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.

**CHAPTER 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).

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).

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).

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.

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.

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).

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).

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)

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 postentry 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 higher.
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)

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.

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.

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 0.9 percent. Increasing financial development in Russia to the level of the median industrial country would raise productivity growth in Russia by 0.5 percent. Improving institutional quality 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).