RUSSIAN ECONOMIC REPORT

November 2007

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RUSSIAN ECONOMIC REPORT – NOVEMBER 2007

I. RECENT ECONOMIC DEVELOPMENTS

Russian economic performance remains robust. Having grown by 7.9 percent (year on year) in the first half of the year, Russia is likely to post full-year GDP growth of over 7 percent in 2007. Output growth was driven by rising domestic demand, in particular, buoyant household consumption and business investment. On the supply side, sectors servicing the domestic demand (construction and retail trade) continued to boom. Manufacturing growth remains solid but is tapering off. The negative contribution of net exports to GDP growth is explained by the real appreciation of the ruble, which is making Russia's exports more expensive abroad and imports less expensive to domestic consumers.

In a context of an economy growing close to potential, with high energy prices and large capital inflows, Russia faces two main challenges: inflationary pressures and rapid appreciation of the exchange rate. The most notable monetary development in 2007 is the surge in inflation. While it remained under control in the first quarter, inflation kept gaining momentum in the remainder of the year. Inflation reached 9.3 percent over the first ten months of 2007. Most likely, end-of-year inflation will reach 11 percent (Dec/Dec) compared to 9 percent in 2006 over the same period. The surge in inflation is explained by rising world food prices and by monetary factors. Large capital inflows pushed the balance of payment surplus to record highs and are becoming an important source of reserve accumulation ($450 bn). However, unlike oil revenues, capital inflows are not absorbed by the Stabilization Fund, driving money expansion and exerting upward pressures on the ruble. Given limited monetary instruments for sterilization and the current stance of monetary policy (that limits the pace of nominal exchange appreciation), reducing inflationary pressures is becoming exceedingly a difficult task.

The Russian government continued to enjoy fiscal surpluses. The federal budget surplus reached 7.1 percent of GDP over the first nine months of 2007. But the approved 3-year budget entails a fiscal relaxation that under the current oil price outlook would reduce the overall budgetary surplus to 0.2 percent of GDP by 2008. The amendments introduced to the budget 2007 law entail an increase in non-interest expenditure that would bring the budget surplus down from 4.8 to 2.8 percent at the end of 2007. These amendments aim at increasing public investments in priority infrastructure and social sectors with a view of boosting growth. However, raising public investments might not be enough to close Russia's infrastructure gap and drive sustained economic growth. Keeping up private investments and improving the efficiency of investments will be as important. In addition, the pace of fiscal expansion needs to be studied carefully to avoid exacerbating tensions between fiscal and monetary policies

Table 1.1: Main Macroeconomic Indicators

	2001	2002	2003	2004	2005	2006	2007-9M
GDP growth, %	5.1	4.7	7.3	7.2	6.4	6.7	7.9*
Industrial production growth, y-o-y, %	4.9	3.7	7.0	8.3	4.0	3.9	6.6
Fixed capital investment growth, %, y-o-y	8.7	2.6	12.5	10.9	10.5	12.6	21.2
Federal government balance, % GDP	3.0	2.3	1.7	4.2	7.5	7.5	7.5
Inflation (CPI), % change	18.6	15.1	12.0	11.7	10.9	9.0	9.3**
Current Account, billion $	35.1	32.8	35.9	60.1	86.6	94.5	57.1
Reserves (including gold) billion $, end-o-p	36.6	47.8	76.9	124.5	182.2	303.7	447.0**

**Data for the first half of 2007*
***Data for the first 10 months of 2007*
Source: Rosstat, Minfin, CBR

GDP and Industrial Production

Robust growth driven by rising domestic demand. Russia's GDP expanded by 7.9 percent during the first half of the year, as compared to 6.7 percent in the same period of 2006**.** Output growth continued to be driven by buoyant household consumption and business activity. Domestic consumption which increased by 9.8 percent in the fist half of 2007, contributing about 6.7 percentage point to GDP growth (Table 1.2). Gross capital formation expanded by 28.5 percent during the first half of 2007 (11.2 percent in H1-2006), contributing 4.4 percentage points to the aggregate growth, compared to only 1.8 percentage points in the same period of 2006. Rising domestic demand has helped to offset the negative contribution of net exports to total output growth (-3.7 percentage points). The negative contribution of net exports to GDP growth is explained by rapid acceleration of imports and weak export performance. Booming demand combined with the real appreciation of the ruble fuelled import growth. At the same time, the real appreciation of the exchange rate is eroding competitiveness of most tradable sectors in manufacturing (outside resources and metals).

Table 1.2: Growth rates and Contribution to GDP Growth by Main Components (%)*

	H1-2006		H1-2007	
	growth (%)	contribution to growth (pp)	growth (%)	contribution to growth (pp)
Final consumption	8.5	5.9	9.8	6.7
Capital formation	11.2	1.8	28.5	4.4
Net export	-10.0	-1.4	-23.4	-3.7

* Statistical discrepancy is not taken into account
Source: Rosstat, World Bank staff estimates

Sectors servicing the domestic market (construction and retail trade) continued to boom. The highest rates of output growth were reported in non-tradable sectors: construction and retail trade. The rate of aggregate output growth of the base industries and sectors (often used as a proxy for GDP growth) amounted to 8.6 percent in the first nine months of 2007 compared to only 5.7 percent in the corresponding period of 2006. This sector decomposition reveals that non-tradable sectors were the primary beneficiary of the rapid increase in incomes following the surge in oil prices (Table 1.3)

Table 1.3: Output Growth by Sector: 2006-2007

	2006	9M- 2006	9M-2007
Base industries and sectors	6.1	5.7	8.6
Agriculture	2.8	1.6	2.2
Extraction of mineral resources	2.3	2.4	2.2
Manufacturing	4.4	4.4	**10.0**
Electricity, gas, water production and distribution	4.2	5.2	-2.1
Construction	15.7	11.4	**23.5**
Retail trade	13.9	13.3	**14.8**
Transport	2.3	3.0	2.2

Source: Rosstat

Manufacturing growth remains solid but is tapering off. Manufacturing output grew at a healthy rate of 10 percent over the period January-September 2007, as compared to only 4.4 percent growth over the same period last year (Table 1.4). However, the impressive growth record of 12.5 percent posted in the first four months of 2007 was not sustained in the remainder of the year (Figure 1.1). The sharp increase in manufacturing growth was driven by temporary factors, including a particularly low level of manufacturing in Q1 2006 and an exceptionally large increase in infrastructure orders for machine-building. An unusual warm winter also contributed to explain the strong growth in the sector in early 2007 (see RER, June 2006).

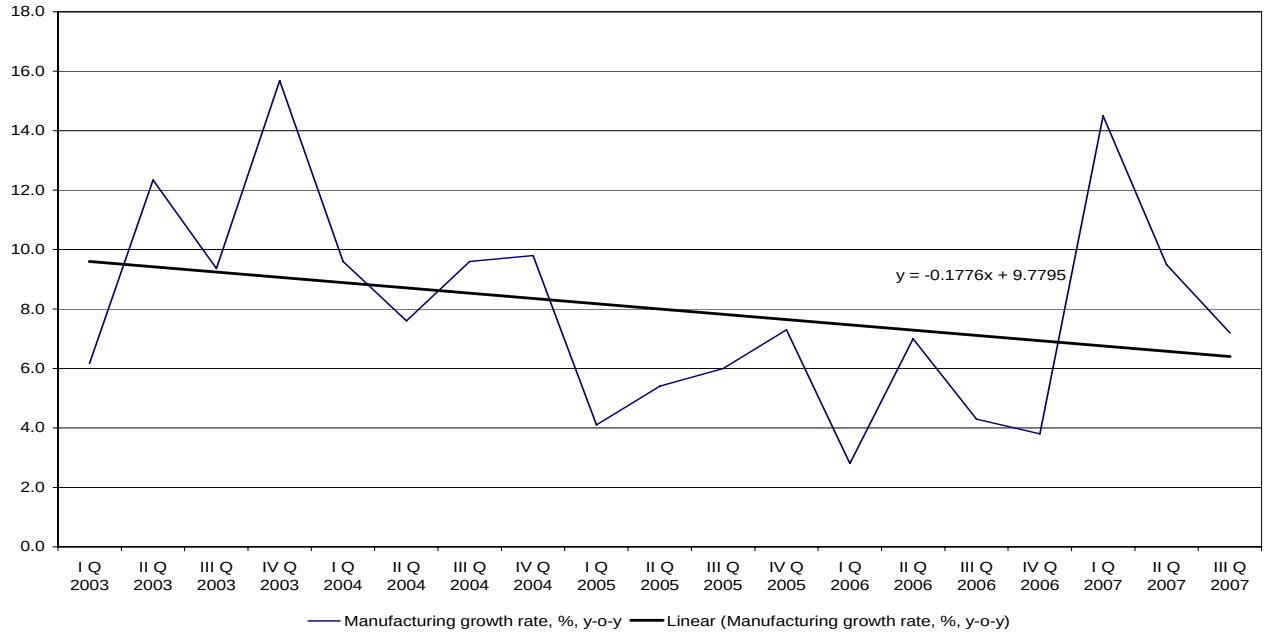
Latest Rosstat estimates suggest that industrial growth, and in particularly, manufacturing growth, slowed down in the third quarter of the year. Industrial production in August and September grew by only 3.0 and 3.8 respectively, as compared to 4.1 and 5.6 percent reported for the corresponding months a year ago. Similarly, preliminary statistics for August and September (Table 1.4) already show manufacturing growth of only 5.5 and 4.0 percent respectively, compared to 6.2 and 5.1 percent last year. Four out of thirteen manufacturing industries reported negative growth rates in August and five in September, compared to only two last year. Just four manufacturing industries reported higher growth rates in August and September 2007 than during corresponding months of last year. The notable slowdown was also reported for extraction industries.

Table 1.4: Growth rates in industry, % to the same period of the previous year

	Jan-Sep 2006	Jan-Sep 2007	August 2006	August 2007	Sep 2006	Sep 2007
Industrial production	4.2	6.6	**5.6**	**3.8**	**4.1**	**3.0**
Extraction industries	2.9	2.2	3.8	0.5	1.7	0.2
Manufacturing	4.3	10.0	**6.2**	**5.5**	**5.1**	**4.0**
Production and distribution of electricity, gas and water	5.2	-2.1	4.5	2.2	3.5	4.1

Source: Rosstat

Figure 1.1: Quarterly growth in Russia manufacturing
(% relative to the same period of the previous year)



Manufacturing growth was driven by steady performance of a few sectors: machines and equipment, electro technical and optical equipment, and transportation equipment. Rising investment demand was associated with an increase in orders for machinery and equipment, electro-technical and optical equipment, and transportation equipment (Figures 1.2 -1.5). The jump in orders for mechanical equipment was the highest (48.7 percent in January-September 2007), compared to a reported decline (-25.5 percent) in output during the same period of 2006. Part of this investment demand came from large state companies, including the electricity company (RAO UES). The production of hydroelectric turbines, for example, doubled in the first nine months of 2007, compared to a considerable decline reported a year ago. Similar trends have been observed in the production of other electricity generating machines. The construction boom might have facilitated an increase in orders for building and transportation equipment (cranes, tractors and other devices), selected chemical products, rubber and plastic products and wood processing. All these industries reported notably higher growth rates for the first nine months of 2007 than a year ago.

Figure 1.2: Growth Rates in Machine Building (%)

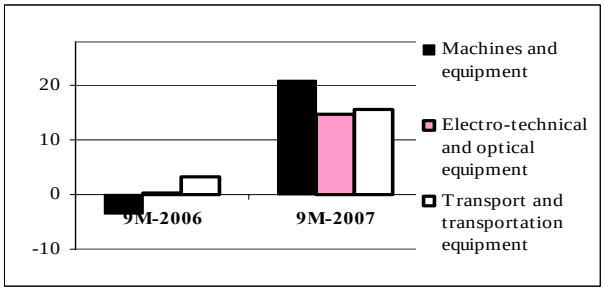


Figure 1.3: Growth Rates in Chemicals and Metallurgy (%)

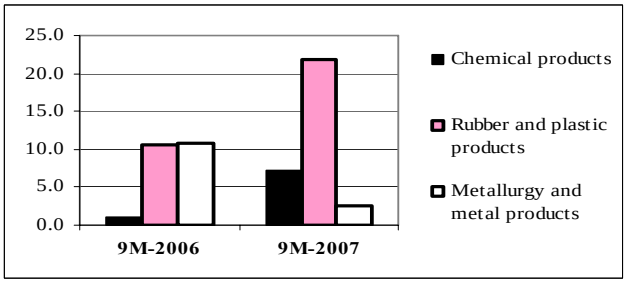


Figure 1.4: Growth rates in food and light industry (%)

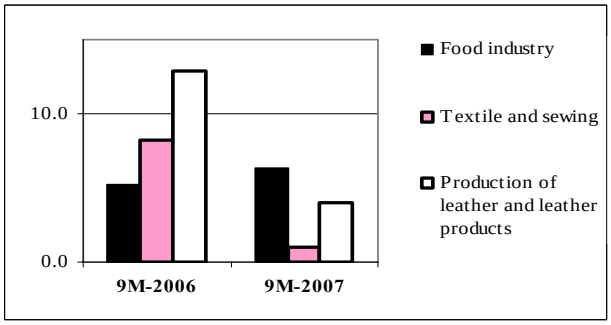
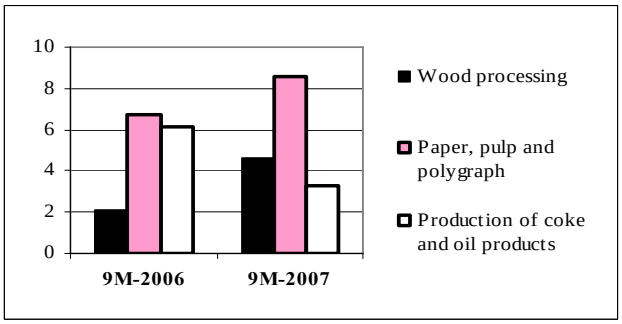


