EXECUTIVE SUMMARY

The Russian economy has been growing at a nominal rate of 6 percent annually for the past several years. Nonetheless, the Russian government, concerned about the sustainability of this economic performance, has sought to promote more diversified and broader economic growth outside the natural resource sectors and promote a knowledge-based economy. Economic diversification covers a wide number of issues and involves many challenges, including: incentives, entrepreneurship, foreign investment, regional development, physical infrastructure and reduced natural resource dependence. This book, more narrowly conceived, quantifies and benchmarks the relative strengths of Russian manufacturing and identifies the opportunities to increase its productivity and competitiveness. Drawing on new surveys of manufacturing firms of all sizes, this book sets out proposals to:

- Enhance the innovative potential of Russian firms.
- Upgrade the skills of their workforce and
- Develop a business friendly climate of lower administrative costs and greater policy certainty.

To exploit the opportunities generated by a good investment climate, Russian firms need a workforce with the requisite skills to carry out higher-value-added tasks. They also need the organizational and managerial capacity and the technical competence to invest, innovate, and enter strategic supply-chain arrangements with other firms. Increasing the incentives for the private sector to offer specialized training to more workers should be a priority, and human capital measures should be accompanied by additional incentives to invest in commercial R&D and to absorb knowledge and adapt production processes, so that firms can move closer to the global technology frontier.

Whether Russian manufacturing becomes globally competitive will not depend, therefore, on centralized, top-down efforts to picking winners, but on broad policy measures to improve the investment climate affecting the incentives firms face to invest productively and create jobs. This will require reducing national and regional policy-induced investment risks and lowering entry barriers for newer, more dynamic, and innovative firms, specifically by facilitating transfer of land from municipalities and from older, loss-making firms. It will also require encouraging more openness, transparency and stability in legislation at all levels of government.

Russia's 2006–08 Mid-term Program, approved in early 2006, addresses many of the country's most important development challenges. It emphasizes policy directions aimed at unleashing an "innovation economy", including a greater State commitment to research and development, better protection and enforcement of intellectual property rights, the formation of IT parks, and setting up state venture funds. However, the program includes some controversial areas of economic policy that have yielded mixed results in other parts of the world. In particular, a "new industrial policy" aims to stimulate diversification and absorption via direct support to and intervention in particular sectors and firms.

WHAT DO PRODUCTIVITY PATTERNS TELL US ABOUT THE SUSTAINABILITY OF RUSSIA'S ECONOMIC PERFORMANCE?

Although productivity in the Russian manufacturing sector has been rising, it has not kept pace with rising real wages in recent years, limiting the international competitiveness of manufacturing. Russia's productivity lags behind that in Brazil, South Africa, and such new EU entrants as Poland. When adjusted for labor costs, it also lags behind that in India and China. And because real wages are rising rapidly and the ruble is rapidly appreciating, the international competitiveness of Russian manufacturing is suffering. The book argues that diversified growth will depend on better human capital, knowledge absorption and diffusion, and a favorable policy environment for business.

Some of the relative decline in manufacturing competitiveness is due to the increase in real wages in recent years. Real wages in manufacturing in Russia (deflated by the producer price index) have increased by 72 percent since 1999. The monthly manufacturing wage in 2005 was about $300, an increase of 65 percent in just two years, and a 369 percent increase over 1999's $64 per month. Under these conditions, international competition from countries with cheaper labor costs may become increasingly difficult for Russian manufacturers. Russian manufacturing productivity is now about 40 percent of Brazil's and a third of South Africa's.

Labor productivity in Russia, measured by value added per employee, is higher than that in India and China, but low labor costs in those two countries put Russia at a competitive disadvantage. For each dollar of wages a Russian worker produces about half the output of an Indian or Chinese worker. The low productivity in manufacturing would be less of a concern if it were matched with lower wages. But China's wages in manufacturing are 30 percent lower than Russia's.

HOW CAN RUSSIAN FIRMS IMPROVE THEIR CAPACITY TO ABSORB NEW KNOWLEDGE?

