and significant foreign trade balance, restructuring of Soviet debt, financial injections from the IMF and the World Bank, and a massive inflow of short-term private capital allowed inflation stabilization. For a short period these and related factors spurred a speculative regime of growth led by imports and accumulation of foreign debt.

Appreciation of the ruble in real terms as well as higher nominal wages and hard currency inflows temporarily stabilized the social and economic situation. Real income increases and parallel growth of cheap imports ensured relative stability and social peace. However, the collapse of the speculative debt bubble on 17 August 1998 immediately ruined the fragile regime of economic growth and social tranquility.

If the tendencies in the wake of the crash continue, the Russian economy will split completely into separate globalizing and degenerating sectors. Naturally, the splitting process will take a rather long period of time, as transitory socioeconomic forms of production and employment emerge. If world energy and

metals prices remain low the global sector, suffering from underinvestment and depletion of productive assets, is doomed to shrink like Balzac's *Peau de Chagrin*. Its capacity to support a certain level of employment will also diminish.

The mechanism of arrears, a degree of centralized budgetary financing of education, health and budgetary subsidies to communal services, and subsidized prices on bread and other basic food products may prevent the final division of the economy and the society into poles of poverty and relative well being. Production activities which are ineffective in the new configuration of final demand and production costs may receive sufficient resources via arrears and budgetary injections to prolong their existence. Similar mechanisms ease the burden placed upon the impoverished and low-income strata of the population. But in the medium and long run the redistributive potential of arrears and budgetary expenditures is limited.

Privatization of state enterprises, the decentralization of foreign trade, and the shift of nearly all profitable activities into the shadow economy have deprived the government of traditional sources of revenue, undermining budgetary finance. At the prevailing official exchange rate the Russian federal budget in 1999 is only US\$20 billion. This level of revenues makes support of education, health, and social services—all created in the Soviet time to serve the entire population free of charge—impossible. As four-fifths of the population are poor and very poor, massive commercialization and privatization of social services are not useful. Hopes to transfer pension funds to the private sector are futile, as most Russians face increasing difficulties even in supporting their current levels of consumption.

The worst outcome of liberalization is that the arrears and massive price movements have destroyed essential economic information. Producers have no objective bases for the development of medium- and long-term strategies. Soviet-style industrial organization has been obliterated and a market-based system has not been created. The Russian economy is trapped in a vicious and narrowing circle.

The sudden world oil price jump in early 1999 significantly eased “hard currency strangulation” for the contemporary Russian economy. High export earnings and decreasing imports, reduced by the maxi-devaluation, made the foreign

trade balance strongly positive. Inflows of hard currency via the current account substituted for portfolio investment and IMF/World Bank credit injections. In parallel to the new default on sovereign debt, Russian commercial banks and private corporations also defaulted massively, minimizing the outflow of hard currency. At the same time, the Central bank increased the mandatory surrender of hard currency for exporters. They now must sell 75% of earnings at special auctions. Through higher export duties, the government succeeded in enlarging budgetary revenues. Relatively high export earnings allow oil and gas producers to keep internal energy prices low.

As a result of these and related policy changes, Russia's GDP in 1999 is expected to rise 1-2%. Even stronger growth is forecasted for 2000. It is difficult to predict how long a restoration of the Soviet model of growth, which rested on inflow of petrodollars and low internal energy prices, will last this time. The restoration gives the economy a temporarily relief, but does not solve any of the inherent problems.