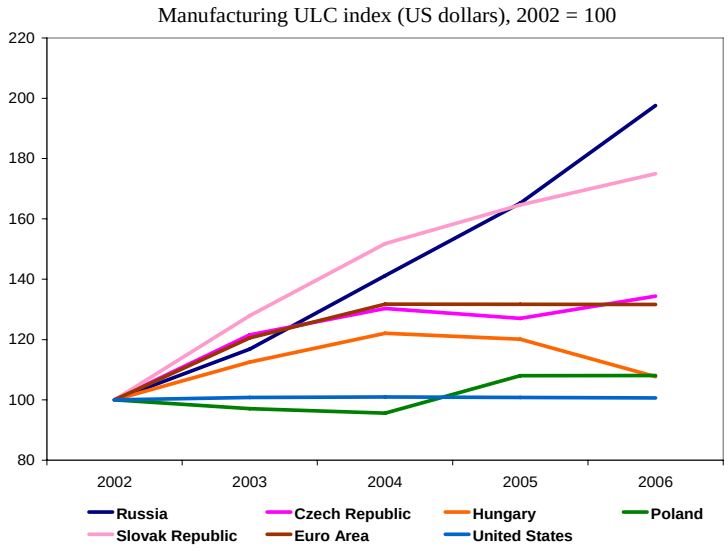
Figure 1.5: Growth rates in wood and oil processing (%)



Source: Rosstat

The downward trend in manufacturing growth might be associated with the challenges faced by tradable sectors (outside resources and metals). Parts of manufacturing that service domestic demand with limited competition from imports may continue to thrive in Russia's booming domestic market. But the real appreciation of the ruble is driving up unit labor costs in Russia (Figure 1.6), suggesting that wages are growing more rapidly than productivity. Without commensurate increases in productivity, real ruble appreciation makes achieving export competitiveness of manufacturing sectors (outside resource-extraction and metals) more challenging.

Figure 1.6: Unit Labor Costs in Manufacturing



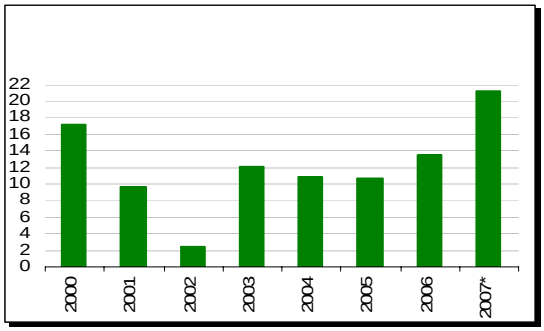
Source: World Bank staff estimates

Investment

Russian economy continued to experience an investment boom, but levels of investment remain low relative to GDP and concentrated in a few sectors. The aggregate fixed capital investment grew by 21.2 percent in the first nine months of 2007 compared to 11.8 percent growth reported for the same period in 2006

(Figure 1.7). While capital investments decelerated in September 2007 they still posted double-digit growth rates (16.1 percent, relative to the same month in 2006). However, investment levels are still low relative to GDP, at about 21 percent of GDP. Major investment activities continue to be concentrated in the non-tradable sectors or industries which deal with resource extraction or processing, as well as sectors with the relatively low value added (Table 1.5). Most manufacturing sectors of the economy, and especially those with higher value added, still receive relatively low share of investment. For example, machine building received only 1.1 percent of the total fixed capital investment in the first half of 2007, while transport, communication and real estate operations accounted for over 35 percent of the total.

Figure 1.7: Capital investment growth, % to previous year



*Source Rosstat . * data for January – September*

Table 1.5: Total Fixed Capital Investment by Sector (% of total)

	2005	2006	H1-2006	H1-2007	Growth rates, H1-2007, y-o-y
Agriculture, hunting, forestry	3.2	4.0	3.7	4.7	55.7
Extraction of mineral resources	15.2	17.3	19.5	**20.4**	20.6
Manufacturing	17.6	16.4	18.7	**17.5**	11.5
Food industry, incl beverages, tobacco production	3.1	3.0	*3.2*	*3.2*	*17.5*
Coke and oil products	1.8	1.7	*1.9*	*1.6*	*-1.0*
Machine building	0.5	0.7	*0.8*	*1.1*	*57.3*
Transportation devices	??	??	*0.9*	*1.1*	*40.0*
Chemical products	1.7	1.9	*2.3*	*1.9*	*-1.8*
Other non-metal mineral products	1.5	1.2	*1.3*	*1.4*	*20.0*
Metallurgy and metal products	4.7	4.3	*5.3*	*4.1*	*-6.4*
Electricity, gas and water production and distribution	7.8	7.8	6.3	6.9	29.5
Construction	2.9	3.3	3.6	2.9	18.4
Retail and wholesale trade, maintenance of vehicles, home appliances and etc.	2.8	2.9	2.8	2.9	16.2
Transport and communication	28.8	26.8	25.7	**23.3**	7.3
Railways			*4.0*	*4.0*	*18.4*
Communication	6.7	5.5	*4.5*	*4.5*	*6.2*
Real estate operations, leasing and services provision	11.5	11.5	11.1	**12.0**	23.2
Health care and social services	2.3	2.5	1.9	1.9	18.5
Provision of other public utilities, social and personal services	2.3	2.5	2.1	2.1	24.2

Source: Rosstat

Foreign investment surged during the first half of 2007, reaching 5 percent of GDP. Rosstat estimated FDI inflows at USD 15.8 billion in the first half of 2007, compared to only USD 6.4 billion in the corresponding period of 2006. CBR estimated almost USD 28 billion in FDI during the first half of 2007 (5 percent of

GDP), which is USD 10 billion more than a year ago[1]. Preliminary estimates show FDI inflows at USD 37 billion for the first three quarters of 2007 in the non-banking sector alone.

However, FDI remains concentrated in resource extraction industries and non-tradable sectors, playing only a marginal role in manufacturing. Mineral resource extraction, metals and non-tradables sectors (particularly trade) remain the favorite directions of foreign investments. Mineral resource extraction industries received USD 11.2 billion in FDI during the first half of this year (of which USD 10.7 bln. from Netherlands), amounting to 71 percent of the total FDI inflows, compared to only 33 percent in 2006. Manufacturing industries, on the other hand, received only USD 1.8 billion, or 11.1 percent of total FDI inflows in the first half of 2007, compared to 19 percent in 2006 and over 45 percent in 2005 (Table 1.6).

Table 1.6: Shares of Foreign Direct Investment by Sector of the Economy

	2006 % total	H1-2007 % total
Agriculture, hunting, forestry	1.4	0.6
Extraction of mineral resources	33.1	**70.6**
Manufacturing	19.0	11.1
Electricity, gas and water production and distribution	0.4	0.2
Construction	2.0	2.9
Retail and wholesale trade, maintenance of vehicles, home appliances and etc.	6.1	4.1
Hotels and restaurants	0.2	0.1
Transport and communication	2.8	1.0
Finance	11.0	4.0
Real estate operations, leasing and services provision	23.5	5.2
Provision of other public utilities, social and personal services	0.4	0.2

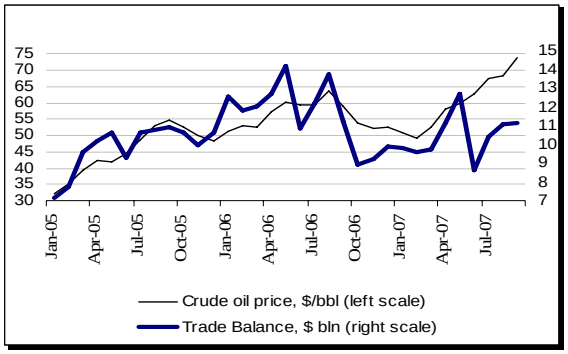
Source: Rosstat

The Balance of Payments, Capital Flows, and FDI

The current account surplus continued to decline on account of rapid acceleration of imports and weak export performance. The current account surplus declined over the first months of 2007 to an estimated USD 57.1 billion from USD 79.1 billion in the same period of last year. Imports grew by 37.3 percent in the first three quarters of 2007 (to USD 154.6 billion) compared to the corresponding period of 2006, while exports only grew at a modest 11 percent during the same period. As a result the trade balances shrunk by USD 17 billion to an estimated USD 94.1 billion (Table 7. See also Figure 8 for monthly developments). Booming consumption and investment demand has fuelled very rapid import growth. Sluggish export performance reflected developments in the manufacturing sector, where competitiveness in tradable sectors (outside resources and metals) is being eroded by rapid real exchange rate appreciation. According to latest CBR estimates, the real effective exchange rate appreciated by 4.7 percent (October 2007-December 2006). An alternative measure of the real effective exchange rate (for a basket of two currencies, US$ and Euro, calculated on the basis of the PPI) suggests that real appreciation could be over 12 percent by the end of the year (Figure 1.9).

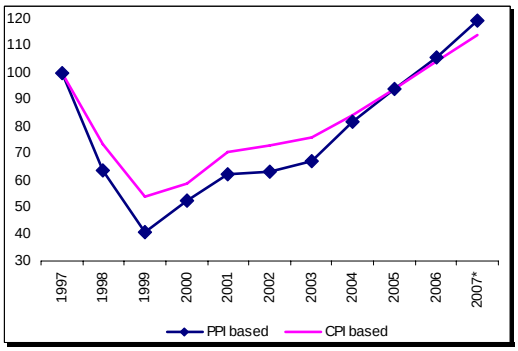
[1] Most of the discrepancy between the CBR and Rosstat estimates of FDI is accounted for by the so-called "reinvested income" in the companies where more than 10 percent of the stakes belong to a foreign investor.

Figure 1.8: Oil Prices and Trade Balance



Source: Rosstat

Figure 1.9: Real Effective Exchange Rate Index



Source: World Bank staff estimates

The weakening of the Russia's current account in 2007 was more than compensated by the strengthening of the capital account. According to the CBR preliminary estimates, the capital account showed a net surplus of USD 59.5 billion in the first three quarters of 2007, compared to a deficit of USD 5.1 billion in the same period of 2006 (Table 1.7).

Table 1.7: Balance of Payments (USD billions)

	2004	2005	2006	9M-2006	9M-2007*
Current Account Balance	58.6	83.8	94.5	79.7	57.1
Trade Balance	*85.8*	*118.4*	*139.2*	*111.2*	*94.1*
Capital and Financial Account	-6.3	-13.6	11.9	-5.1	59.5
Errors and Omissions	-7.1	-8.8	1.1	1.5	-10.2
Change in Reserves	45.2	61.5	107.5	76.2	106.4

*Source: CBR * preliminary estimates*

The surge in capital inflows pushed the balance of payments surplus to record highs and exerted new upward pressures on the ruble. The pace of reserve accumulation has increased further in 2007. Gross foreign reserves of the Central Bank have reached USD 447 billion by the end of October 2007 (35.9 percent of GDP). Capital inflows are becoming and important source of foreign reserve accumulation, exerting upward pressures on the ruble and driving money expansion.

Large capital inflows reflected acceleration in foreign borrowing by state corporations and the banking sector. Net capital inflows to the private sector amounted to 56.8 billion in the first nine months of this year, compared to USD 26.3 billion in the same period of 2006 4 (Table 1.8). The banking sector was the main recipient of foreign capital inflows (USD 37.6 billion net) most of which came during the second quarter of the year (Table 8). Russian commercial banks have been borrowing funds abroad to finance their domestic credit operations. Net capital inflows to the non-banking sector have also increased substantially during the first three quarters, amounting to USD 19.2 billion. According to the latest BoP estimates, the liabilities of the corporate and banking sector increased by almost USD 150 billion during the first nine months of 2007, out of which USD 55 billion represented short-term foreign borrowing. The substantial external funding of the banking sector is driving up Russia's external debt. In June 2007 external debt reached USD 385 billion.

Russia has weathered well the global financial turmoil that began in August-September 2007. Restricted access to the global financial markets and reassessment of emerging market risks associated with the global financial turmoil had a temporary negative effect on the capital account balance that became negative in the third quarter of 2007 by USD 1.7 billion (reflecting net capital outflows), compared to a surplus of USD 61.2 billion reported for the first half of the year; the non-banking sector reported a USD 10 billion net outflow, while net inflows to the banking sector reduced to only USD 0.7 billion during the third quarter. But by October 2007 the direction of capital flows reversed. Latest estimates suggest that in October 2007 Russia experienced a net inflow of capital of about USD 10 billion. As a result, foreign reserves increased by over USD 21.6 billion reaching USD 447 billion by end October.

