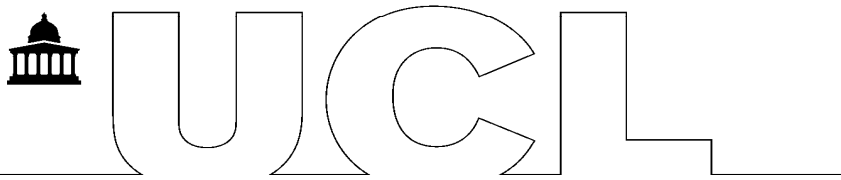

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Russian Manufacturing Revisited: Industrial Enterprises at the Start of the Crisis

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Abstract

The paper is based on the findings of a major project by the Higher School of Economics Institute for Industrial and Market Studies (IIMS) to monitor competitiveness of manufacturing enterprises. The study focuses on the drivers and dynamics of business competitiveness, including changes in firms' behavior during the period before the crisis (2005-2008). The primary issue was to find out what firms and to what extent succeeded in capitalizing on the strong economic growth before the crisis to catch up with their competitors and gain a sustainable competitive position in the market. What was driving output increases and enhanced production efficiency? What were the impediments to this process?

Key words: Manufacturing industry, Russia, economic crisis, competitiveness

JEL classification: D21, L25, P23

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Introduction

It is quite a common notion both inside and outside the country that most of Russian manufacturing is based on the obsolete technologies, incompetitive, at least on the global markets, and has no future. We would argue that while there are acute problems with the development of this sescor there have been a lot of positive changes in recent years, in particular on the micro-level. And this gives some hope for revival of manufacturing. Manufacturing industry started to revive from transitional shock after 1998 crisis using the advantages of devaluated national currency, relatively cheap labor and free production capacities. For several years this development was mostly extensive – based on growing internal demand and import substitution with little new investments and innovation. By the mid 2000s the most important sources for extensive development originating from the crisis of 1998 were largely depleted. It seemed imminent that Russian manufacturing firms would have to look for a different – intensive - development strategy, involving new market entry, technological upgrade and product innovation (World Bank 2007). It should be admitted today that those expectations did not come quite true. In fact, in 2005-2008, an exceptionally favorable external environment and terms of trade, rapid expansion of domestic demand and improved access to borrowings helped most industrial enterprises to maintain their market power and, moreover, to increase output without any significant changes in their technologies, innovation risks or entering new, first of all, international markets. There were no revolutionary breakthrough, but on the macrolevel the share of manufacturing sectors in the national GDP stayed stable and there was relatively fast growth of labor productivity, mostly due to decrease of employment without the corresponding drop of production.

This would not mean, however, that there were no progress at all. The overall smooth evolution was masking over a robust restructuring under way in individual firms that were changing their behaviors for more market-oriented, despite the underlying institutional arrangements that remained far from “ideal”. For better understanding the major trends inside the manufacturing one need to look not so much at macroeconomic data but at indicators of performance and behavior on micro-level. This paper is not attempting to cover all the aspects of manufacturing firms behavior but concentrates mostly on answering several important questions. Were the pre-crisis years a time of efficient growth? Which firms enhanced competitiveness? What were the major changes in the behavior of firms in terms of innovation, management, state-business relations, etc.? These questions seem no less important both for an assessment of the current situation and for designing economic and

industrial policies to recover from the crisis. It should be noted that the data we use in our research is dated spring 2009 when the crisis has already hit the Russian economy badly. But it was before the consequences of the crises were fully realized. Thus, our findings mostly focus on the changes in pre-crisis period.

The empirical base for this study is the data of two rounds of the survey conducted in 2005 and 2009. 1000 of medium and large firms in 8 sectors of manufacturing have been surveyed in each round and about 500 of firms has been surveyed twice providing a panel sample for comparisons of two years[1].

Manufacturing industries in 2005-2008: macroeconomic and institutional environment

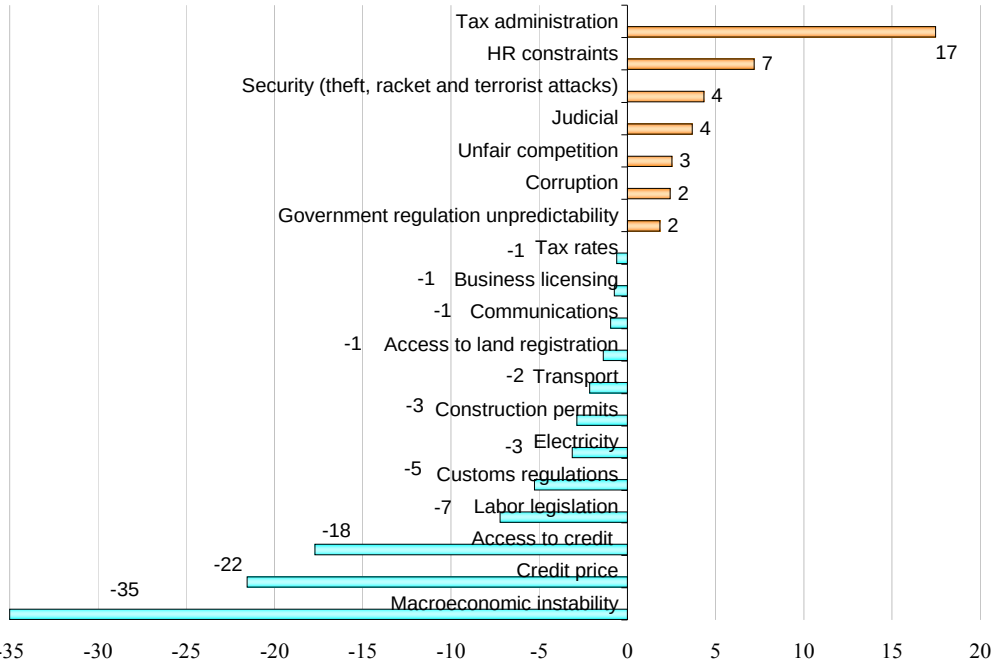
Right up to mid 2008, the manufacturing industries were developing in an exceedingly favorable economic environment. Domestic demand was expanding dramatically, external financing was getting more and more available as real interest rates on bank loans were decreasing to become even negative at times, foreign investment in Russia's manufacturing was also building up. On the negative side during that period, manufacturing was adversely affected by persistently high inflation (albeit moderate compared to the previous period), REER appreciation and accelerated growth of labor costs.

In this context, manufacturing successes look, on the one hand, unquestionable, but on the other, quite modest. Labor productivity in manufacturing increased by 50 percent from 2005 through 2008. This sector managed to maintain its share in the GDP, with the added value growth in the sector keeping head to head with the overall GDP growth[2]. The profitability in manufacturing sectors grew marginally (from about 16 percent in 2005 to 18 percent in 2009). However, with due regard to the high inflation, this profit margin can hardly be called impressive.