**Sources:**

1. Aivazyan S. Model of Formatting of Russia's Population Distribution by Size of Per Capita Income (in Russian) – In: *Ekonomika i Matematicheskie Metody*, Volume 33, Issue 4, October - December 1997, pp.74-86
2. Auslund A. Russia: Birth of the Market Economy (in Russian), Moscow: "Republika", 1996
3. Balance of Payments of the Russian Federation in 1998 (in Russian), The Central Bank, 1999
4. The Commonwealth of Independent States in 1998 (digest of provisional statistical results), Moscow: MSK CIS, 1999
5. The Commonwealth of Independent States in 1997. Statistical Annual, Moscow: MSK CIS, 1998
6. The Commonwealth of Independent States in 1998. Statistical Annual, Moscow: MSK CIS, 1999
7. Countries – Members of the CIS. Statistical Annual (in Russian) Moscow: "Finansy i Engineering", 1992
8. Economic Conjuncture of Russia in January-March, 1999 (in Russian), Center of Economic Conjuncture, Government of the Russian Federation, April 1999
9. *Ekonomika i Zhizh* (in Russian), N40, October 1992
10. *Economist* (in Russian), N5, May 1992
11. Expected Population of the Russian Population until 2015 (Statistical Bulletin) (in Russian), Moscow: Goskomstat RF, 1998
12. *Finansovaya Rossiya* (in Russian), N43, 19-25 November 1998,
13. Gavrilenkov Ye., Kosarev A. On Foreign Trade Statistics and Evaluation of Tendencies in Balance of Payments of the Russian Federation (in Russian). Paper presented at the conference "Problems and Perspectives of Economic Policy in Russia", "Bureau of Economic Analysis" Fund, Moscow, 2-3 July 1998(mimeo)
14. Grigoriyev L., Nikolaenko S. Personal Savings of Population (in Russian). Paper presented at the conference "Problems and Perspectives of Economic Policy in Russia", "Bureau of Economic Analysis" Fund, Moscow, 2-3 July 1998(mimeo)
15. Indicators of Economic Activity in "Households" Sector (Materials of the State Statistical Committee) (in Russian) – In: *Voprosy Statistiki*, N1, 1998, pp.24-25

16. Information on Socio-Economic Situation in Russia, January-March 1999 (in Russian), Goskomstat RF, 1999
17. Izvestia, Moscow, 1997-1999
18. Kashin Yu. Financial Actives of Population (Savings): An Approach towards Assessment of Level of Living (in Russian) – In: Voprosy Statistiki, N5, 1998, pp.43-51
19. Kommersant-Daily, Moscow, 1995-1999
20. Labor Market in the CIS Countries (in Russian), Moscow: MSK CIS, 1998
21. “Maleva T.: It’s Easier for Authorities not to Notice the Labor Market” (in Russian) – In: Vremya, 5 November 1998, p.3
22. Maleva T., Sinyavskaya O. Social Sphere (in Russian). Paper presented at the conference “Problems and Perspectives of Economic Policy in Russia”, “Bureau of Economic Analysis” Fund, Moscow, 2-3 July 1998(mimeo)
23. National Accounts of Russia in 1989-1994 (in Russian), Moscow: Goskomstat RF, 1995
24. National Accounts of Russia in 1989-1995 (in Russian), Moscow: Goskomstat RF, 1996
25. National Accounts of Russia in 1989-1996 (in Russian), Moscow: Goskomstat RF, 1998
26. National Accounts of Russia in 1991-1998 (in Russian), Moscow: Goskomstat RF, 1999
27. On Differentiation of Wages of Employed at Enterprises (in Organizations) in the First Half of 1996 (in Russian) – In: Infomatzionno-Statisticheskiy Bulletin, N13, November 1996, Moscow: Goskomstat RF, pp.65-82
28. Perova I., Khahulina L. Estimate of Incomes from Unregulated Additional Employment (in Russian) – In: Monitoring Obschestvennogo Mneniya, N3, May-July 1998, Moscow: VTZIOM, 1998
29. Pitelin A., Popova V., Pugachev V. Intra-sectoral Analysis of Russian Economy in World Prices (in Russian) – In: Ekonomika i Matematicheskie Metody , Volume 30, Issue 1, January-March 1994, pp.61-75
30. Population of Russia – 1994 (in Russian), The Second Annual Demographic Report, Institute of Economic Forecasting and Center of Demography and Human Ecology, Moscow: “Evrazia”, 1994
31. Review of Russian Economy (in Russian), II, 1993, Moscow: “Progress - Universitet”, 1994