Table 1.8: Net Capital Inflows to the Private Sector (USD billion)

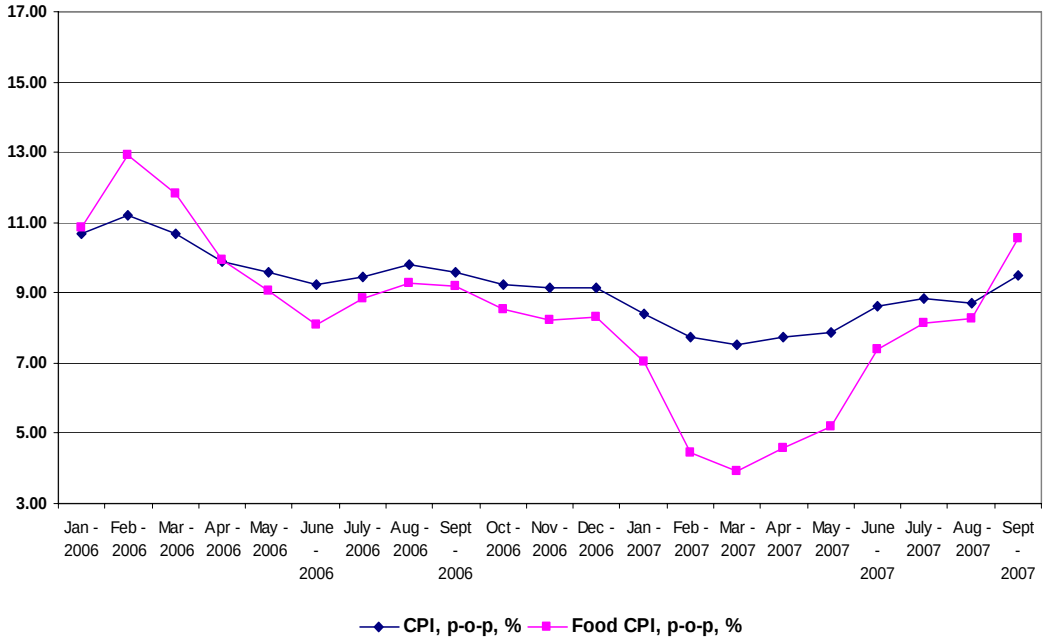
	2006	9M-2006	9M-2007	Q3-2007
Total net capital inflows to the private sector	40.1	26.3	56.8	-9.4
Net capital inflows to the banking sector	*27.5*	*15.7*	*37.6*	*0.7*
Net capital inflows to the non-banking sector	*12.6*	*10.6*	*19.2*	*-10.1*

Source: CBR

Inflation and Stabilization

Inflation is rising since April 2007, driven by international food prices and rapid money expansion. Inflation remained largely under control in early 2007 on account of lower increases in food prices reflected more favorable weather conditions and higher food production. However, since April 2007, consumer prices grew faster (0.6 percent versus 0.4 percent in 2006) and since then, inflation kept gaining momentum. CPI inflation during the first ten months of 2007 amounted to 9.3 percent, compared to 7.5 percent during the corresponding period of 2006 (Table 1.9). Inflation increased in September 2007 mostly on account of rising food prices (Figure 1.10). Latest estimates show that CPI inflation for the first ten months of 2007 reached 9.3 percent (compared to October last year). This is well above the government's initial year-end target of 8 percent. Most likely, end-of-year inflation will reach 11 percent (Dec/Dec).

Figure 1.10: CPI Inflation and Food Prices (period-over-period), in percent



Different measures of inflation point to similar upward pressures on domestic prices. Core CPI inflation, that is, consumer price inflation that excludes the effects of administered prices and seasonal food price increases, surged during the first ten months of 2007 (reaching 8.9 percent, compared to 6.5 percent in the same period last year). PPI inflation (producer price inflation) is also increasing rapidly (Table 1.9).

Table 9: Monetary Indicators

	10M	
	2006	2007
CPI inflation, %	7.5	9.3
Core CPI Inflation, %	6.5	8.9
PPI inflation, %	15.2 *	17.0*
M2 growth, %	28.0*	27.8*

** Data for 9 months. Source: CBR*

A close examination of the basket of goods used to calculate CPI reveals that the increase in inflation can be attributed to two sets of prices: food prices (meat, milk, bread, fruits) and non-tradables (construction, communication services). Prices for meat, milk and bread increased considerably more in the first ten months of 2007 than during the corresponding period of 2006 (Table 1.10). However, prices for construction materials and communication services have also increased, suggesting that part of the surge in inflation is coming from non-tradable sectors in an environment of a rapid money expansion. Since the second quarter, money supply grew faster (at 22.5 percent) than during the first months of the year (at 11.2 percent). Given that the time lag of broad money growth on inflation is about three to four months, the increase in inflation experienced in September-October 2007 might also reflect monetary pressures (see below a more detailed discussion on monetary factors contributing to the inflation surge).

Table 1.10: Changes in prices of the main components of the CPI

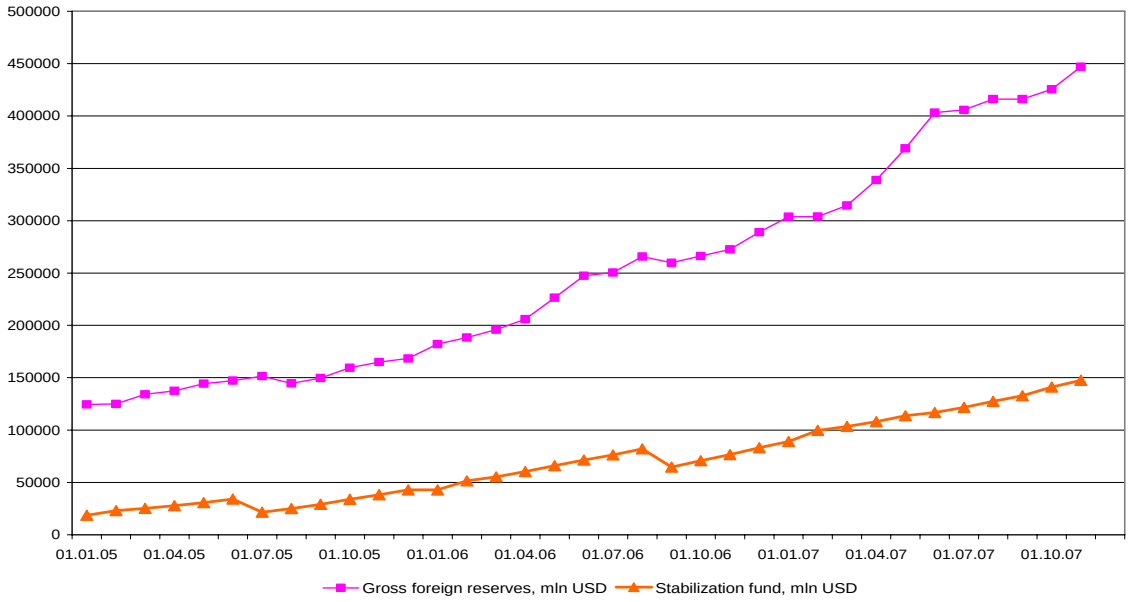
	weight in CPI	Price change (end period)	
		10M-2007	10M-2006
Meat products	10.28	**6.4**	**4.5**
Milk and milk products	2.68	**22.7**	**5.8**
Bread and bakery products	2.23	**21.3**	**9.0**
Fruit and vegetables	3.83	**9.0**	**3.7**
Alcohol	6.63	6.0	8.3
Clothing	5.27	6.0	5.9
Footwear	2.55	5.9	5.4
Construction materials	2.07	**15.0**	**9.9**
Housing utility services	8.83	13.5	17.1
Transportation services	3.26	8.2	11.3
Communication services	3.19	**10.7**	**1.9**
Education services	2.5	14.2	14.4

Source: Rosstat

In response to the surge in inflation, the government resorted to temporary administrative measures including price controls, export tariffs and cuts in import tariffs. The recent acceleration in the CPI inflation led the government to introduce temporary administrative measures to control market prices on wheat, milk and milk products, including: (i) new export tariffs, 10 percent for wheat, and 30 percent for barley (valid until April 30, 2008); (ii) cuts in import tariffs (from 15 percent to 5 percent) for milk and milk products, certain types of vegetable oils, cabbage, carrot and beet, that will be valid for six months. In addition, main food suppliers and retail food chains have frozen prices at their October 15 levels on selected food products. The price freeze is valid from October 24, 2007 until January 31, 2008. While these measures could contribute to bring down inflation in the short-term, they introduce distortions in relative prices and their effectiveness in the medium-term is limited in a context of rapid money expansion due to booming domestic demand and large capital inflows.

Keeping inflation in check is becoming increasingly challenging in a context of large capital inflows and limited monetary instruments to sterilize them. This year the strong growth in balance of payment inflows was not due to higher oil prices but to capital inflows, which are not absorbed by the Stabilization Fund. The Stabilization Fund continues to be an effective automatic stabilizer of large inflows stemming from oil revenues, but capital inflows have become an increasingly important source of reserve accumulation and money supply expansion in 2007 (Figure 1.11). One obvious policy response would be to allow a more rapid nominal appreciation of the ruble. Yet, the pace of nominal appreciation this year has been slower than in 2006, restricting the authorities' ability to limit money supply expansion. The ruble appreciated by 6 percent against the USD in nominal terms during the first ten months of the year, as compared to 7 percent during the same period of 2006. There are potential risks in moving too rapidly to a flexible exchange rate regime in Russia. Expectations of rapid nominal appreciation could potentially attract even more capital inflows. But there is scope for gradually allowing more flexibility in the management of the exchange rate. If the pressures for the real appreciation of the ruble are not relieved through nominal appreciation, inflation for non-tradable goods and services is likely to remain significant. The sterilization of capital inflows through other policy measures is difficult, due to the small size of the bond market and limited scope for further increases in bank reserve requirements or interest rates in a liquidity-constrained financial sector.

Figure 1.11: Accumulation of Foreign Reserves and the Stabilization Fund



Source: CBR

Fiscal policy and the Federal Budget

Russia continued to enjoy fiscal surplus, estimated at 7.1 percent of GDP for the first nine months of 2007.. According to preliminary estimates for the first nine months of 2007 the Federal Budget generated a surplus of 1601 billion rubles (7.1 percent of GDP on a cash basis). Nevertheless, federal budgetary revenues were lower than during the same period a year ago, amounting to 5084.8 billion rubles (22.5 percent of GDP), one percentage point lower than in the same period of 2006. The difference reflects lower non-tax revenues, associated with a decline in energy export taxes. The real appreciation of the ruble lowered the nominal value of export duties, which was not enough to compensate the moderate increase in export volumes of oil and oil products (the average export tariff on crude oil in the first nine months of 2007 was almost the same as in 2006 - USD 195 and 194 per ton respectively). An additional source of revenue this year was the receipts of debts for Yukos (amounting to RUB 146 billion). The Federal Government spending totaled 3483.7 billion rubles (15.4 percent of GDP on cash basis) compared to 14.8 percent during the same period of last year and 17.5 percent stipulated in the Budget Low for 2007.

Much progress was achieved in budgetary management reforms in 2007. Russia introduced in 2007 many fiscal management innovations, including: treasury management of the budget, medium-term fiscal framework (a 3 year budget), and oil revenue management funds (Oil Stabilization Fund and a National Welfare Fund, that will accumulate oil revenues beyond a 'reserve fund' of 10 percent of GDP). These measures were discussed in detail in the previous RER (June, 2007).

The fiscal stance has become increasingly relaxed. The approved medium term fiscal framework entails a fiscal relaxation that under the current oil price outlook envisages a balanced budget in 2009-2010 (Table 1.11).

Table 1.11: The Federal Budget (% of GDP)

			Three year budget plan		
	2007 Budget Law (approved)	**Federal Budget with amendment 2007**	**2008**	**2009**	**2010**
Revenues	**22.3**	**23.19**	**19.0**	**18.8**	**18.1**
Expenditures	**17.5**	**20.35**	**18.8**	**18.8**	**18.1**
Of which:					
General state management w/o interest expenditure	2.1	3.0 (0.7)*	2.1	1.9	1.8
National defense	2.6	2.6	2.7	2.7	2.7
National security, law enforcement	2.1	2.1	2.2	2.3	2.2
National economy	1.6	2.3 (0.6)*	2.1	2.0	1.2
Housing and communal Services	0.2	0.9 (0.7)*			
Education	0.9	0.9	0.9	0.8	0.8
Culture, mass media	0.2	0.2	0.2	0.2	0.2
Health and sport	0.7	0.9	0.6	0.6	0.6
Social policy	0.7	0.9	0.8	0.9	1.0
Interbudgetary transfers	2.5	2.8	2.6	2.3	2.0
Transfers to extrabudgetary funds	**3.4**	**3.3**	**3.8**	**3.8**	**4.1**
Total non-interest expenditure	**17.0**	**19.9**	**18.2**	**18.2**	**17.5**
Interest payment	**0.5**	**0.5**	**0.5**	**0.5**	**0.6**
Oil and Gas Transfer			**6.1**	**5.3**	**4.5**

(..)* - indicates the amount for capitalization of development institutions: the Bank for Development, Russian Nanotechnology corporation, Investment Fund, Fund for Housing reform support

Sources: Minfin, EEG, World Bank staff calculation

Recent revisions to the 2007 federal budget envisage additional fiscal relaxation. The government recently submitted to the Duma a draft amendment to the 2007 Budget Law that substantially expands public expenditures over the remainder of the year. The proposed amendments envisage an increase in non-interest expenditure by 1068 billion rubles and total expenditures at 20.35 percent of GDP, compared to 17.5 previously approved (Table 1.11). This would bring the budgetary surplus down from 4.8 to 2.8 percent this year.

The bulk of the planned increase in public expenditures goes to infrastructure development and social spending. About 640 billion ruble of the additional spending will go to the capitalization of several state corporations and funds - the Bank for Development, Russian Nanotechnology Corporation, Investment Fund, Fund for Housing reform support). These amendments aim at increasing public investments (infrastructure and housing projects, research programs, investments in priority sectors, such as aluminum, petrochemical, nuclear power) with a view of boosting long-term growth. The bulk of the remaining funds will go to social protection expenditures (pensions of military personnel, and transfers to the Pension and the Medical Insurance Funds), and 'National Economy' (road-building and flood-prevention construction works, and capitalization of *ROSSELKHOZBANK*, Russian Agricultural Bank).