An important obstacle to higher manufacturing competitiveness during the boom period was a lack of meaningful progress in the institutional environment. During 2005-2009, respondents' assessments of business barriers remained largely unchanged. Fig.1 shows how respondents' perceptions of elements of the business environment as obstacles changed from 2005 to 2009[3]. Considerable improvements are observed only for tax administration and for skilled labor availability (the latter may be due to the crisis). Moderate improvement may be

[1] Detailed description of the dataset can be found in HSE (2010).
[2] A certain reduction of the manufacturing share in the economy was observed in 2008 as an impact of the crisis setting on.
[3] It should be noted that this comparison is not quite accurate because the 2009 survey was conducted at the peak of the economic crisis, when growth outlook was uncertain. This may be behind the drastically deteriorated perceptions of macroeconomic stability, access to bank credit, and labor regulation

seen in assessments of courts and security of doing business. There was no progress in access to infrastructure, though institutional factors continue to be more important constraint for business than the state of infrastructure. Interestingly, corruption, so frequently mentioned in mass media publications and expert discussions, ranks only eight in the overall ranking of business obstacles (mentioned by 21 percent of respondents in 2009). Customs regulation seems the most disturbing component, as this issue has moved up from the 15th rank in 2005 to the 10th in 2009, which can hardly be explained by the economic crisis. Institutional constraints are most acute for firms involved in major investment projects, which therefore have to deal with the state and regulators more frequently. Thus, businesses making large investments in 2005-2008 indicated customs barriers as major business obstacles almost twice as frequently as businesses who did not invest during that period (42 percent versus 22 percent). A similar variance is observed in perceptions of availability of construction permits, and access to land is more frequently mentioned as a problem by active investors (35 percent of active investors vs 24 percent of investment-free firms).



Source: HSE surveys of 2005 and 2009.
Note: figures on the horizontal axe show the difference between shares of firms that marked a certain problem as a serious impediment for their business/ Minus indicates a downgraded assessment, + an improved one.

Figure 1. Variation in assessment of business barriers, 2005 and 2009 (percentage points)

It is noteworthy that the absence of significant improvements in Russia's business climate against the background of positive developments in the institutional environment in other transition economies weakens competitiveness of Russian enterprises vis-à-vis their peers in these economies. According to BEEPS[4], Russia in 2002 looked better on average than the other 26 surveyed transition economies on three fourths of business climate parameters. In 2005, Russia was ahead only on half of the surveyed parameters, while in 2009 it was behind the average on 16 of the 18 parameters for the other 28 surveyed countries.

One of the major component of market environment is competition. Low competition in Russian manufacturing is traditionally seen as a most important institutional limitation, because in the absence of competitive pressures firms have no incentives to improve their efficiency. At first sight, the situation did not change in recent years. Both in 2005 and in 2009 surveys about every fifth enterprise does not face any significant competition either from its domestic peers or from any foreign producers. Around 30 percent of firms compete exclusively with their domestic rivals, while less than 40 percent of companies are exposed to strong competition both from domestic and foreign producers.

Nevertheless, more detailed analysis reveals considerable changes in the pattern of competition from foreign companies. There has been a sizeable increase in the share of enterprises reporting considerable competition not with imports but with locally-based foreign producers. While in 2005 this type of competition was typical only for two sectors – chemicals and textiles&clothing, in 2009 it was faced by increased numbers of domestic metals and machine producers (Fig. 2). Thus, to a certain degree, the competition from "Russian foreigners" was probably replacing direct competition from imports.

[4] Business Environment and Enterprise Performance Survey is a joint initiative of the EBRD and the World Bank, started in 2002. The most recent round of the survey in 2008-2009 covered 11,800 companies in 29 countries. The survey universe was defined as industrial, commercial or service business establishments with at least five full-time employees. The survey used comparable questionnaires. The Russian sample of 2009 included 1004 enterprises, including 603 industrial companies. The Russian sample of 2005 covered 601 enterprise. See: The "The Business Environment and Enterprise Performance Survey (BEEPS) 2008-2009 A Report on methodology and observations." October 2009

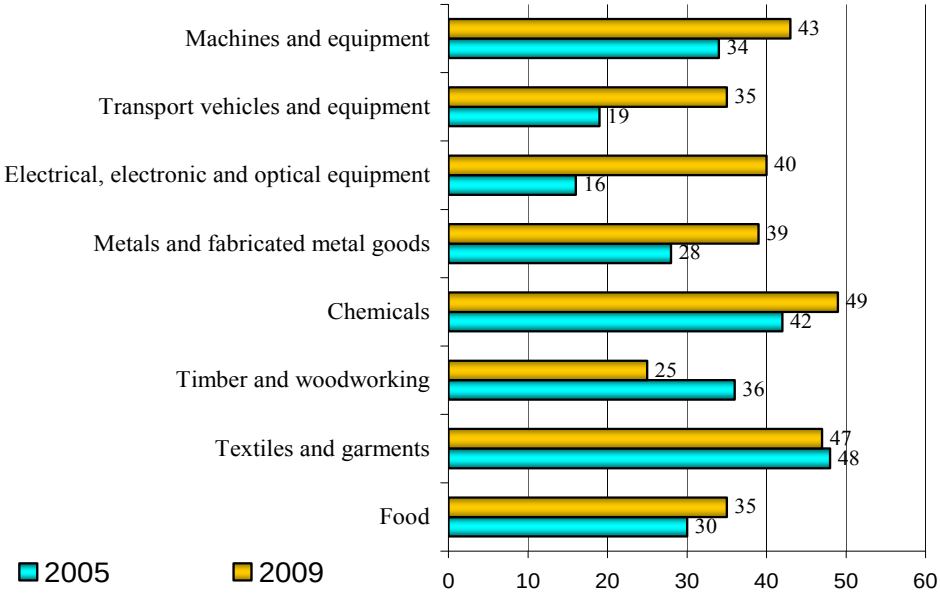


Figure 2. Share of firms facing significant competition from Russia-based foreign producers in 2005 and 2009 (%)

Quality of growth

Our analysis shows that in general the growth in manufacturing was driven by more productive and more competitive firms. This fact can be illustrated by comparing the dynamic of three groups of enterprises. Using the performance data for our firms in 2004 we have constructed a simple indicator based on firms' individual labor productivity compared with average labor productivity of the industry (type of economic activity) the firm belongs to and on the base of top-managers assessments of the competitive position of their firm relative to firm's main competitors. If a firm claims that it is a competitive leader, while its labor productivity is above the average sector level, we would classify it to the group of leaders. If a firm assesses its competitiveness lower than that of the leaders, while the gap is not closing or is widening, and labor productivity is below the average for this type of economic activity, it would be classified to the group of outsiders. All the rest of firms would fall within the "midrange" group in terms of competitiveness. As we realize the arbitrary and limited character of this grouping, we still think it is quite instrumental for drawing a clear line between leaders and outsiders. According to the selected criteria, the group of leaders would then include about a quarter of surveyed enterprises, the "midrange" group would get about 55 percent, while the group of outsiders – about 20 percent of the sample. An analysis of growth rates in various groups reveals that the bulk of revenue growth falls on more

competitive firms. Firms included in the leaders group by the survey of 2005[5], were increasing output by 23 percent per annum on average (in nominal terms) during 2005-2007. Another group – with midrange competitiveness – was growing at a rate of 17 percent, while the 2005 outsider group was averaging below 10 percent a year. Therefore, the key contributors to output growth before the crisis were more competitive businesses with higher profitability.