Improving the capacity of firms to tap into the world technology pool is an important channel to increasing productivity. Trade flows, worker mobility, licensing of codified knowledge, and foreign direct investment are all conduits of knowledge absorption. But adoption also requires a favorable investment climate, a skilled workforce, and sufficient domestic R&D.

The complementarities between firm-specific absorptive capacity and R&D and innovation are supported by extensive theoretical and empirical work. Despite the large size of the R&D effort (in expenditures and personnel) Russia's manufacturing productivity has not benefited. Based on research "inputs" Russia's productivity should be among the highest—on par with Germany and South Korea. Instead, Russia's R&D activities fall short of their potential.

Proposal: Reform the incentive regime to encourage researchers at public R&D institutes to engage in commercial innovation and knowledge absorption in private companies—and to promote the spinning off of private research groups from R&D institutes.

Scientific research teams in the public system often sell R&D services, on an informal basis, to enterprises. Although this may facilitate the "spontaneous privatization" of the R&D industry, it also leads to conflicts of interest between researchers and institutes, to uncertainty over the ownership of technical results, and to political concerns that the State is not capturing the returns from its investment and the resulting intellectual property.

The government should consider creating incentives for spinning off research groups. The objective should be to lower the public financing burden in R&D institutes, foster commercial knowledge absorption by firms, and reallocate basic research funding toward universities. It is important to hasten the dissolution of R&D institutes and teams within R&D institutes that work on obsolete scientific and industrial problems.

Proposal: Provide incentives for private firms to invest more in their capacity for absorption-driven productivity growth.

Matching grants can encourage public-private risk-sharing and orient the selection of research processes toward commercial projects. They can support new technologies and processes, investments in "soft" technology in private firms, and access to information and communication technologies and ISO certification. But matching grant programs face risks of ineffective allocation due to corruption, capture, or poorly designed targeting. A successful program immunizes the funding and allocation mechanisms from interference by public officials, politicians, or private groups. And the neutrality of targeting must be monitorable and enforceable.

Proposal*:* Avoid establishing state-owned or state-managed venture capital programs.

The government proposes a Russian State Venture Capital initiative—a government-owned institution that would participate in existing venture funds and contribute to the creation of funds to finance new companies. The record of state-owned VCs in other countries is poor, so caution is warranted. In the most successful cases, governments have typically "seeded" the venture capital industry by investing in privately managed funds. In these public-private partnerships, governments mitigate some of the risk in technology-oriented start-ups, and the venture capitalist provides commercial and managerial expertise. A seed capital program aimed at promoting knowledge absorption is likely to work best when a matching-grants program provides critical funding at the earlier stages of technological development, with later support by private VCs.

WHAT CAN BE DONE TO UPGRADE WORKER SKILLS?

The Russian workforce, though highly educated by international standards, lacks the modern skills for firms to compete globally, a deficit that can be made up through an effective combination of in-house and vocational training. Russian firms can no longer rely on state-funded schools to provide them with workers who possess the skills and qualifications for global competition. More companies are relying on in-house training to upgrade skills of their employees, but they tend to provide it to a small fraction of employees. The government can assist firms in overcoming skill shortfalls by boosting the incentives for in-house training and by engaging with appropriate private sector counterparts to expand and reform vocational training.

In 2001 Russia had one of the most highly educated workforces in the world. For the bulk of the population (25 and older), the average citizen had 10.5 years of schooling, ahead of Brazil, India, China, South Africa, and other transition countries, as well as Germany, Japan, and the United Kingdom. Russia also had one of the highest shares of population with tertiary education (over 50 percent), more than in Canada and more than twice that in other post-socialist countries. But despite this significant educational achievement, Russia faces problems with the quality of education, the deterioration of secondary education, and the absence of effective professional training.

More than a third of all managers reported deterioration in the quality of their workforce between 1996 and 2005. The low quality of newly hired workers (rather than the high quality of employees who left the firms) may have been responsible for the reported deterioration. Almost half the firms hired workers with lower quality skills, while only 10 percent improved workforce quality by hiring more-skilled workers.