While investing in infrastructure and social development is good for economic growth, the planned fiscal relaxation might raise a number of challenges. First, raising public investments might not be enough to close Russia's infrastructure gap and drive sustained economic growth. At issue is not merely the question of state versus private ownership, but the capacity of the state to efficiently manage and implement large investment projects in technically complex sectors where the private sector might have a comparative advantage. Keeping up private investments (domestic and foreign) and improving the efficiency of investments is as important as raising public investments. See Part II for a quantification of the economic gains from further improvements in the efficiency of infrastructure investments. Second, the pace of fiscal expansion needs to be studied carefully to avoid exacerbating tensions between fiscal and monetary policies. In an economy that is growing at close to potential driven by booming private demand, additional fiscal stimulus would likely increase pressures for nominal appreciation if inflation is to be kept on a downward

path. It would also increase pressure for real ruble appreciation, as increased demand drives up prices for non-tradable goods.

Income and Employment

The rapid GDP growth, shortages on the labor market and administrative hikes in public wages and pensions contributed to a higher-than-expected increase in population incomes. According to Rosstat, average real wage and disposable income increased by 16.2 and 12.9 percent, respectively during the first nine months of the year (Table 1.12). An increase in real wages continues to well exceed the expansion of GDP and most likely the productivity growth in some sectors of the economy. This year the gap between an increase in real wages and output growth seems to even widen in many sectors. Almost all sectors of the economy reported an increase in nominal wages well above 20 percent. Average monthly dollar wage increased to 497 dollars (by 31 percent) in the first nine months of 2007 as ruble continued appreciating against the USD in nominal term. The current trends suggest that the average monthly dollar wage in 2007 may exceed USD 520.

Warm winter and an increasing demand for labor in the majority sectors of the economy have positively contributed to the reduction in unemployment. The average unemployment rate (ILO definition) has fallen to 6.3 percent in the first three quarters of the year, compared to an average of 7.3 percent registered during the corresponding period of 2006 (Table 1.12). By the end of September 2007 the unemployment decreased to 6 percent.

Table 1.12: Social Indicators

	2003	2004	2005	2006	9M-2006	9M-2007
Real disposable income growth, %	14.9	9.9	8.8	10.2	10.6	12.4
Real wage growth, %	10.9	10.6	10.0	13.4	12.9	16.2
Average monthly wage, USD	179.4	237.2	301.6	394.7	380.2	497.4
Unemployment (%, ILO definition)	8.6	8.2	7.6	7.1	7.3	6.3

Source: Rosstat

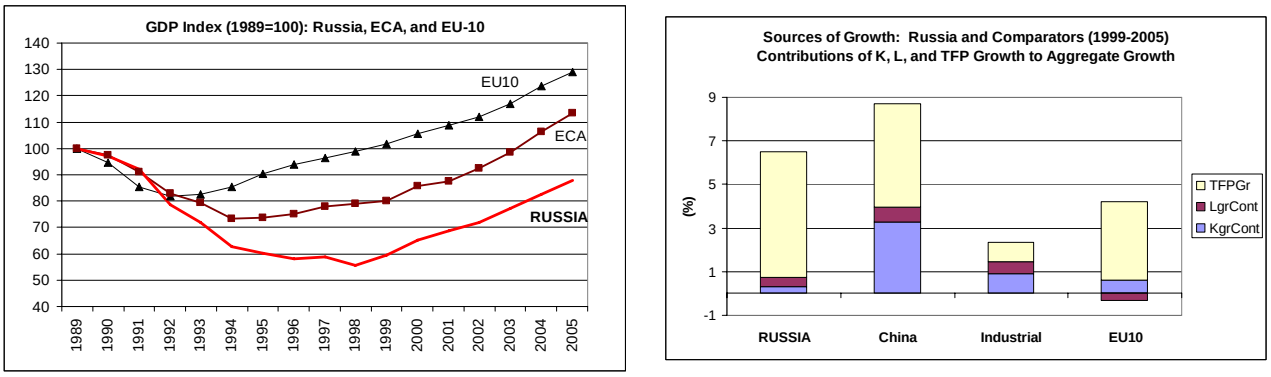
II. Productivity Growth in Russia

This section is based on the analysis for a forthcoming World Bank (2007) study entitled "Unleashing Prosperity: Productivity Growth in Eastern Europe and the former Soviet Union" The report shows that Russia has experienced a productivity surge over the period 1999-2005, propelling economic growth and raising living standards. Total factor productivity growth of 5.8 percent has been the driving force behind average GDP growth of 6.5 percent over this period. Part of the productivity surge is explained by utilization of excess capacity. The productivity surge is also attributable to major structural shifts in the economy and the reallocation of labor and capital to more productive sectors. The report also shades light on firm dynamics and their contribution to manufacturing productivity growth. Efficiency gains within firms accounted for 30 percent of the total growth in manufacturing productivity over the period 2001-2004. A more efficient allocation of resources across firms accounted from 24 percent. Firm turnover (entry of new firms and exit of obsolete ones) accounted for 46 percent of manufacturing productivity growth. The main contribution to manufacturing productivity growth came from the exit of obsolete firms, releasing resources that could be used more effectively by new or existing firms.

Introduction

Russia has experienced a productivity surge, propelling economic growth and driving up living standards. Productivity growth is probably the single most important indicator of a country's economic progress. It is only with increases in productivity that firms have best prospects for higher profits, so that they can invest in new technologies, create jobs, pay more in wages and dividends, and spread wealth. The efficiency of labor and capital, also known as total factor productivity, (TFP) has increased over the past seven years in Russia. Over the period 1999 to 2005, TFP growth of 5.8 percent has been the driving force behind overall GDP growth of 6.5 percent, although productivity levels are still lower than the average EU-10 (Figure X).This surge in productivity propelled output growth, driving up living standards. Russia's real income per capita (in constant 2000 dollar equivalents of purchasing power parity, or PPP) rose from $5,964 in 1998 to $9,650 in 2005 (Figure 2.1).

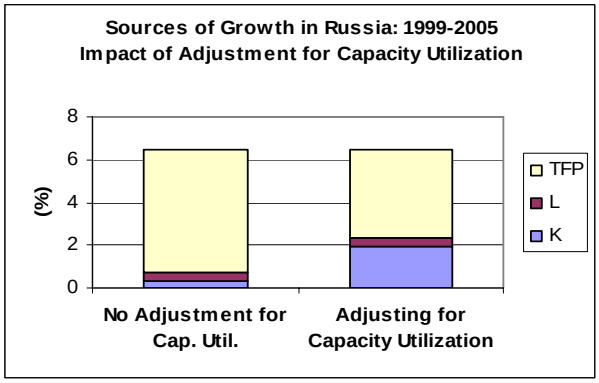
Figure 2.1: Sources of Growth in Russia, 1999-2005



Source: Bank staff calculations; World Development Indicators, 2007. Notes: TFP: Total Factor Productivity; L=Labor; K=Capital

Part of the productivity surge is explained by utilization of excess capacity. In Russia, available survey data on capacity utilization allows to perform growth decompositions, using capital stock series adjusted for capacity utilization. But even after adjusting for utilization of available resources, out of an overall growth of 6.5 percent in Russia during 1999-2005, productivity gains from employed resources still accounted for 4.15 percent (Figure 2.2)

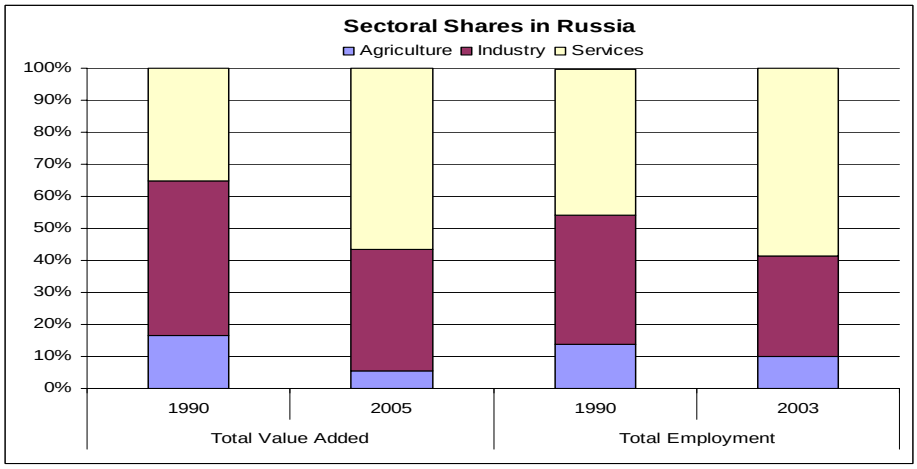
Figure 2.2: Higher capacity utilization may partly explain high productivity growth rates



Source: Bank staff calculations; Russia Economic Barometer,2007

The productivity surge is also attributable to major structural shifts in the economy, in particular the reallocation of resources away from agriculture into services. The economic transition to a market economy has brought ***gains*** in productivity. Russia has seen a dramatic shift of resources into services sectors, which were underdeveloped during the central planning period. At the sectoral level, the shift of labor into services has spurred higher productivity in agriculture, as result of labor shedding, and also in manufacturing (Figure 2.3). Over the period 1999-2003, labor and output moved away from low-productive sectors (agriculture) towards more productive sectors (services). While these sectoral shifts contributed to productivity growth most of the gains came from efficiency gains within sectors. Labor moved to sectors with high productivity (manufacturing and services) and out of sectors with low productivity levels (agriculture).

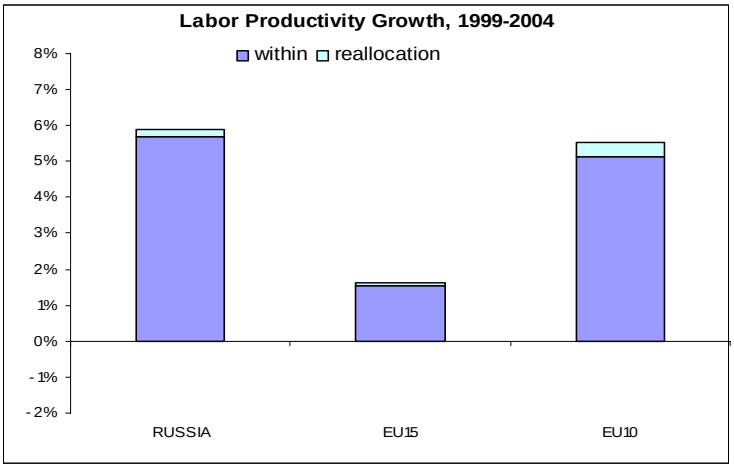
Figure 2.3. A substantial shift of output and employment away from agriculture to services



Source: Bank staff calculations; World Development Indicators, 2007.

Efficiency gains within sectors have had more impact than cross-sector shifts. While sectoral shifts mattered, their contribution was small compared to the contribution of efficiency gains within sectors (see Figure 2.4). All broad sectors of the economy experienced a strong recovery since 1999. Labor productivity over 1999-2004 grew by 4.4 percent in agriculture, 4.7 percent in industry and 6.4 percent in services. The dominance of within-sector growth is also seen in the EU15 and the EU10.

Figure 2.4. Within sector productivity growth is the primary driver of the productivity surge in Russia



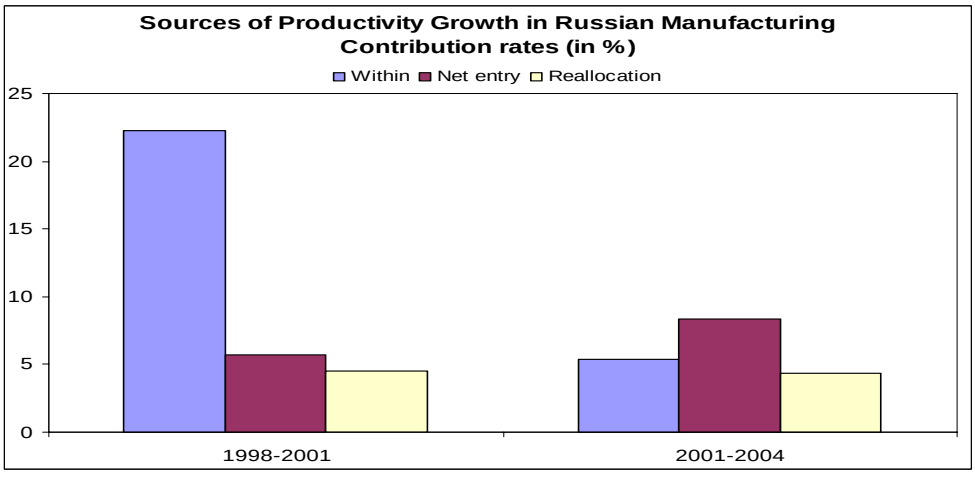
Source: Bank staff calculations; Schaffer (2006); World Development Indicators, 2007.
Reallocation (sum of between and cross terms).

But what has happened at the firm level? New research done by Brown and Earle (2007) for a forthcoming World Bank (2007) study suggests that firm dynamics have contributed to productivity gains even more than sectoral changes. Understanding the significance of firm-level evidence requires decomposing aggregate productivity growth into three broad components (see Figure x): (i) the 'within' component, accounting for productivity growth taking place within firms (ii) the 'reallocation' component, capturing the role of labor reallocation across existing firms in aggregate productivity growth. and (iii) the 'net entry' component, reflecting the aggregate effect of firm churning (or firm turnover) in total productivity growth.