Output increases in the group of the most competitive firms were accompanied by labor productivity advances at similar rates. In other words, these enterprises were increasing output basically without any increases in employment, albeit without any significant shedding of jobs. The midrange group was improving productivity at higher rates, however, by means of labor downsizing. The highest rates of productivity growth were observed in the low competitiveness group. A possible explanation for this can be found in two reasons: the low base effect and the survival to be included in the 2009 sample of only those outsiders who managed to strengthen their resilience, including by efficiency improvements.

Higher labor productivity growth in less competitive firms set forth an important positive trend: narrowing gaps within individual sectors as underperformers manage some catching up with the leaders. The variance in labor productivity between the top and the bottom quintiles within one economic activity decreased across all sectors over the three years, except for chemicals and metals, which may be related in most probability to the favorable global environment and exporters' breaking away ahead from domestically-oriented producers.

Technology upgrading and innovations

Growing demand, access to easy and cheap credit, and sufficient profitability before the crisis basically made it possible for most enterprises to embrace the investment-based model of economic growth, involving renovation of their fixed assets and technologies. Some enterprises made good use of this window of opportunity. Almost 40 percent of enterprises were very active in capital investments in the years just before the crisis. However, many of them had to face their investment cycles disrupted by the crisis. As a result, Russian enterprises continue to lag behind their rivals in technological standards. Self-assessments of the technological level of production indicate (Fig. 4) that on average only a fourth of the surveyed respondents believe that their technological level is in line with that of their foreign

[5] We do not include here the data of 2008, when many industries were severely impacted by the crisis.

competitors. Another 30 percent of companies think that their technologies meet the highest domestic standards.

Assuming that the "sound technology performance" watershed lies roughly at the level of the Russian best practice, the chemical industry would come out as the top performer. The timber and metals sectors have also performed better than the sample average. However, the timber industry has also shown a coexistence of firms meeting the most stringent international standards and those hopelessly behind, both in high proportion. This may be an evidence of extremely high heterogeneity of this sector. The poorest performance has been reported for the transport vehicles and machines and equipment engineering.

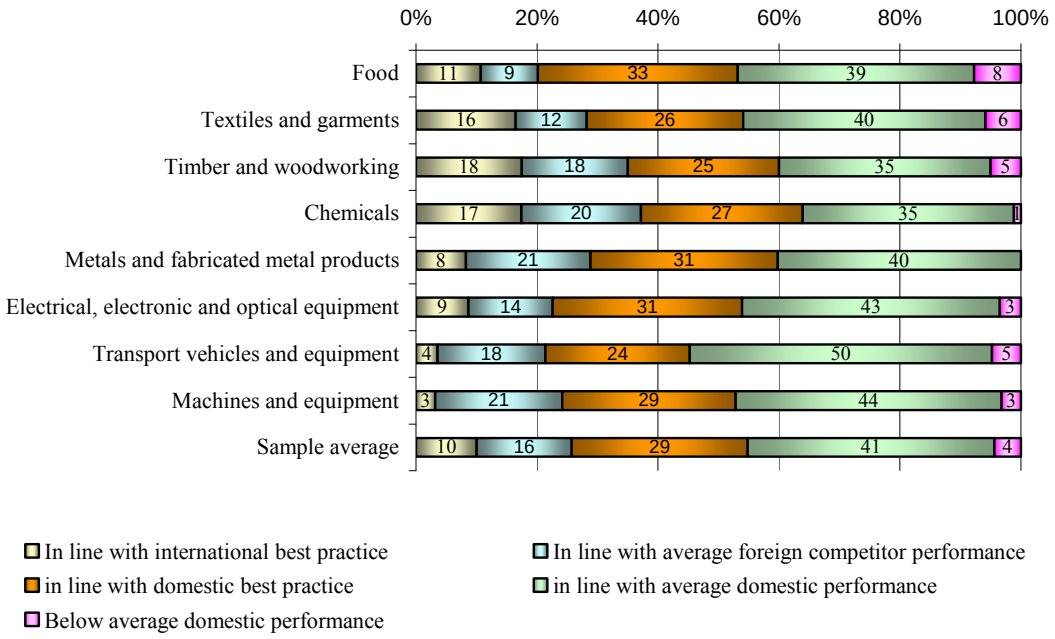


Figure 4. Technology performance of key products, % of total responses, 2009

A comparison of the 2005 and 2009 findings shows that the sectors have not come closer together in their technology absorption performance. On the opposite, the leaders have rather become stronger, while the lagging companies have slipped further behind. In other words, most manufacturing industries are ensnared in a trap or a vicious circle of backwardness as described in (Polterovich, 2009): innovation cannot drive economic growth, as backward production does not create demand for innovation and suppresses supply, while absent supply in its way tends to be a drag on demand.

The overall innovation performance has not changed visibly: the panel data has registered an unchanged number of formal innovators[6] (Fig. 5).If we deviate from the formal criteria of innovator enterprises and include in this category those which on top of product and technology innovations also had some R&D expenditure (essential today at least for successful technology adoption and use), it would appear that the share of innovative enterprises contracted during 2005-2009. The deepest fall will be then observed in the low-tech timber and food sectors.