32. Review of Russian Economy (in Russian), Russian-European Centre of Economic Policy, Moscow, II, 1997; III, 1997; II, 1998
33. Russia Demographic Annual 1996 (in Russian), Moscow: Goskomstat RF, 1996
34. Russia Demographic Annual 1997 (in Russian), Moscow: Goskomstat RF, 1997
35. Russian Statistical Annual 1994 (in Russian), Moscow: Goskomstat RF, 1994
36. Russian Statistical Annual 1996 (in Russian), Moscow: Goskomstat RF, 1996
37. Russian Statistical Annual 1998 (in Russian), Moscow: Goskomstat RF, 1998
38. Russia – 1993. Economic Conjuncture (in Russian), Issue 1, Center for Economic Conjuncture and Forecasting at the Ministry of Economy, Moscow, February 1993
39. Russia – 1997. Socio-Demographic Situation (in Russian), Institute of Socio-Economic Problems of Population, Moscow, 1998
40. Russian Economic Reform. Crossing the Threshold of Structural Change, The World Bank, Washington D.C., 1992
41. Russian Economic Trends, Quarterly Issue, Russian European Centre for Economic Policy, 1997, I
42. Russian Economic Trends, Monthly Updates, Russian European Centre for Economic Policy, 30 January 1998; 7 May 1998; 11 November 1998; 11 March 1999; 7 October 1999
43. Russian Economy in 1997. Tendencies and Perspectives (in Russian), Moscow: Institute of Economic Problems of the Transition Period, March 1998
44. Sarafanov M. The Grave Will Correct (in Russian) – Expert (Moscow), N25, 5 July 1999, pp.15-19
45. Segodnaya, Moscow, 1997-1999
46. Shevyakov A. Improvement of Methodology of Measuring of Level of Living, Economic Inequality and Poverty: Dynamics and Interregional Comparisons (in Russian), Moscow, 1998(mimeo)
47. Sinelnikov S., Anisimova L., Batkibekov S. et al. Problems of Tax Reform in Russia: Analysis of the Present Situation and Perspectives of Development (in Russian), Moscow, Eurazia, 1998

48. Socio-Economic Situation in Russia (in Russian), NXII, January-December 1997, Moscow: Goskomstat RF, 1997
49. Socio-Economic Situation in Russia (in Russian), NI, January 1998, Moscow: Goskomstat RF, 1998
50. Socio-Economic Situation in Russia (in Russian), NXXII, December 1998, Moscow: Goskomstat RF, 1998
51. Socio-Economic Situation in Russia (in Russian), NVI, January-June 1998, Moscow: Goskomstat RF, 1998
52. State of the Monetary and Credit System and Payments in the Economy in 1998 (in Russian), Center for Economic Conjuncture, Government of the RF, April 1999
53. Statistical Handbook 1993. States of the Former USSR (in Russian), World Bank, Washington D.C., 1992
54. Statistical Survey (in Russian), N1, 1997, NN1-2, 1998, Moscow: Goskomstat RF
55. Statistical Survey (in Russian), N2, 1999, Moscow: Goskomstat RF
56. Statistical Handbook 1996. States of the Former USSR. The World Bank, Washington D.C., 1996
57. Taylor L. Economic Openness – Problems to the Century’s End, WIDER, Helsinki, April 1988
58. Vishnevskiy A.A Demographic Potential of Russia (in Russian) – In: Voprosy Ekonomiki, N5, 1998, pp.105-122
59. Zhukov S. Russia: Foreign Investment and Perspectives of Economic Growth (in Russian) – In: Developing Countries and Russia. Ways of Integration into the Modern System of World Economic Relations, Institute of World Economy and International Relations, Moscow, 1998, pp.75-103
60. Zhukov S. Russia: Economic Growth and Imperatives of Globalization (in Russian) – In: Mirovaya Ekonomika i Mezhdunarodnuye Otnosheniya, N1, January 1999,
61. Zhukov S. Russia and World Capital Markets (in Russian), Institute of World Economy and International Relations, Moscow, 1999

## Supplement

Table I. Relative productivity (value added per employed, total economy=1)

	In prices of 1990			In prices of 1995		
	1990	1995	1998	1990	1995	1998
Agriculture, forestry And fisheries	1.26	1.22	1.12	0.48	0.46	0.45
Industry	1.26	1.22	1.39	1.18	1.13	1.32
Construction	0.80	0.65	0.60	1.11	0.92	0.85
Transport and Communications	1.30	1.08	1.08	1.85	1.50	1.52
Trade, public catering, material supply and distribution	0.78	0.80	0.62	1.88	1.98	1.53
Finance, credit, Insurance and pensions	1.60	1.64	1.84	1.25	1.28	1.45
Other	0.65	0.83	0.87	0.53	0.71	0.68
Total	1	1	1	1	1	1

Sources: The Commonwealth of Independent States in 1998, pp.429-430; Statistical Handbook 1996, pp.383,386; Russian Statistical Annual 1998, pp.50,179; National Accounts of Russia in 1989-1998, pp.31-38,40.