In Russia, the decomposition of labor productivity growth in manufacturing suggests the following:

Productivity gains within firms contributed to the bulk of overall productivity growth[2]. But reallocation and net entry also played a prominent role. In Russia, within firm-productivity growth accounted for 30 percent of the total growth in manufacturing productivity over the period 2001-2004. Reallocation (sum of between and cross terms) accounted from 24 percent. The 'net entry effect' is positive, accounting for 46 percent of total productivity growth. The main contribution to total productivity growth came from the exit of obsolete firms, releasing resources that could be used more effectively by new or existing firms (Figure 2.5)

Figure 2.5: Productivity gains have come primarily from improvements within firms, but reallocation and net entry also played an important role

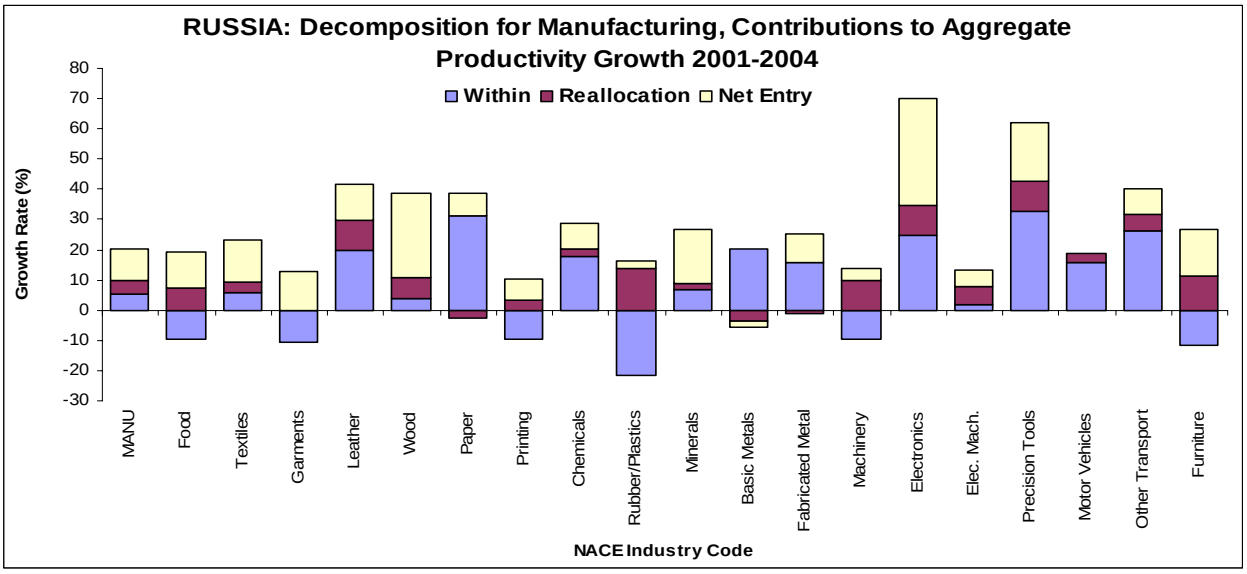


Source: Brown and Earle (2007)

[2] This particularly holds over a three year horizon. Over the longer run (i.e. a five year horizon) reallocation, and in particular, the entry component tends to play stronger roles in promoting productivity growth.

Manufacturing productivity growth over the period 2001-2004 has been the highest in firms operating in ICT-related sectors. These three sectors include: manufacture of office machinery and computers, radio, television, and communication equipment and apparatus, medical, precision, and optical instruments, watches, and clocks with productivity growth rates of 70.3, 62, respectively. Firms operating in ICT-related industries display higher productivity performance, reflecting the presence of technological spillovers. If a firm operates in a high technology environment, it is more likely to absorb new developments quickly and to boost productivity further (Figure 2.6).

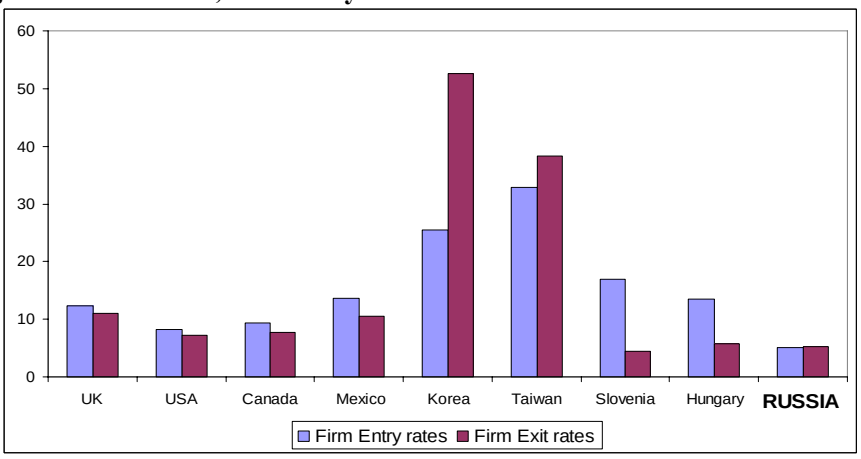
Figure 2.6: The sources of productivity growth differ substantially across sectors



Source: Brown and Earle (2007)

Firm turnover rates in manufacturing (entry plus exit) tend to be low compared to other transition economies. The process of 'creative destruction' encourages firms to experiment and learn, it rewards success, and it punishes failure. Healthy market economies exhibit fairly high rates of entry and exit of firms. About 5 to 20 percent of firms enter and exit the market every year. In Russia, only about 5 percent of firms were created or destroyed during the last decade (Figure 2.7)

Figure 2.7 In Russia, firm entry and exit rates are lower than in most countries



Source: Barteslman and Scarpetta (2007); Brown and Earle (2007)

Firm exit exceeds firm entry. During the second half of the nineties firm exit rates exceeded the entry of new firms. After the 1998 crisis, this trend was reversed, with the number of new firms exceeding the number of firms being destroyed. By contrast, advanced reformers, such as Hungary, experienced a short period of large firm flows at the onset of their transition process dominated by entry of firms. This was largely a response to the privatization reforms. Over time, the number of firms created or destroyed declined and stabilized around rates observed in healthy market economies.

Entrants tend to have higher productivity (on average) than incumbents, around 40 percent more productive on average. By contrast, in Hungary and Romania, entrants are less productive than the average incumbent, which might signal more experimentation. This is a similar pattern than the one observed in OECD countries, where entrants often lack of experience and small size often makes new firms less productive.

Entrants have also high survival rates. Understanding the post-entry performance sheds light on the market selection process that separates successful entrant firms that survive and prosper from others that stagnate and eventually exit. In Russia, survival rates are high and have actually increased over time, signaling weak market competition. For 1993 to 1997 cohorts of new entrants, two-year and four-year survival rates were 73.5 and 43.6, respectively. For 1998 to 2002 cohorts, two-year and four-year survival rates were 81.9 and 62.5, respectively. By contrast, in advanced market economies firm survival is much lower, pointing towards harsher market selection or to higher variance in quality of entrants. At the same time, entrants have rapidly declining probabilities of survival. In Russia less than 10 percent of entrant firms survive after 7 years. In Hungary, 25 percent of entrant firms are no longer in the market after two years, 50 percent after 5 years, and only about 30 percent are still in business after 7 years. Failure rates among young businesses are high in all market economies, but in industrial countries about 50-60 per cent of new firms are still in business after seven years.

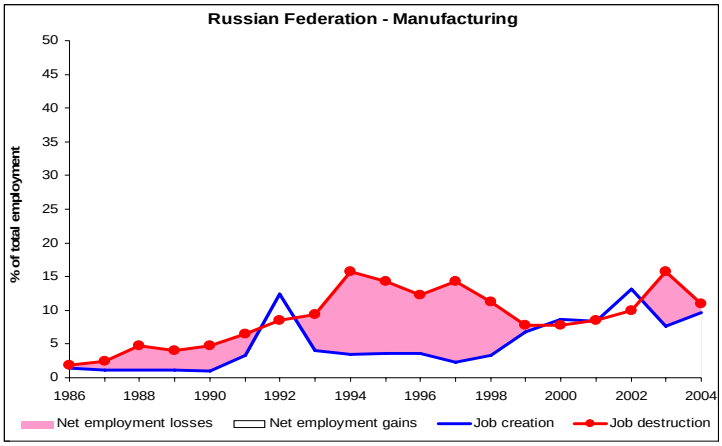
Entrants tend to be small relative to incumbents, although successful entrants that started off with higher productivity tend to grow faster. During the centrally planned system there were relatively few of these micro/small firms, but during the transition the number shot up in most of business service activities. At the same time, many of the entrants that fail in the initial years are also relatively small. The relative productivity of entrants tends to rise with age. In addition, successful entrants that started off with higher initial productivity tend to create more jobs.

However, new entrants do not promote productivity of incumbents, in contrast to patterns observed in advanced economies. The lack of correlation between entry of new firms and productivity growth of existing firms in Russia signals weak market competition. By contrast, in more advanced reformers like Slovenia, we observe a positive correlation between the net entry contribution and the productivity growth of incumbents. In these countries, firm entry and exit reinforces competitive pressures on incumbents. The risk that new firms may steal market shares from incumbents act as strong disciplinary devices to promote better performance by incumbents.

New private entrants and exitors are much less productive than state-owned peers, suggesting that barriers to entry and exit are still substantial in sectors dominated by SOEs. The size of the SOE sector serves to limit both exit and restructuring, and in turn reduces the scope for new entry. In weakly competitive markets, firm survival is not immediately threatened by inefficient practices. Managers of existing firms can maintain sub-optimal use of factor inputs. By contrast, intensified competition pressures force managers to speed up the adoption of new technologies in order to survive.

Firm entry strongly contributed to job creation, whereas labor shedding at continuing firms has been the main source of job destruction. Firm entry contributed markedly to job creation, but firm exit did not contributed much to job destruction – most of the destroyed jobs came from existing firms following defensive restructuring strategies. Firm entry contributed 34 percent to job creation whereas firm exit only contributed 16 percent to job destruction. Job creation rates in Russia from firm entry and continuers were 2.1 and 4.1 percent of total employment, respectively. New firms not only displaced obsolete incumbents in the transition phase but also filled in new markets which were either nonexistent or poorly populated in the past. Job destruction rates from firm exit and continuers were 1.8 and 9.7 percent of total employment, respectively. When job flows are not well synchronized (job destruction exceeding job creation) the reallocation process might lead to employment losses (Figure 2.8)

Figure 2.8. In the 1990s job flows were not well synchronized



Source: Brown and Earle (2007)

Challenges Ahead

Notwithstanding these recent productivity gains, Russia's income per capita is still lower than advanced market economies. In Russia, income per capita averaged 8,028 constant 2000 international dollars over the period 1999 to 2005, which is higher than the average CIS countries, but it is only 28 percent of the average income per capita among the EU-15 countries. Narrowing this income gap calls for faster productivity growth in the years to come.

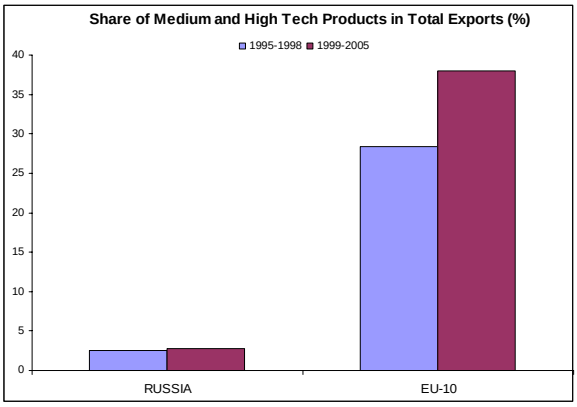
Rapid productivity gains were fairly easy to achieve in the first years after the crisis, but sustaining productivity growth in the future will be more challenging. Russian firms have largely exhausted the post-crisis productivity gains derived from utilization of idle capacity and labor shedding. For several years, firms were able to raise productivity quickly on the basis of little investment, by drawing on the existing underemployed stock of capital and labor. However, capacity utilization rates rose from 42 percent in 1999 to almost 70 percent in 2005. Productivity gains far outstripped wage growth in the first years of economic recovery, but wages have been rising rapidly in recent years, and this gap is now closing. The real effective exchange rate has gradually returned to its pre-crisis level, and Russian firms operating in non-energy sectors have to cope with growing pressures from foreign competition.

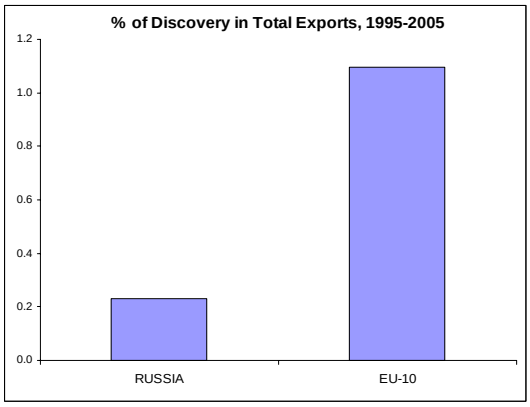
Capital and labor accumulation have played a limited role in Russia's growth performance. The small role of capital stock accumulation and employment growth in Russia's growth performance contrasts with the experience of other fast-growing economies in East Asia, where factor accumulation is the main driver of output growth. In Russia, output per capita grew by 6 percent over the period 1999 to 2004 driven largely by labor productivity growth, which accounts for two-thirds of output per capita growth (4 percentage points). The disappointing labor outcomes are related to the aging of the labor force, compounded by deficiencies in the higher education system, which worsen skills mismatches, and rigidities in the labor market regulations, which makes it difficult for firms to hire workers and slows the pace of reallocation of workers. The small role of capital accumulation partly reflects inefficiencies and low investments in new vintages of capital, particularly in new information and communication technologies. Empirical work suggests that the development of information and communication technologies spurs innovation and economy-wide productivity growth. Evidence suggests that in Russia, capital investments in information and communication technologies have played a small role in productivity growth (Piatkowski and van Aark,2007).