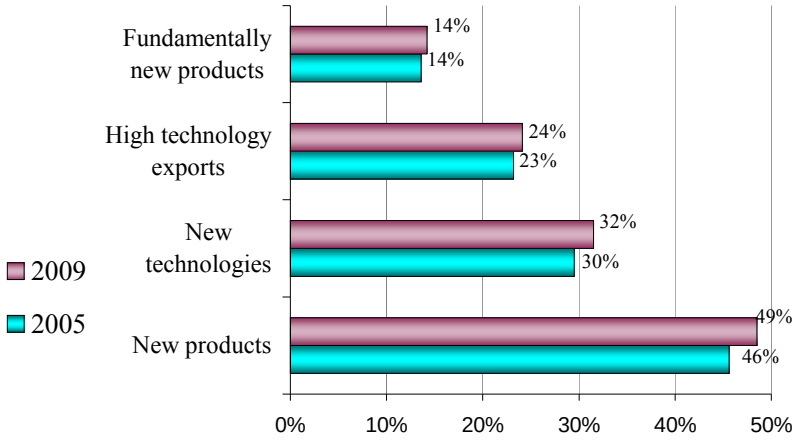


Figure 5. Innovation performance metrics in 2005 и 2009, % of total responses

While grouping the companies, we have taken into account not only their use of innovation, but also their R&D spending and the specificity of the markets which new products target. Analysis shows that the manufacturing sector is dominated by abstainers (no innovation) and imitators, who opt for adopting off-the-shelf solutions. A mere fifth of the companies while absorbing innovation have at least the whole domestic market in mind, with most of such enterprises concentrated in electronic engineering. Global innovators are most numerous in the chemicals sector and are altogether absent from the timber sector.

Technology underperformance is among the crucial reasons behind low competitiveness of Russian industrial firms. Enterprises perceiving themselves in line with the national best practice in technology performance and above have productivity 45 percent higher than all the other enterprises in the sample. Accordingly, *ceteris paribus*, proactive investment behavior has been raising productivity by 26 percent, while proactive innovation

[6] We classify as formal innovators those enterprises that have reported technology innovations over the last three year, including a new product offering and/or new technology absorption. We have additionally shown enterprises reporting high-tech exports (among exporters) and those who gain competitive advantages via their new to market product innovations.

behavior (eyeing at least the national market backed by in-house R&D spending) has been adding another 15 percent to productivity gains.

And still, the trends observable prior to the crisis provide good reasons for cautious optimism. Unlike in earlier years, when proactive innovation was not always rewarded by improvements in competitiveness, the situation was more healthy and market-driven by 2009. Innovative enterprises now are really more competitive. Moreover, competitiveness improves as innovation goes deeper (Fig.6).

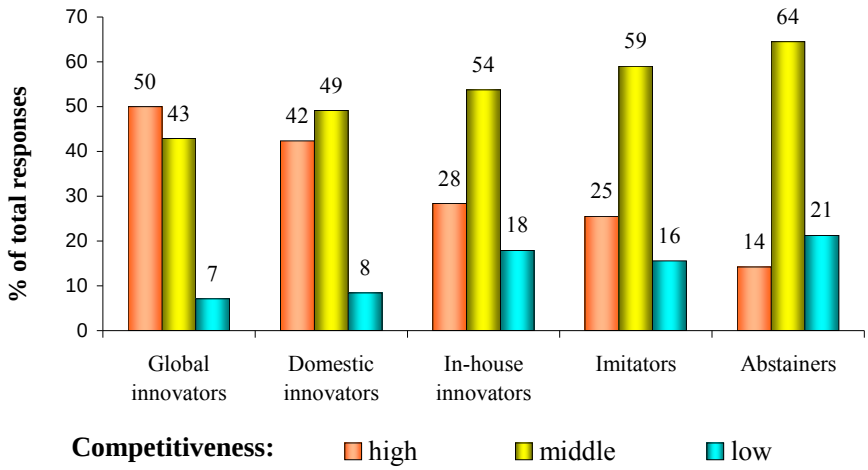


Figure 6. Association between firm competitiveness and firm innovation performance

An assessment of the current trends suggests that an innovative core inside Russia's industry is coming into shape. On the one hand, the proportion of enterprises with non-zero R&D investments decreased from 55 percent in 2005 to 36 percent in 2008. On the other hand, the group of enterprises continuing their R&D spending saw a contracted proportion of micro-spenders and a respectively increased share of bigger spenders on R&D.

Ownership and Corporate governance: from Russian specifics to international practice

Throughout almost the whole transition period, two key features of Russian corporate governance have been unanimously noted by researchers. Russia features a very high equity concentration ratio, giving rise to tight control of the dominant owner over the corporate processes and management bodies, sometimes to the detriment of minority shareholders. Our data suggest that the Russian system of corporate governance has been evolving toward convergence with systems of most advanced economies. These developments provide for a gradual future improvement of corporate governance in Russia.

While in 2005 as much as 75 percent of business companies had controlling owners (above 50 percent of the company's stock), in 2009 such companies accounted for 64 percent of the sample. Panel data indicate that the proportion of companies having a controlling owner has shrunk by more than 6 percentage points for all business companies and by more than 4 percentage points for joint stock companies.

This development is observed more as a tendency rather than as a universal phenomenon. A panel data analysis shows that each fifth firm has decreased its ownership concentration, while each sixth company has increased it. Lower concentration has been a result of deliberate measures by dominant owners, as incumbent business owners were more frequently reducing the ownership concentration ratio. Increased public offerings and trading in company stock and bonds further contributed to the same effect. It should be emphasized that stock exchange funding increased during this period, as the share of JSC publicly trading in their securities (shares and bonds) doubled over 4 years – from 4.8 percent to 9.6 percent.

Another important development over the recent years was the trend to transfer control from owners to hired managers. According to the data 41 percent of business companies in 2009 had no major shareholders among their top managers, while their chief executive officer had no shares (ownership interest) in the companies under their leadership at all. A comparison with data obtained in the course of a 2005 survey (Dolgopaytova, Iwasaki, Yakovlev 2009) shows a 10 pp increase (i.e. roughly by a third) of companies engaging hired managers in the group of large and medium sized manufacturing JSC. Separation of management from ownership creates incentives for large owners to use standard internal corporate procedures to oversee the operations of executive management, thus boosting demand for corporate governance rules and procedures on behalf of business.

Probably, the most important trend is a wider participation of foreign owners (investors) in the equity of Russian manufacturing firms. In early 2000s, empirical studies identified 1-2 percent of foreign interest in manufacturing. The 2005 survey mentioned above found out that on average foreign investors accounted for up to 4 percent of equity in manufacturing, while JSC with foreign participation accounted for less than 10 percent.

Foreign equity participation is reported by each 10^{th} business company in the 2009 sample, while more than half of them have controlling foreign owners with a stake over 50 percent. Though the total share of foreign investors in the sample is not very high (especially in contrast to other countries) averaging 6 percent of the total equity, foreign owners in Russia tend to have rather large stakes. In companies with foreign co-owners their interest would be

exceeding 60 percent. Besides Foreign investors tend to hold bigger stakes in companies employing above 1000 people.

The trend for increased foreign ownership of companies was across-the-board, with no visible signs of concentration in individual sectors, but more prominent in the chemical industry, manufacturing of transport vehicles and equipment, and in the metals sector.