Table II. Industry's breakdown of value added (%)

	Current prices				Constant prices					
	1990	1992	1995	1998	Prices of 1990			Prices of 1995		
					1990	1995	1998	1990	1995	1998
Agriculture, forestry and fisheries	16.7	8.3	7.1	5.8	16.7	18.3	16.6	6.3	7.1	6.4
Industry	38.3	35.7	29.6	29.1	38.3	31.5	30.9	35.7	24.6	29.2
Construction	9.6	8.2	8.7	7.2	9.5	6.1	4.8	13.3	8.7	6.8
Transport and communications	10.1	8.6	12.0	11.4	10.1	8.5	8.2	14.3	12.0	11.5
Trade, public catering, material supply and distribution	6.1	19.7	20.1	20.3	6.1	8.2	9.0	14.6	20.1	22.2
Finance, credit, insurance and pensions	0.8	5.3	1.6	0.4	0.8	2.0	2.1	0.7	1.6	1.7
Other	18.4	14.2	20.9	25.8	18.4	25.4	28.4	15.1	20.1	22.2
Total	100	100	100	100	100	100	100	100	100	100

Sources: same as to table I.

Table III. Cost structure of value added by industries (%)

	1989	1990	1991	1992	1993	1994
Agriculture						
-wages	25.5	42.9	31.9	39.3	36.7	34.7
-consumption of fixed capital	16.6	16.0	6.7	24.4	22.5	39.1
-net profit and mixed income	53.1	35.8	61.2	35.3	39.7	25.5
-taxes	4.8	5.3	0.2	1.0	1.1	0.7
Industry						
-wages	45.5	45.3	38.7	36.8	38.2	37.1
-consumption of fixed capital	27.8	25.6	11.2	15.5	16.1	24.6
-net profit and mixed income	18.7	20.5	48.5	43.9	42.4	36.5
-taxes	8.0	8.6	1.6	3.8	3.3	1.8
Construction						
-wages	70.1	72.8	70.0	83.0	69.0	63.2
-consumption of fixed capital	6.3	18.8	6.3	17.8	15.3	17.1
-net profit and mixed income	23.0	2.3	23.0	-1.2	14.9	18.5
-taxes	0.6	6.1	0.7	0.4	0.8	0.7
Transport and communication						
-wages	56.0	58.2	51.8	51.4	54.2	49.3
-consumption of fixed capital	13.3	12.5	20.7	21.6	21.6	27.0
-net profit and mixed income	26.8	27.7	27.4	26.1	22.3	22.5
-taxes	3.9	1.6	0.1	0.9	1.9	1.2
Trade						
-wages	67.4	71.3	23.8	7.3	16.0	19.0
-consumption of fixed capital	14.2	13.5	2.4	1.1	2.8	3.3
-net profit and mixed income	14.6	13.5	73.7	91.6	80.5	75.9
-taxes	3.8	1.7	0.1	0.0	0.7	1.8
Finance and insurance, etc.						
-wages	43.0	58.8	23.6	11.9	17.9	25.3
-consumption of fixed capital	13.5	11.8	0.3	0.2	0.4	1.9
-net profit and mixed income	40.5	29.4	76.1	87.7	81.2	69.6
-taxes	3.0	0.0	0.0	0.2	0.5	3.2
Total economy						
-wages	50.2	52.4	45.3	37.4	43.1	
-consumption of fixed capital	21.3	20.0	10.7	13.0	16.5	
-net profit and mixed income	22.3	22.3	43.2	48.0	38.7	31.9
-taxes	6.2	5.3	0.8	1.6	1.7	

Sources: National Accounts of Russia in 1989-1994, pp.31-35.

Table IV. Industry shares in net profits and mixed income (%)

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Agriculture	40.0	26.7	18.0	7.3	9.3	7.8	9.5	9.7	8.7	8.0
Industry	32.5	35.0	43.3	34.2	37.9	38.7	27.7	27.8	25.6	26.0
Construction	3.8	1.0	5.3	-1.8	4.5	6.3	6.2	5.8	5.8	5.5
Transport and communications	10.9	12.4	6.6	5.9	6.9	9.1	11.6	12.3	12.4	10.0
Trade	3.2	3.7	17.3	45.6	29.4	27.8	27.9	28.0	26.8	31.8
Finance and insurance, etc.	1.3	1.1	3.2	6.9	7.9	6.2	1.0	-1.1	-0.8	-1.6
Administration and defense	1.3	1.8	1.1	0.3	1.0	1.9	2.7	1.9	3.0	3.0
Other	9.0	20.6	9.4	4.7	10.0	10.1	15.3	16.1	19.1	17.5
Imputed financial intermediation	-2.0	-2.3	-4.2	-6.7	-6.9	-7.9	-1.9	-0.5	-0.6	-0.2
Total	100	100	100	100	100	100	100	100	100	100

Sources: same as to tables I and III.