Trade can also improve productivity by providing access to new investment capital, technologies, expertise and export markets, but this has not happened in Russia. Trade flows (as share of GDP) have remained flat, averaging 16 percent of GDP. Export products in which Russia has a comparative advantage fell from 21.5 percent (as share of total exports) in 1995 to 16.9 percent of total exports in 2005 (Figure 2.9). Russia's integration into global production chains remains limited. Participation in producer-driven network trade tends to be associated with higher productivity growth. Yet in Russia, manufacturing exports that are part of producer-driven network trade averaged 8 percent over the period 1999 to 2005. In contrast, manufacturing exports from the EU-10 countries was close to 24 percent over the same period. The percentage of export 'discoveries' is only 0.2 percent of total exports. Similarly, the share of 'technologically new or improved

products in total exports was just 2.8 percent over the period 1999 to 2005, compared to 38 percent of total exports in EU-10 countries.

Figure 2.9. The share of high-added value goods and export discoveries in total exports remains small

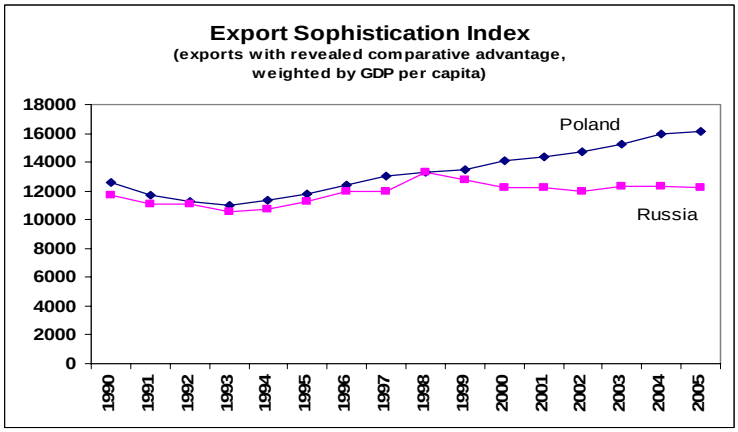




Source: Bank staff calculations; UN-Comtrade, 2007

Export diversification towards greater sophistication of products needs to be promoted. Evidence suggests that countries with the stronger manufacturing performance also display higher number of export discoveries and export sophistication (Bailey and Hausmann, 2006). This process has stagnated since 1998, with the country specializing in low-sophistication export products, like metals and petroleum. The degree of export sophistication in Russia is now only 75 percent of Poland's (Figure 2.10). What has been holding back the process of structural transformation in the Russian manufacturing sector? One answer is the structure of production. Russia is specialized in highly peripheral products: goods, requiring inputs that have few alternative uses to develop new products.

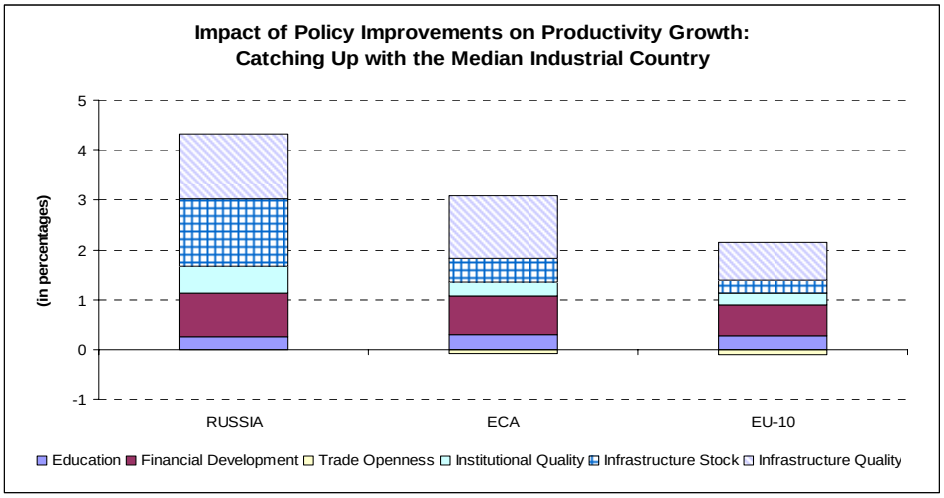
Figure 2.10. Export sophistication remains stagnant



Source: Klinger (2007)

In sum, sustaining productivity gains in the years to come calls for policy reforms that accelerate reallocation of resources toward higher productive uses. While much has been achieved during transition, more needs to be done to further improve the investment climate so that Russia can fully benefit from global economic opportunities. Figure x shows the impact on productivity growth in Russia from raising the level of each dimension of policy to the level of the median industrial country. Increasing the stock of infrastructure in Russia to the level of the median industrial country would raise productivity growth in Russia by 1.4 percent. Improving the quality of infrastructure in Russia to the level of the median industrial country would raise productivity growth in Russia by 1.4 percent. Increasing financial development in Russia to the level of the median industrial country would raise productivity growth in Russia by 0.9 percent. Improving institutional quality in Russia to the level of the median industrial country would raise productivity growth in Russia by 0.5 percent. Increasing education in Russia to the level of the median industrial country would raise productivity growth in Russia by 0.3 percent. Lowering inflation in Russia to the level of the median industrial country would raise productivity growth in Russia by 0.2 percent (Figure 2.11).

Figure 2.11: Russia has most to gain from policy catch-up



Source: Bank staff calculations. See Calderon, C (2007)

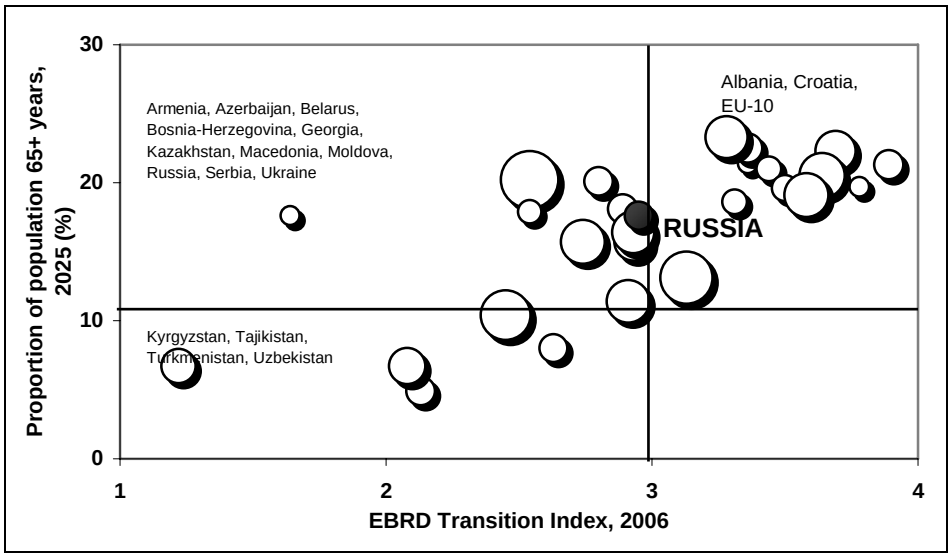
III. FROM RED TO GRAY: THE THIRD TRANSITION OF AGING POPULATION IN RUSSIA

A recently published World Bank regional report entitled "From Red to Gray: The Third Transition of Aging Populations in Eastern Europe and the Former Soviet Union" (2007) argues that after the political and economic transition, Russia, like other ECA countries, is undergoing a demographic transition. This 'third transition' is marked by shrinking and rapid aging population. Over the next two decades, Russia's population is expected to shrink by 12 percent (over 17 million people). In addition, elderly population will continue to rise. By 2025, one person in every five will be over the age of 65. Russia's working-age population is expected to decline by 11 million (10 percent decline) in the next two decades and is also aging rapidly. A declining and aging population poses two key challenges: sustaining economic growth with a shrinking labor supply and managing fiscal costs associated with aging. The demographic challenge, though uniquely daunting, is by no means impossible. Many of the potential problems associated with aging can be mitigated through policy reforms aimed at boosting productivity and controlling fiscal costs related to health care, elderly care and public pension payments..

The demographic challenge

Russia is among the countries of the ECA region facing a significant demographic challenge. Russia is among the countries in the top left quadrant of Figure 3.1 that have aging populations, a significant demographic overhang, often a growing pool of aged, and incomplete market institutions to weather the shock.

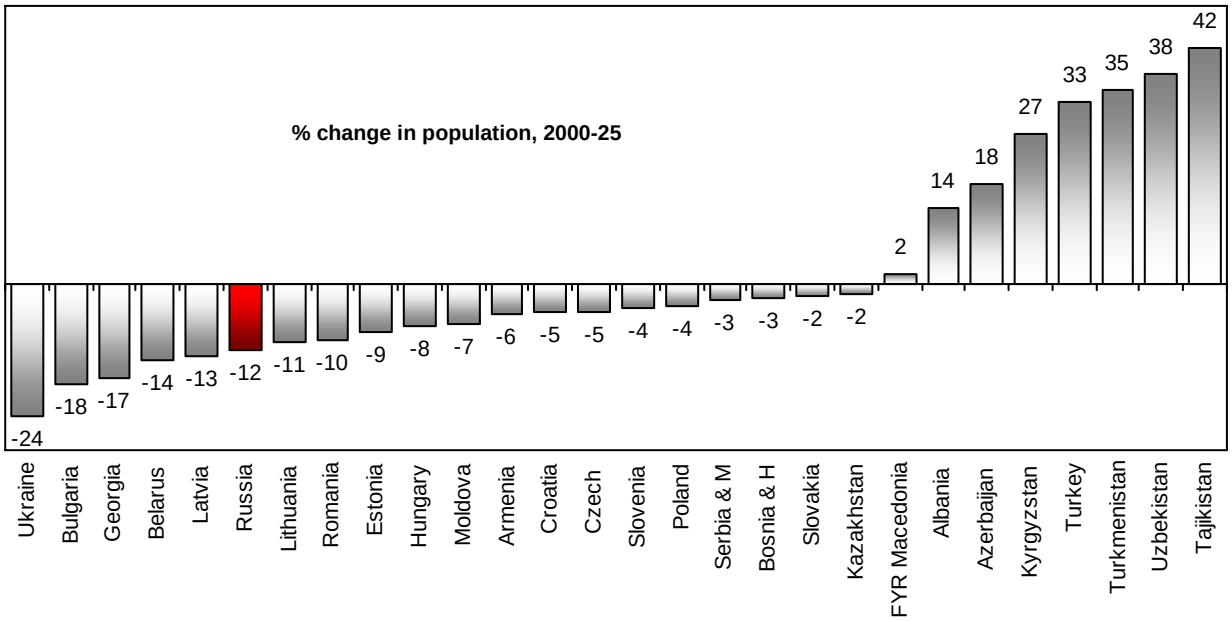
Figure 3.1: Russia's demographic challenge in comparative perspective



Source: Authors' calculations based on United Nations (2005) and EBRD (2006). *Notes:* Bubble sizes show change in 65+ dependency ratio over 2000–25.

Russia's population is expected to shrink by 12 percent (over 17 million people) between 2000 and 2025, according to UN Population projections. This is the largest drop in the ECA region in absolute terms and the six largest in relative terms (See Figure 3.2).

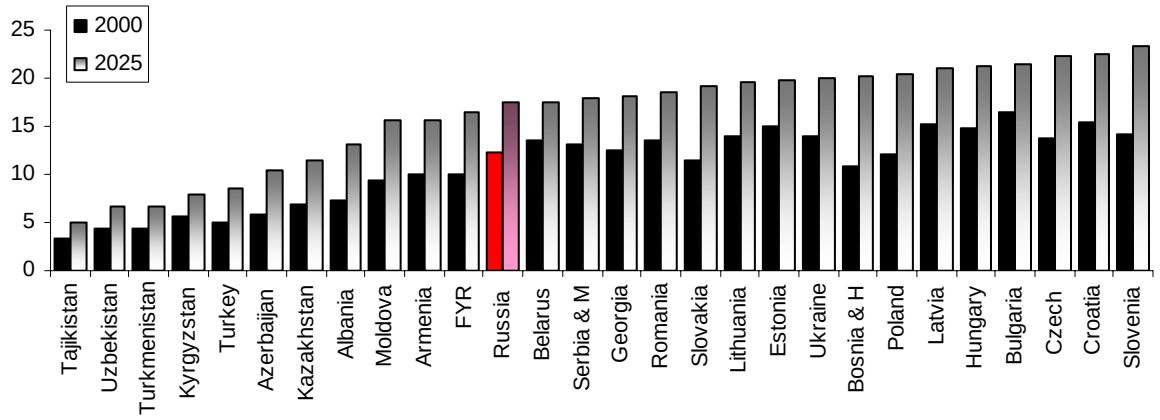
Figure 3.2: Russia's population will decline by 12 percent between 2000 and 2025



Source: Authors' calculations, from United Nations (2005)

Russian population is also aging rapidly: by 2025, one person in every five will be over the age of 65. As a result of rapid declines in fertility and rising life expectancy, Russia's expected share of population over 65 will be 18 percent in 2025, up from 12 percent in 2000 (see Figure 3.3).