Economists and policy-makers have long been heatedly debating the impact of ownership structure on business operations and of the role of foreign ownership in particular. In Russia, it has always been especially difficult to pinpoint and dissect the ownership factor from many others, not in the least because of low transparency of ownership structures. This is why empirical studies (not very numerous) would generate differing, sometimes conflicting results.

Our study suggests that firm behavior and business competitiveness have developed more close links to the structure of equity capital. Specifically, there has emerged an explicit positive correlation with foreign co-ownership, earlier observed both in advanced and transition economies.

Foreign participation boosts vigorous modernization behavior of enterprises (Fig. 7), promoting comprehensive development of business and alignment of strategic and day-to-day managerial objectives. Enterprises with foreign ownership are seeking market leadership (43 percent of those), as they are more inclined to strategic behavior and more active in investments. These enterprises are looking for strategic partnerships, first of all, internationally. Strategic targets are based on benchmarking with foreign competitors and significantly more frequent leveraging of other management technologies, business restructuring measures and measures to enhance accounting and reporting.

Opposite to sometimes mentioned thethis that foreign owners are not interested in innovative development of their Russian assets, our study shows that it is not quite so. Firms with foreign interest demonstrate a more proactive innovation behavior. Over 60 percent of them offered new products, while over 50 percent developed new technologies. As a result, firms with foreign participation include 50 percent more innovative firms. However, we should make a reservation on this point that it may be due to the positive selection effect, i.e. because foreign investors initially tend to cherry-pick more efficient enterprises for their participation.

Figure 7. Behavior profile of companies with foreign equity

It should be also noted that our survey does not support a general understanding that foreigners come to Russia exclusively to tap the domestic market: almost 89 percent of enterprises with foreign equity are exporters, notably, not only in resource-intensive sectors. These enterprises have exports shares in their sales 4 times exceeding those for enterprises without foreign equity with higher share of export going to non-CIS countries (39 percent of their exports to non-CIS vs 21 percent of non-CIS exports for other enterprises).

Quality of management: sound management is essential for competitiveness

For many years, poor management of Russian enterprises associated with inadequate management skills has been seen as a key weakness of the Russian economy, in spite of the fact that it were management innovations that drove firm efficiency in the first half of the 2000s. Our earlier study (Golikova et al. 2007) found out that by 2004-2005 the quality of management at Russian manufacturing enterprises was highly varied. Some enterprises were leveraging a wide array of state-of-the-art management technologies and engaging MBA graduates, while others did not use even the most elementary modern production management methods.

An empirical survey may assess the quality of management by the number of management technologies employed . Generally, the higher the number, the better would be

the management. Distribution of enterprises into three groups[7] shows that about a third falls into a group with underdeveloped management, about a half performs at a mid-range level, while a fifth has management above the average. It is noteworthy that a long tail of poor performers in management is quite characteristic for other BRIC countries (e.g. for Brazil and India) and is not specifically limited to Russia (Bloom & Reenen, 2010).

Despite the limitations of the indicator used to measure the quality of management, many determinants identified at Russian enterprises are surprisingly similar to those discovered by cross-country surveys. Thus, the quality of management appears significantly better in larger enterprises, in foreign-owned companies and in exporters. (Fig. 9). In the Russian context, a better performance is also seen in companies, which make part of integrated business groups, and in firms established in 1992-1998. The Russian picture differs from other countries as evidenced by similar surveys in that there is no satisfactory evidence of poorer management in government-owned enterprises. Nor do we have any evidence of better management of enterprises headed by hired CEOs versus owners.

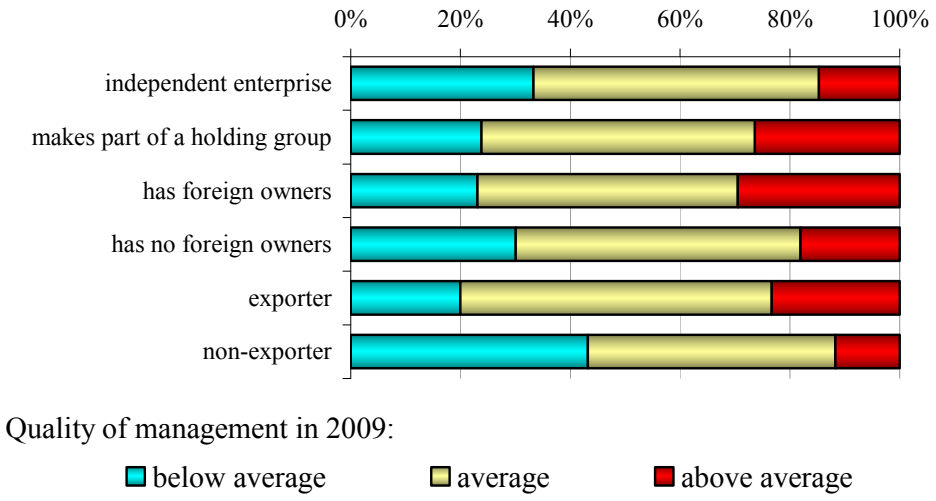


Figure 9. Quality of management across groups of enterprises in 2009, %

The quality of management is an important contributor to firm competitiveness. Other variables constant, firms with management performance "above average" tend to become leaders 5+ times more frequently than firms with management performance "below average".

Competitiveness leadership is most related to such management technologies as branding and ISO certification. A significant association between competitiveness and

[7] The highest possible number of management technologies assessed in the survey is 14, the sample average is 4.12, and the median is 4. We have classified the surveyed enterprises into three groups by their management performance: "considerably lower than average" (0-2 technologies utilized); «average» (3-5 management instruments); and «above average» (6 and more).

branding is a new development, not observed by the survey of 2005. The value of trademarks and brands was growing in recent years, as evidenced by the fact that branding was adopted by a quarter of the enterprises in the panel, which had not been involved in this activity before 2005.

A separate mention is deserved by the progress achieved in ISO certification. By now half of the industrial enterprises have been certified – 11.2 percentage points more than in 2005 (growth by 8.1 percent for the panel).. This is especially the case for larger enterprises, with two thirds of certified enterprises in the group employing 500-1000 people, and above 80 percent of companies in the group of companies employing above 1000.

A recent observable development is the use of management innovations not instead but along with major investments and technological innovation. This suggests that innovation in a broad sense as it is seen internationally may be applicable to some enterprises, i.e. innovation in business models, products and processes. The share of enterprises leveraging various management technologies is 1.5-2.5 times larger in the group of innovative and investment proactive enterprises (see Fig. 10). As a result, each third enterprise in this group demonstrates management better than average, while in the group of non-innovative and non-investing (or investing on a small scale) enterprises it would be only every tenth.