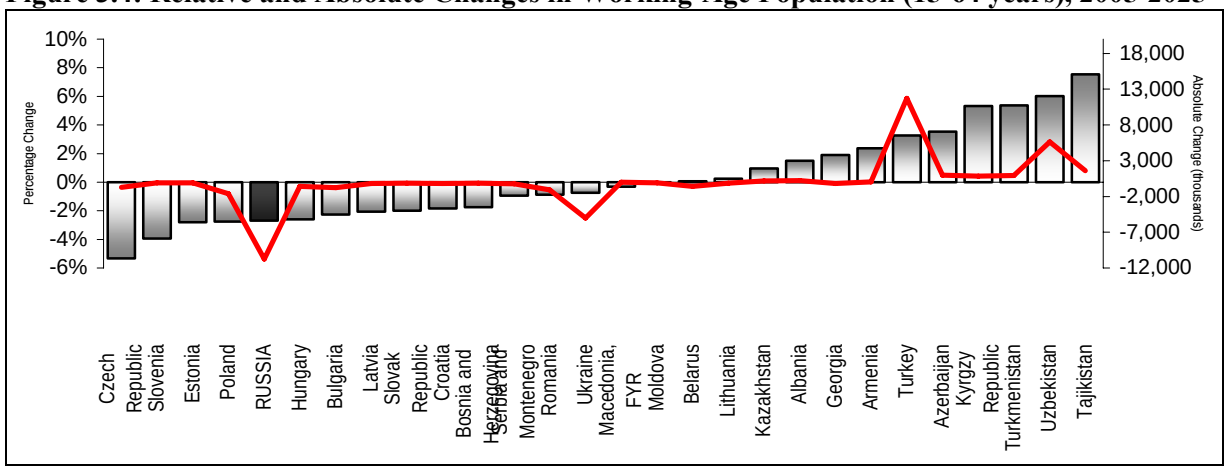
Figure 3.3: The proportion of population aged 65+ will be much higher by 2025



Source: United Nations (2005)

Labor supply will be negatively affected by these demographic trends: Russia's working-age population will decline by 10 percent (about 11 million people) over the next two decades. This decline in working-age population is compounded by aging within the working-age population. As Figure 3.4 shows, the working age population (15 to 64 years) as share of total population is projected to decline by 3 percentage points (from 71% to 68%) by 2020. This represents a decline of 10 percent in the working age population, or about 11 million people. The projected decline in working-age population represents a source of concern, given that labor supply is a key determinant of economic growth.

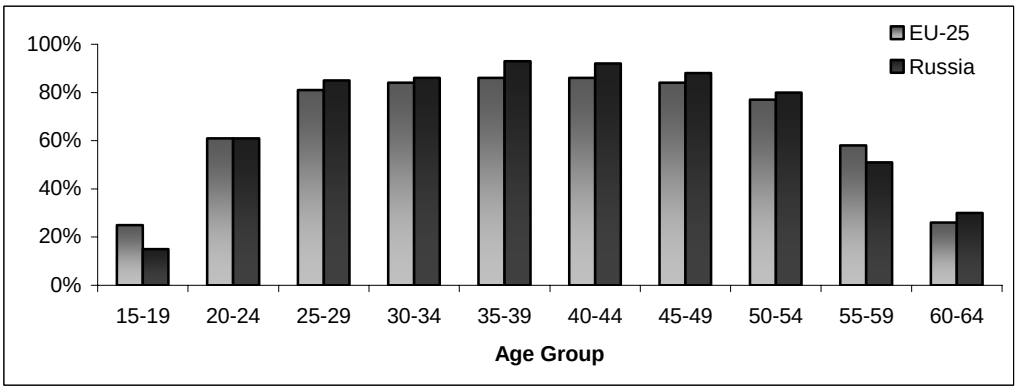
Figure 3.4: Relative and Absolute Changes in Working-Age Population (15-64 years), 2005-2025[1]



Note: Bars correspond to percentage point change in WAP-total population ratio (left axis) and points correspond to changes in absolute WAP (right axis). *Source: Staff estimates based on ILO Laborsta data.* These projections do not incorporate any major shifts in migration.

The demographic challenge is compounded in Russia because it will have large declines in its working-age population, and labor participation rates are already high. As Figure 3.5 shows, Russia has a relatively high labor force participation rate for younger age group cohorts (20 to 54 years), even in comparison to the EU-25.

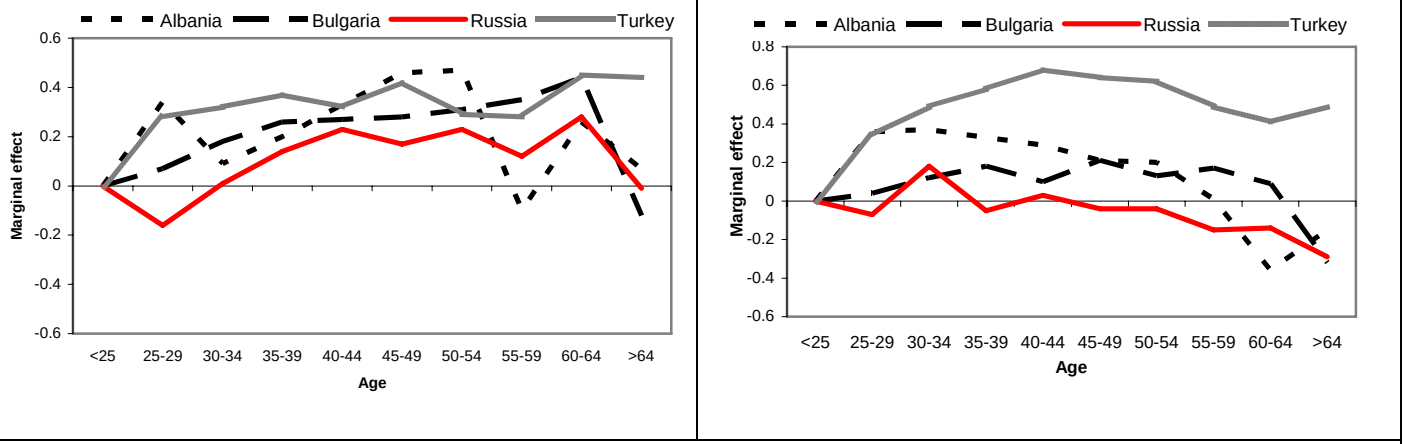
Figure 3.5. Labor Participation Rates by Age Groups,2003



In addition to its projected decline, Russia's labor force is aging rapidly. This challenge is compounded by aging taking place within the working-age population. Russia's working-age population is shifting from younger people (15-39 years) to older people (40-64 years)**.** Of the projected decline of 11 million in the working-age population, over 95 percent of the decrease will come from the 15-39 age group compared to less than 5 percent coming from the 40-64 age group. In other words, at the same time that a growing share of the population is moving into the elderly category, aging is going on within the working-age population. This is likely to have a further negative effect on labor supply unless participation rates increase for workers in the latter stages of the conventional "working age".

An aging labor force is particularly challenging in Russia because wages do not rise with age, reflecting skill shortages among older cohorts of workers. Figure 3.6 shows the marginal effects of age on wages by gender, controlling for other wage determinants. Typically, wages tend to increase with age until the late stages of working life. Numerous studies have established upward sloping age-earnings profiles, attributed primarily to the long-term worker-firm relationships and/or premiums paid to those with more experience. However, this is not the case in Russia, suggesting skill shortages among older cohorts of workers.

Figure 3.6: Marginal Effect of Age on Wages by Gender: Females (left) and Males (right)

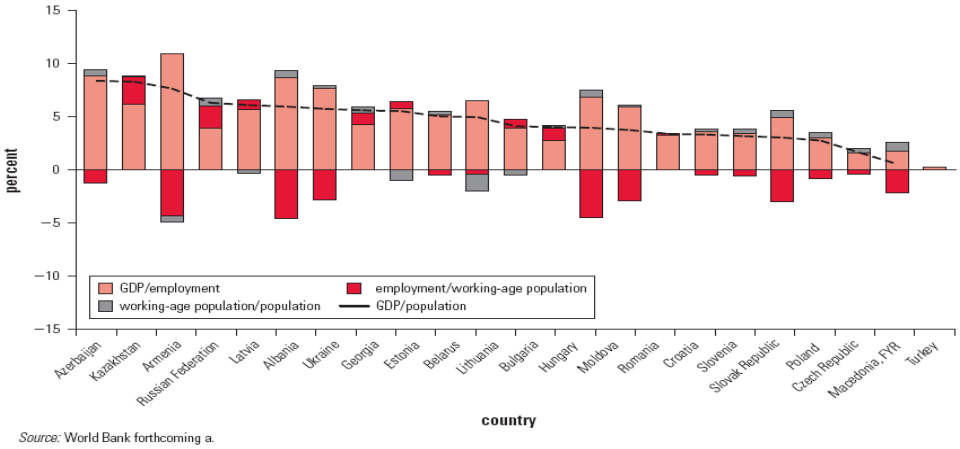


Source: Van Ours (2006) based on staff calculations. Marginal effects of age on wages by gender, with other wage determinants controlled for.

As output growth depends on the supply and productivity of labor, the primary macroeconomic implication of aging is less economic growth, since it will lower the expansion of the pool of available working-age individuals, other things equal. And for a given capital stock, a decline in the labor supply implies "undesired" capital deepening from the perspective of firms, which will respond by investing less.

But growing older does not have to mean growing slower. Aging is not a stop sign for growth- if Russia enacts policy reforms that sustain productivity growth. Changes in labor markets are not immutably determined by demographic legacies. Productivity improvements are the core predictor of growth, so measures to improve labor productivity would swamp any "quantity" effects of a smaller labor force. In fact, in recent years, growth decomposition exercises show that in Russia labor productivity growth has been the single greatest contributor to increases in per capita income (see Figure 3.7).

Figure 3.7:In ECA, labor productivity has had a stronger impact on growth than aging (1998-2005)



Source: World Bank forthcoming a.

Note: GDP = gross domestic product. GDP/employment measures labor productivity, employment/working-age population measures the employment rate, and working-age population/population is a proxy for aging. All data are from 2005, except data for Albania and Kazakhstan, which are for 2004.

Note: GDP/EMP measures labor productivity, EMP/working age POP measures the employment rate, working age POP/POP is a proxy for aging.
Source: World Bank (2007b)

Policy implications

There are two key policy implications associated with a decreasing and aging population: (i) sustaining economic growth through improved productivity to offset a shrinking labor force and; (ii) managing fiscal costs associated with aging, which are supported by a smaller tax base of workers. Policymakers need to carefully monitor and manage the situation over the next couple of decades, enacting appropriate policies to counter the effects of aging.

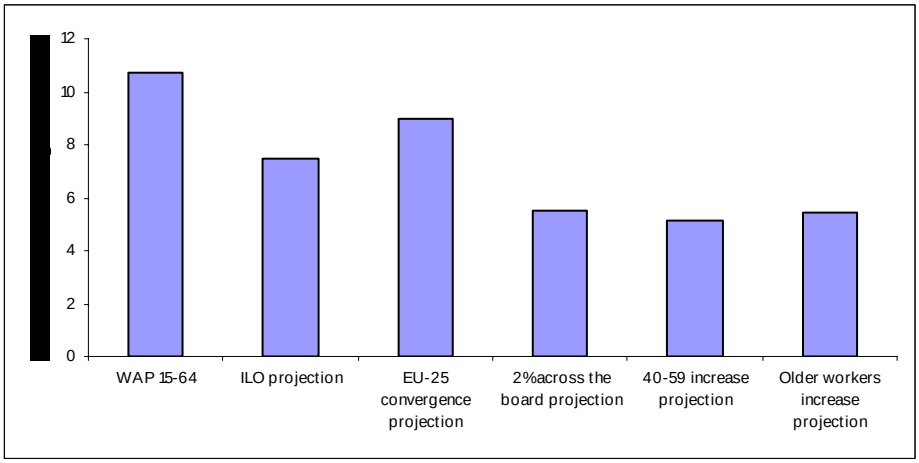
Message 1: Sustaining economic growth through improvements in productivity and workforce participation

The decline in Russia's working age population could negatively affect economic growth unless steps are taken in two key areas:

(i) Sustaining productivity growth. Over the last fifteen years, improved productivity has been the largest contributor to increases in the per capita income in Russia. Boosting productivity in the years to come could lessen the impact of the projected decrease in the working age population. Much of the early gains in productivity came from an economy-wide shift of resources (reallocation of labor across sectors: from agriculture to services and manufacturing), and from utilization of excess capacity as the country recovered from a deep recession. Boosting productivity in the years to come will require deeper reforms to improve the business environment and the efficiency of resource allocation.

(ii) Improving labor force participation, particularly of older cohorts. Given the already high labor force participation rates, Russia has limited scope to increase labor force participation to compensate for a declining working-age population. Nonetheless, achieving higher labor force participation for older workers could contribute to offset the expected decline of the labor force. Gradually increasing labor force participation of workers aged 60 to 64, so that the rate is 10 percent higher in 2020 than in 2005 would reduce the projected decline the labor force from the 11 million to 5 million (See Figure 8).[3] Increasing labor force participation rates would imply retaining older workers and reintegrating those who have left the labor market by: (i) raising the comparatively low retirement age (60 for men; 55 for women) to the OECD standard 65 for both sexes; (ii) providing life-long learning opportunities to keep skills up-to-date and retrain older workers laid off during enterprise restructuring; (iii) enabling greater flexibility in permitting part-time work; (iv) increasing educational opportunities and encourage higher education for younger Russian to improve labor force participation among the 50-64 cohort in future generations (those with higher education are 2-3 times more likely to stay in the workforce).

Figure 3.8. Projected Declines in Labor Force Participation under Different Scenarios, 2005 and 2020



Inward migration could also mitigate Russia's projected labor shortage. Russia is already experiencing large migrant inflows, mostly from lower income CIS countries, whose working age population is still growing rapidly (such as the Central Asian countries). As Russia's population continues to decline, inward

[3] The projection exercise has included a base case and five alternative scenarios:

- ILO. This follows ILO projections which are essentially an extrapolation of the most recent estimates of participation rates for different age-gender groups within countries. The methodology is described Annex Box 2.A1.
- EU-25 convergence. These projections assume that participation rates for all age-gender groups will move towards those of the EU-25 current average, converging by 2020.
- 2% across the board. Projections of a gradual increase in labor force participation rates for all age-gender groups, reaching a level two percentage points higher than they were in 2005.
- Older workers. Projections of gradually increasing participation rates for workers, aged 60-64, so that they are 10 percent higher in 2020 than in 2005.
- 40-59 year olds. Projections of gradually increased participation rates for both men and women in this age group, so that they are 6 percent higher in 2020 than in 2005.