Still another positive development in management is the longer planning horizon. The findings show that 2005-2009 saw a sizeable contraction (by 15 percentage points) of the proportion of enterprises unable to project beyond one year. Now more than half of the companies, despite the crisis, confidently plan for 1 – 3 years ahead.This trend is fully observable with panel data as well. Half of the firms that back in 2005 indicated a planning horizon under a year, in 2009 claimed they could plan for 1-3 years ahead, while 15 percent of them said they could plan for more than three years. Generally, a longer planning horizon is typical for enterprises in holding groups, for enterprises employing over 500 people and also for companies geared toward innovation or imitation. The longer is the planning horizon, the more often enterprises tend to practice systemic improvements of management and major investments.

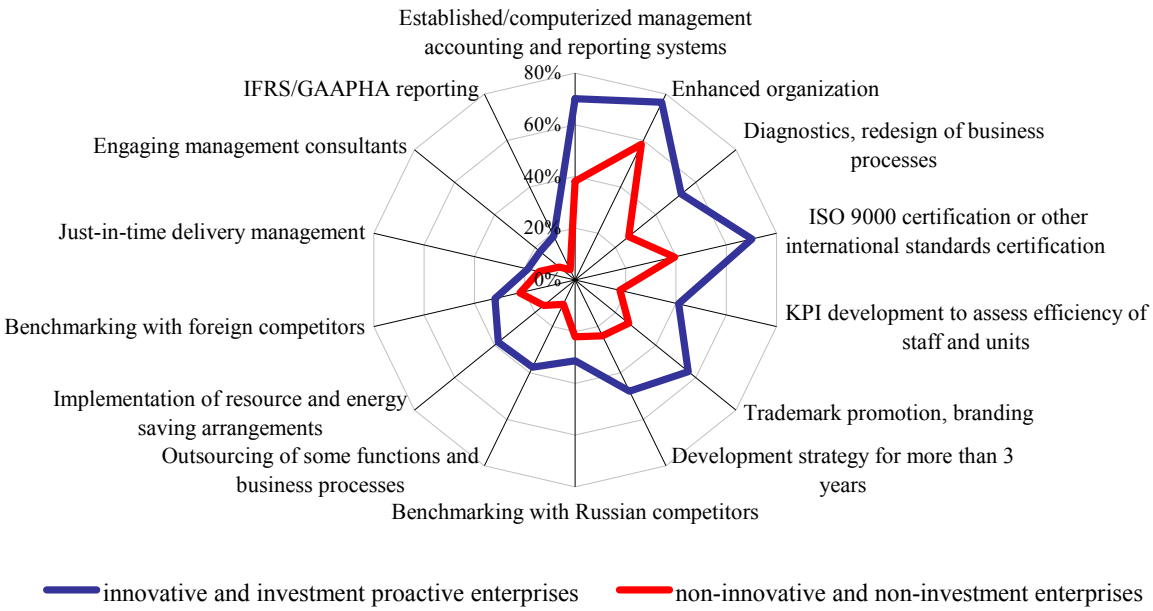


Figure 10. Use of management technologies in groups of enterprises by innovation and investment activity, %

During the period from 2005 to 2009 management skills improved significantly. The number of firms employing MBA graduates of Russian business schools and universities doubled from 9 percent to 17 percent in the panel. Every seventh enterprise in 2009 included managers with a history of employment by a foreign firm.. Companies looking toward innovation leadership would invest not only in technology renovation, but also in human resources, trying to engage highly qualified and experienced managers. This group averages a twice as big proportion of MBA graduates of Russian schools, holders of international advanced degrees in economics and management and a history of employment by a foreign company, than the overall survey, and three times as big than in the group of innovation and investment abstainers.

Therefore, the Russian industry has developed a cluster of enterprises with top quality management staff employing a total range of the latest management technologies. This enclave is not vast, just about 15 percent, and it has not yet become dominant in determining the overall quality of management in Russia's manufacturing. According to the 2009 data, almost 45 percent of firms are doing quite well in their markets without innovation and major investment, as they only sluggishly undertake some management improvements.

The biggest challenges as regards management enhancement in Russian enterprises relate to launching regular benchmarking – comparisons with foreign and Russian competitors, and also to diagnostics and restructuring of business processes. Even within the group of innovative and investment proactive enterprises only a third practice benchmarking,

while only half of them diagnose and restructure business processes. Meanwhile, a recent study (McKinsey, 2009) underscored weak business processes as the key driver of low productivity of Russian enterprises compared to benchmark countries.

The Labor Market: is manufacturing facing skills shortages

Throughout the 1990s, redundant labor persisted as the key labor-related problem faced by enterprises. It means enterprises had excess employees increasing their costs. In the 2000s, especially in the second half of the decade, enterprises were increasingly complaining about labor deficit, though complaints about surplus labor also persisted. Earlier studies (Gimpelson et al, 2008) revealed that less efficient enterprises are more likely to report labor deficit as regards skilled labor. We argued that labor deficit complaints were rather caused by low efficiency and inability to pay competitive wages than by the actual lack of skilled workforce in the labor market.

The survey of 2009 offers a different macroeconomic context for an assessment of labor excess and deficit issues, i.e. a raging crisis and deep recession instead of rapid growth followed by overheating economy and increased demand for labor. Responses indicate that the labor shortage was resolved, albeit may be temporarily. While in 2005 about 60 percent of enterprises perceived their staffing level optimal, in the spring of 2009 when the survey was conducted this share exceeded 70 percent. At the same time, the share of understaffed enterprises halved (from 27 percent to 13 percent), whereas the proportion of excessively staffed firms remained unchanged (edged down to 12 percent from the earlier 13 percent). In other words, the economic crisis, has dramatically reduced demand for labor and accelerated decline in employment and has demonstrated that the Russian manufacturing sector is rather dominated by the problem of excess employment. The fact of this switchover from deficit to surplus is further supported by other surveys of large and medium-sized enterprises (IET, 2010).

In a crisis environment, it will be first of all successful companies that can maintain optimal staffing. For enterprises that assess their financial and economic position as sound, the magnitude of suboptimal employment (as a quantifying measure of variation from the norm), even if they report it, would be much lower. It does not exceed 10 percent of payroll headcount, while in the group of weak financial and economic performers the shortage would be 15 percent on average (if they have a shortage, of course), while the surplus would be above 22 percent.

However, structural deficit, specifically, skilled labor deficit, arguably does have some reality behind it in manufacturing. It is evidenced, in particular, by the fact that even during the crisis skilled labor shortages are reported by over 36 percent of enterprises. Yet, compared to the 2005 survey, when this problem was reported by over half of the respondents, the improvement appears visible.

Summing up, labor shortage complaints have become much less frequent (though their occurrence is non-zero) than in 2005, while labor excess complaints occur relatively more frequently (though they have not become across-the-board despite the crisis). Many enterprises report both at the same time, though for varying occupational groups. During the downturn, as well as during the boom, the key contributor to labor shortages continues to be relatively inadequate compensation, rather than the physical deficit of workforce in the labor market. As for the structural deficit of certain staff categories, we believe it is rooted in the underdeveloped system of vocational and professional training, especially in-house training, rather than in their physical shortage.

Formally, staff training has been reported by every second industrial enterprise in our survey[8], which may be considered reasonably high performance (though in 2005 this proportion was 69 percent). However, the key issue here is that the overwhelming number of enterprises pursue their training programs on a very small scale. This refers both to their coverage and duration. Indeed, only every fifth enterprise has training programs covering over 10 percent of employees, while only 15 percent has programs lasting for over a month.

Still another specific feature of the Russian labor market that may be driving deficits, including structural deficits, is its flexibility. Russian labor market flexibility primarily comes from the low share of the basic rate (fixed part of labor compensation) in total labor costs. On the one hand, this feature allows enterprises to promptly respond and adapt to any changes in the market and manage costs. On the other hand, it encourages high labor turnover, because employees tend to be predominately motivated by the current wage level. In its turn, high turnover creates disincentives for enterprises to invest in training and retraining.

Employment flexibility in Russia is vividly illustrated by firm response to the crisis, when about two thirds of enterprises had to adapt their employment and labor compensation to the changed situation. Notwithstanding sweeping changes in the overall Russian labor market conditions (institutional, structural and macroeconomic) in the 2000s, enterprises still use all the instruments and methods of crisis adaptation that date back to the 1990s. When faced with major economic difficulties, enterprises, like in the past, opt to take several routes

[8] Training and professional development data refer to 2008, when most of the year was non-crisis.

simultaneously. They would cut their headcount, shorten working hours, stop paying benefits, reduce wages and salaries, and even may run arrears if the worst comes to the worst. The three key instruments – lay-offs, shorter working hours and salary cuts - were utilized almost in equal proportion with a minor bias toward shorter working hours. During the crisis, about 41 percent of surveyed enterprises resorted to headcount cuts, 46 percent opted for shorter working hours or administrative leave, while 39 percent reduced wages.

Is this kind of flexibility a competitive advantage or on the contrary a weakness of the Russian labor market paradigm? The answer to this question will largely depend on what sort of crisis we are responding and adjusting to. If we assume a short-term crisis caused by price volatility, which does not require a profound transformation of the economy's structure, then, apparently, such "uncivilized" measures as shorter working hours, unpaid leaves and salary cuts really help to cushion the shocks of the crisis and to support social stability. However, if we interpret the crisis as a signal that the economy structure is inefficient, in need of an overhaul, and, consequently, as a lingering crisis, then such instruments would rather mask real problems and prevent labor from shifting to more efficient sectors and more efficient enterprises, thus impeding recovery.

A new role of regional and local authorities

The experience of China, Brazil, Mexico and some other developing countries suggest that local and regional authorities may help firms to attract investment, to modernize and get access to international markets. Our study confirmed similar trends in Russia in 2007-2008.

Our review of business-government relations included several aspects: federal, regional or local fiscal support received by enterprises in 2007-2008, administrative support provided by government authorities of various levels during the same period[9], and regional social development support to regional and/or local authorities provided by enterprises in 2007-2008.

The data indicate (Fig. 11) that in 2007-2008, regional authorities were the most active providers of support. In total, 26 percent of firms in the survey received support from this government level, including 19 percent receiving administrative support and 14 percent financial support. It may be also noteworthy that the regional and local levels provided administrative support more frequently, while the federal level focused on financial support.

[9] Administrative support was interpreted as any other than financial support, including assistance in contacts with Russian and foreign partners, other government authorities, in attracting investors, etc.

An important aspect of business-government relationships is support provided by businesses to regional and municipal authorities in social development of the region. This practice is almost universal. In 2007-2008, only 23 percent of firms did not provide any assistance to the authorities (Fig. 12). However, it would be fair to say that most enterprises did not incur burdensome costs while assisting the authorities.

This "socially responsible" behavior was often rewarded. Indeed, in the group of socially responsible companies 27-34 percent of respondents reported receiving some kind of regional government support, versus only 12 percent in the group of businesses that did not spend on social development of their regions.

Apart from business support to the region, other factors could influence government support. Those may be classified to three groups: structural features of enterprises, indicators of their social responsibility performance and of their modernization performance.

Structural features included the enterprise's sector, its size, its age (when it was established), specific owners (the government, foreign investors), and the investment potential of the host region. To measure the social responsibility of enterprises, alongside the above mentioned support to local and regional authorities in regional social development, we also took into account respondents' job preservation and/or creation and their participation in business associations. Employment support (via job preservation and/or creation) may be an element in the business-government interchange. In their turn, business associations are one of the channels for enterprises to communicate with the public authorities. Modernization performance was measured via export performance, occurrence of major investments in 2005-2008 and innovation performance.

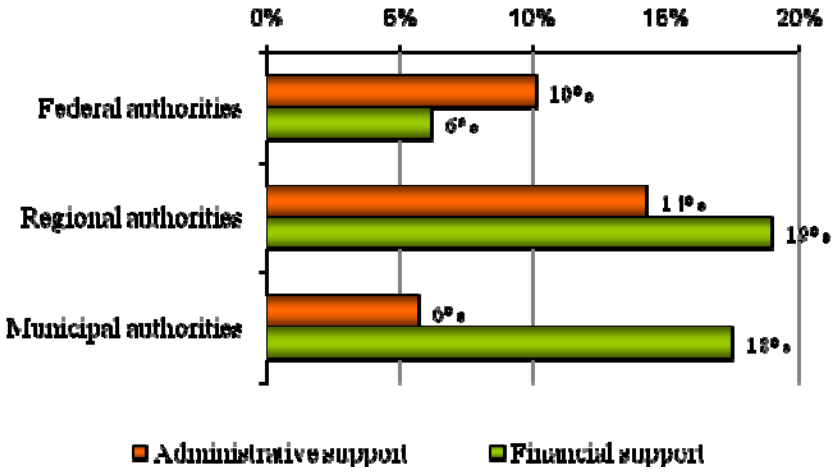


Figure 11. Share of enterprises receiving government financial and organizational support in 2007