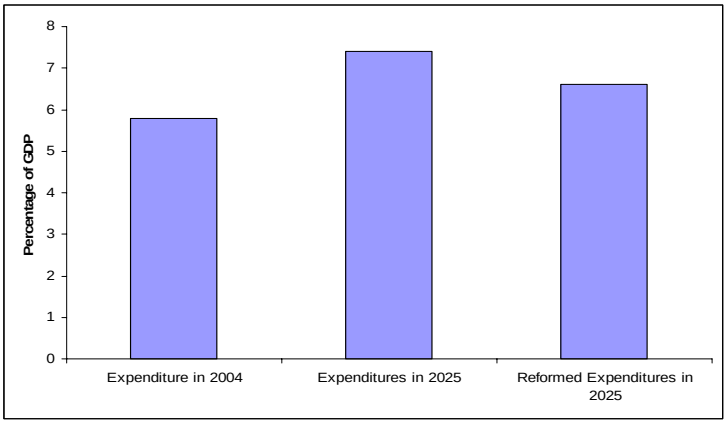
migration could help ease some pressures on the labor supply. Assuming that the labor force participation rate does not increase, Russia would need over 2.8 million in-migrants by 2020 to maintain the current ratio of labor force to total population constant.

Message 2: Address fiscal risks associated with aging

For Russia, as with other countries facing a similar demographic transition, the financial costs of an aging population are substantial, due to increasing expenses for pensions, health care, and long-term care.

Pensions. Russia only spends about 7 percent of its GDP on its pension system, which is comparatively low for the ECA region and pension spending is expected to rise over the next 20 years. As dependency ratios increase, it becomes increasingly difficult to maintain benefit levels. Reforming the pension system is perhaps the largest task faced by countries undergoing the demographic shift. In Russia, much progress has already been made: Russia has already begun to shift the pension system away from a defined benefit pay-as-you-go system (PAYG) to a three-pillar mixed system that adds a mandatory notional defined contribution component and a voluntary privately management component. The second two pillars are based on fully funded individual accounts. The PAYG element includes a basic, flat benefit, as an "insurance" part, which is based on the notional defined contributions. By taking into account both actual contributions and life expectancy in calculating benefit payouts, these reforms should put the pension system on a much sounder footing. Raising the retirement age to OECD norms should further enhance the stability of the pension fund. In Russia, the retirement age for men is 60 and for women 55. Raising the age to 65 may provide savings to counter the impact of aging. However, the system of individual accounts remains an administrative challenge, while under-developed financial markets have produced an over-reliance on government securities.

Figure 3.9: Pension spending would rise significantly due to aging, but can be moderated by reforms



Healthcare. Health care expenditures are expected to rise as incomes rise. But aging is only a small component in the growth of health care costs. In Russia, health care expenditures currently make up about 3 percent of GDP and are expected to increase by 2020. Cost, however, is not the only issue. High rates of alcoholism, cancer, and cardiovascular disease are all implicated in Russia's notorious low male life expectancy. Improving the health of Russians of all ages could have a significant impact on labor force participation, productivity, and on the overall size of the working age population. Furthermore, poor health in young adults is more likely to lead to poor health as they age. To improve the overall health care system and keep costs under control, Russia could: (i) increase emphasis on preventative care; (ii) eliminate inefficient and over-utilized hospital resources in favor of less expensive outpatient care; (iii) offer reimbursements for outpatient drug dispensement to eliminate a common incentive for seeking inpatient care; and (iv) seek to control rising prices for pharmaceuticals.

Long-term care. The future costs of long-term care for aging could be very substantial. By 2050, 3 to 4 percent of Russia's population will require some sort of long-term care. If that care is provided in formal settings, such as hospitals or other institutional facilities, long-term care costs alone could consume up as much as 4 percent of GDP. A long-term care strategy for Russia could include: (i) providing better health care for the young to promote good health in the elderly, thus reducing the overall need for long-term care; (ii)

providing support for in-home care and assisted home-living arrangements; and (iii) treating long-term institutionalization as a last resort.

Summing up

To address the challenges that Russia faces from a shrinking and aging population, it should adopt the following strategies:

1. ***Address the potential labor shortage*** by (i) boosting productivity through continued enterprise restructuring and improved educational opportunities and (ii) improving labor force participation rates, particularly among older workers.

2. ***Control fiscal costs associated with aging*** by (i) furthering pension reforms; and (ii) restructuring the health care system to improve the quality and efficiency of care delivery reducing the overall costs of long-term care for aging populations.

Main Macroeconomic Indicators

	2001	2002	2003	2004	2005	2006				2006	2007								
Output Indicators	**Yr**	**Yr**	**Yr**	**Yr**	**Yr**	**Sep**	**Oct**	**Nov**	**Dec**		**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**
GDP, % change, y-o-y 1/	**5.1**	**4.7**	**7.3**	**7.2**	**6.4**	6.5	-	-		**6.7**	-	-	7.9	-	-	7.9	-	-	
Industrial production, % change, y-o-y	**4.9**	**3.7**	**7.0**	**8.3**	**4.0**	4.1	5.4	3.0	1.9	**3.9**	8.4	8.7	7.9	4.6	6.7	10.9	7.8	3.8	3.0
Manufacturing, % change, y-o-y	**-**	**1.1**	**10.3**	**10.5**	**5.7**	5.1	7.5	2.9	2.7	**4.4**	17.3	14.0	12.5	7.0	9.4	15.6	12.5	5.5	4.0
Extraction of mineral resources, % change, y-o-y	**-**	**6.8**	**8.7**	**6.8**	**1.3**	1.7	0.6	2.5	2.6	**2.3**	4.2	4.3	3.8	2.0	2.0	2.0	1.2	0.5	0.2
Fixed capital investment, % change, y-o-y	**8.7**	**2.6**	**12.5**	**10.9**	**10.5**	15.0	19.1	15.2	16.5	**13.5**	23.2	19.6	20.9	19.4	23.1	27.2	24.7	18.8	16.1
Fiscal and Monetary Indicators																			
Federal government balance, % GDP 1/	**3.0**	**1.4**	**1.7**	**4.3**	**7.5**	8.7	9.2	8.7	7.4	**7.4**	10.9	8.1	7.0	5.9	6.7	7.7	7.5	7.5	7.1
Consolidated budget balance, % GDP 2/	**-**	**-**	**1.3**	**4.5**	**7.7**	10.3			8.5	**8.5**			11.4			10.3			
M2, % change, p-o-p 3/	**44.6**	**34.1**	**44.8**	**42.5**	**35.6**	4.1	0.2	3.1	12.2	**43.6**	-3.3	2.3	5.7	6.3	6.9	1.5	0.6	2.2	3.0
Inflation (CPI), % change, p-o-p	**18.6**	**15.1**	**12.0**	**11.7**	**10.9**	0.1	0.3	0.6	0.8	**9.0**	1.7	1.1	0.6	0.6	0.6	1.0	0.9	0.1	0.8
GDP deflator 1/	**16.5**	**15.7**	**14.0**	**20.1**	**19.2**	18.7			16.1	**16.1**			7.5			9.9			
Producer price index (PPI), % change, p-o-p	**8.3**	**17.7**	**12.5**	**28.8**	**13.4**	1.4	-2.8	-2.5	1.0	**10.4**	1.9	-0.2	0.0	4.3	5.4	2.5	0.7	2.1	-0.6
Nominal exchange rate, average	**29.2**	**31.4**	**30.7**	**28.8**	**28.3**	26.7	26.9	26.6	26.3	**27.1**	26.5	26.3	26.1	25.8	25.8	25.9	25.5	25.6	25.3
Real effective exchange rate, 2000 = 100 (IMF)	**120.3**	**123.6**	**127.3**	**137.3**	**149.3**	166.0	166.2	165.8	166.2	**163.5**	168.5	170.1	171.0	171.1	171.5	172.0	173.1	174.2	
Real effective exchange rate, % change, p-o-p (IMF)	**20.3**	**2.8**	**3.0**	**7.8**	**8.7**	0.5	0.1	-0.2	0.2	**9.5**	1.4	0.9	0.5	0.1	0.2	0.3	0.7	0.6	
Stabilization Fund bln USD, end-o-p	**-**	**-**	**-**	**18.7**	**42.9**	70.7	76.6	83.2	89.1	**89.1**	99.8	103.6	108.1	113.7	116.9	121.7	127.5	132.9	141.1
Reserves (including gold) billion $, end-o-p	**36.6**	**47.8**	**76.9**	**124.5**	**182.2**	266.2	272.5	289.0	303.7	**303.7**	303.9	314.5	338.8	369.1	403.2	405.8	416.2	416.0	425.4
Balance of Payment Indicators																			
Trade Balance, billion $	**48.1**	**46.3**	**59.9**	**86.9**	**118.3**	11.2	9.0	9.2	9.9	**139.2**	9.8	9.6	9.8	11.2	12.7	8.6	10.4	11.1	11.2
Share of energy resources in export of goods, %	**51.2**	**52.4**	**54.2**	**54.7**	**61.1**	65.2	-	-	59.0	**63.3**	-	-	62.1	-	-	60.1	-	-	60.9
Current Account, billion $	**33.9**	**29.1**	**35.4**	**58.6**	**84.2**	23.1	-	-	15.7	**95.6**	-	-	21.8	-	-	37.7	-	-	57.1
Export of goods, billion $	**101.9**	**107.3**	**135.9**	**183.2**	**243.6**	25.8	24.9	25.5	29.7	**303.9**	21.5	23.8	26.8	27.7	30.3	27.1	29.7	30.9	29.9
Import of goods, billion $	**53.8**	**61.0**	**76.1**	**96.3**	**125.3**	14.6	16.0	16.3	19.8	**164.7**	11.7	14.2	17.1	16.5	17.6	18.5	19.3	19.9	18.7
Gross FDI, mln USD 1/	**3980**	**4002**	**6781**	**9420**	**13072**	10268	-	-	13678	**13678**	-	-	9756	-	-	15837	-	-	36700
Average export price of Russia's oil, $/bbl	**20.9**	**21.0**	**23.9**	**34.1**	**45.2**	58.9	53.9	52.0	52.4	**56.2**	50.9	49.0	52.5	58.0	59.8	63.0	67.5	68.5	
Financial Market Indicators																			
Average weighted lending rate for enterprises, % 4/	**17.9**	**15.8**	**13.1**	**11.5**	**10.7**	10.5	10.1	10.6	10.5	**10.5**	9.9	9.9	10.0	9.8	9.5	9.5	9.2	9.9	
CBR refinancing rate, %, end-o-p	**25.0**	**21.0**	**16.0**	**13.0**	**12.0**	11.5	11.0	11.0	11.0	**11.0**	10.5	10.5	10.5	10.5	10.5	10.0	10.0	10.0	10.0
Real average rate for Ruble loans, % (deflated by PPI)	**-1.1**	**3.9**	**-2.2**	**-10.1**	**-8.4**	-1.9	1.4	3.6	0.3	**-1.6**	-1.7	1.6	3.9	0.0	-3.7	-5.3	-4.6	-3.9	
Net credits to real sector, R billion	**486.0**	**479.0**	**897.8**	**1210.2**	**1603.6**	265.1	196.7	274.0	362.1	**2636.8**	155.4	229.9	308.7	277.9	351.3	370.5	383.9	528.5	
Net credits to real sector/ GDP, %	**5.4**	**4.4**	**6.8**	**7.1**	**7.4**	10.7	-	-	11.4	**9.8**	-	-	10.6	-	-	13.5	-	-	
Stock market index (RTS, ruble term)	**260**	**359**	**567**	**614**	**1126**	1550	1614	1767	1922	**1922**	1843	1858	1936	1936	1780	1897	1994	1920	2072
Enterprises Finances																			
Share of loss-making companies 1/	**38.4**	**43.4**	**41.3**	**35.8**	**33.5**	34.3	32.6	33.1	32.0	**29.7**	29.7	34.7	34.7	35.5	35.2	32.9	30.4	30.4	
Share of credits in capital investment 1/	**-**	**10.8**	**14.5**	**15.2**	**13.8**	14.9	-	-	14.3	**14.3**	-	-	16.5	-	-	16.8	-	-	
Profitability (net profit/paid sales), % 1/	**25.6**	**17.4**	**20.7**	**25.5**	**25.3**	26.7	25.0	25.8	25.6	**25.6**	44.6	37.4	32.6	32.9	32.1	32.6	35.5		
Income, Poverty and Labor Market																			
Real disposable income, (1999 = 100%)	**121.7**	**135.3**	**155.5**	**171.7**	**187.7**	211.3	210.0	211.7	309.1	**206.5**	165.1	201.2	214.1	225.0	225.2	235.3	238.4	238.9	240.8
Average dollar wage, US $	**112.4**	**138.6**	**179.4**	**237.2**	**301.6**	415.5	413.0	429.6	541.7	**395.3**	430.8	449.4	478.6	486.4	493.7	531.1	530.3	522.8	553.1
Unemployment (%, ILO definition)	**9.0**	**8.1**	**8.6**	**8.2**	**7.6**	6.4	6.7	6.7	6.9	**7.1**	7.1	7.2	6.8	6.4	6.0	5.9	5.8	5.7	6.0

1/ Cumulative from the year beginning
2/ Starting 2006 incl. extrabudgetary funds
3/ Annual change is calculated for average annual M2
4/ All terms up to one year
Source: Goskomstat, CBR, EEG, IMF, staff estimates.