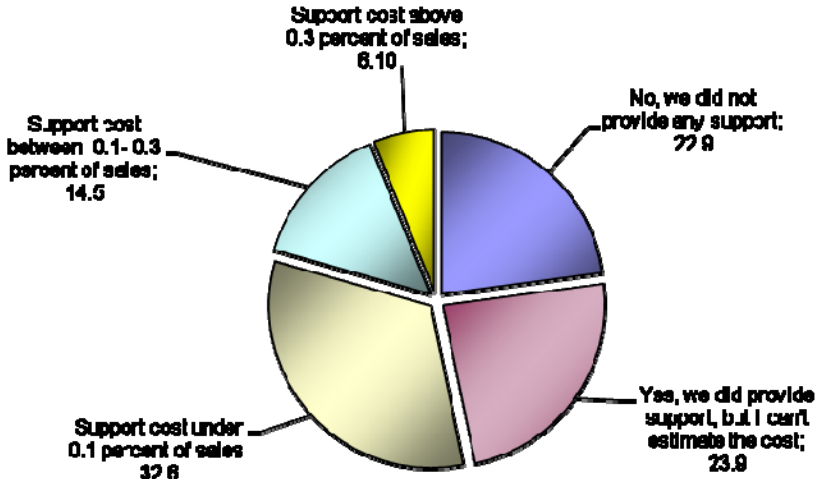


Figure 12. Business support to local and regional authorities in regional social development

The analysis indicates that government support is more often provided to firms located in regions with low and medium investment potential. Another common feature is as follows: in all the cases the old firms dating back to the Soviet times have apparent preferences in getting access to government support.

Government support at the federal level may be different from the other levels in that only at the federal level government-owned firms get explicit preference. At the same time, federal support focuses on firms that preserve jobs. However, modernization variables tend to prove non-significant. This combination suggests a sort of a "conservative exchange", when the federal government issues support to older enterprises and companies with government stakes, while in exchange it expects the recipient companies to sustain their employment headcount.

The regional and local levels present a largely modified set of factors associated with access to government incentives. An important predictor is support to the authorities in regional social development. This may be seen as a symptom signaling the existence of "exchange arrangement". Another significant factor for getting support from government authorities is firm participation in business associations, confirming the role of associations as a business-to-government communication channel. Contrary to expectation, neither job preservation nor government stakes are associated with access to the regional and municipal incentives.

Unlike federal support, getting regional and municipal support is conditional on some aspects of firm modernization performance. Thus, regional authorities in 2005-2008

conditioned their support on whether the enterprise engaged in major investment projects. Municipal support in 2007-2008 was much more frequently provided to firms with foreign equity. However, it's still an open question whether regional and local authorities support companies that invest, or these companies are developing and investing thanks to the government support?

Due to the nature of our study we could survey only "insiders", i.e. the companies that have already entered the regional market and developed relations with the authorities. Therefore they can feel relatively comfortable compared to outsiders, who have not yet entered the market. This "insider alliance" theory may be further supported by the evidence revealed in the course of the study that enterprises established before 1991 get priority in access to support at any level of government. However, preferences granted to firms with foreign equity run counter to this assumption, suggesting at least co-existence of a variety of criteria that may determine granting regional and municipal government support.

Conclusion: will the crisis become a moment of truth for the Russian industry?

Before the crisis, as we tried to show with reference to some cases, Russia's manufacturing was undergoing strong structural transformation, followed by enterprise behavior changes. These processes had a direct impact on firm efficiency and competitiveness. Certainly, a detailed study of the changes and their underlying causes requires further profound analysis. However, the general development trends seem quite obvious.

The development was based on optimized utilization of available resources within the bounds of existing company markets and largely inside the entrenched basic technologies. This conclusion is supported both by the stable structure of product markets and by low innovation and investment performance, accompanied by a persisting technology gap vis-à-vis international rivals. It may be said with some stretching that Russian enterprises generally continued manufacturing the same products using the same production capacities and technologies, while selling them to the same buyers..

While the public and experts were debating pros and contras of the catch up type of development, and the government urged for an innovative break-through, most enterprises seemed to bet on the catch-up strategy, based on absorption and implementation of the existing (mostly foreign) technologies and equipment, and small-scale and imitating

innovations. While the economy was growing, this strategy proved successful for many enterprises, albeit only for those who started pursuing it several years before the crisis.

Still, the pre-crisis period was the period of "positive selection": more efficient competitive enterprises were growing faster than those less competitive. The latter (those who survived) were catching up with the leaders, contributing to some closing of efficiency gaps within the sector. The economic crisis of 2008-2009 disrupted the smooth evolution of Russia's industry, as it dramatically changed the environment for development and generated new challenges and threats. In the spring of 2009, when the survey was conducted, more than half of the enterprises indicated lower demand for their products as a severe problem, while 40 percent faced the need to adjust employment and/or wages (via various forms of shorter working time and compensation reductions). Still another 40 percent declared axing their investment projects and programs. At the same time, an unexpected finding was that many firms intended to try new market entry as a crisis response measure. This intention was reported by 40 percent of respondents, dominated by more competitive enterprises. About a third of companies were planning major investments during the next 12 months, despite the crisis.

Such intentions indicate that the crisis could lead to market redistribution in favor of more efficient enterprises and create incentives for broadening one's market and leveraging investment to enhance production effic iency. Admittedly, however, it would be more difficult in the post-crisis world even for Russia's manufacturing leaders to move from the defensive strategy (defending one's entrenched positions in existing markets) to an offensive break-through into new markets or new product markets. We can hardly expect in the near future to get the same favorable conditions, i.e. cheap credit and galloping demand, as we saw in the years leading up to the crisis.

This may be the reason, as we see it, why many manufacturing enterprises have again found themselves at the cross-roads, facing a dilemma: should they revert to the earlier strategy of gradual evolutionary improvements aimed at catching up with competitors shooting ahead, or should they try and leverage the crisis to challenge their rivals and pressure them out both in the domestic market and in global markets? The way this dilemma is resolved will largely depend on government policies.

This is not an easy trade-off. Given the difficult situation many enterprises find themselves in, a wish to help and to protect is only too natural. Moreover, it is supported by the expectations of the business community. Thus, every second respondent in our survey spoke for a freeze on natural monopoly tariffs, while larger government procurement and

import restrictions got 20 percent of votes each. Only tax reductions, banking system support and support to the ruble exchange rate are more popular with enterprise top managers than the above measures.

So far policy-makers have been staking on the "national champions". However, our data suggest that "runners up" are more resilient and have a higher capacity for relatively low-cost growth. In our survey (which is generally biased toward medium-sized enterprises) these would be companies employing 500 and above people. Providing support to such firms poses fewer risks of government failure. As such firms are numerous, risks of supporting inefficient firms are neutralized. And still, appropriate channels and appropriately designed support instruments are essential.

In defiance of the entrenched stereotypes, the manufacturing sector has accumulated potential capable of driving economic growth. Today, it depends on the government and its willingness to interact with business how much of this potential will be tapped to drive development in Russia.

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