Proposal: Use employer-targeted incentives for in-service training.

The proportion of employees who receive in-house training in Russian firms is among the lowest for the countries with data. The Russian government should consider putting in place employer-targeted training policies to remedy the underinvestment in in-service training.

- *Payroll-levy training funds*. Employers should be closely involved in the governance of levy funds. Policies should be designed to increase competition in training provision from all providers, both public and private, including the employers. Levy funds should be strictly earmarked for training and not diverted to other government uses.
- *Matching grants*. Training levies do not work particularly well for small and medium enterprises, which are unlikely to be served by targeted training programs. Encouraging training in smaller enterprises may require more proactive approaches to address systemic weaknesses in training, technological capabilities, and access to finance. Matching-grants can help to develop a training culture, but by themselves will not expand the training market.

HOW CAN THE INVESTMENT CLIMATE BE IMPROVED?

The Russian investment climate is still characterized by significant instability and by a tendency to punish its most dynamic and innovative firms. Although progress has been made since 2001, corruption, informal practices, and the quality of the legal system have continued to deteriorate. Well-connected firms receive privileges and other forms of preferential treatment. These favored firms tend to receive tax breaks, investment credits, direct subsidies, guaranteed loans, and access to state property—and special economic zones are created on sites of specific enterprises. Firms controlled by regional private owners as well as foreign investors are the most likely to receive preferential treatment, and this favoritism toward the most politically influential firms hurts less influential regional firms.

Many problems in investment climates around the world—the policy-induced costs and risks that firms face, as well as the formal and informal barriers to competition—are driven by weaknesses in the institutions that govern the investment climate. These weaknesses can allow administrative

corruption to go un-policed, or encourage powerful private firms to "buy" legislation, government decrees, and regulatory and judicial decisions. Strengthening the capacity and credibility of institutions may require improvements to the system of checks and balances, to the restraints on administrative discretion, to the law-making and law-enforcing abilities of all levels of government, and to transparency in business-government relations.

Adopting these reforms has proven to be costly and politically complicated across the region. But the experience from investment climate reforms around the world suggests another way: to adopt manageable and sustainable reforms that can encourage openness, competition, and greater integration with global markets—and at the same time complement reforms to the systems for innovation and worker training.

A set of credibility-enhancing reforms that, though seemingly disparate, could prompt deeper reforms by empowering and supporting the natural constituencies for openness, rule-based regulation, and innovation in the Russian economy:

- Greater transparency and flexibility in the acquisition and disposition of land, empowering entrepreneurs and firms.
- An improved intellectual property rights regime, empowering inventors and entrepreneurs.
- More openness in policymaking through consultation and empowering business associations.

Proposal: Privatize municipally held land.

While many regions and municipalities have mechanisms to privatize real estate, they are neither transparent nor fair. Regions that had already adopted legislation on land privatization, ahead of the federal law (the Land Code), tended to be the leaders in land reform. In other words, the adoption of the Land Code may have clarified the basis for land transactions, but it did not always persuade unwilling regions to initiate land reform and privatize land. About 90 percent of the firms trying to purchase land failed to finish the procedure in half a year. The lack of competition in real estate markets contributes to these problems. Effective land privatization will require greater use of auctions and tenders for vacant land (not discretionary and opaque administrative procedures) and greater transparency in these procedures.

Proposal: Improve the allocation and protection of intellectual property rights.

Two primary weaknesses remain in the regime for intellectual property rights (IPRs). First, the assignment of IPRs remains unclear. There is an ongoing debate on who controls IPRs—the inventor, the inventor's employer (research institute or enterprise, either state-owned or private), or the State, which may have paid R&D costs. These uncertainties complicate collaboration between private firms and public institutes, inhibit technology transfer, impair spinning off companies into independent and growing businesses, and create potential conflicts of interest for the institutes. Second, registered IPRs are weakly protected due to the inability or unwillingness of public authorities to police producers or importers of pirated goods and to prosecute violators—a particular concern for foreign investors and exporters facing copyright piracy or patent infringement by domestic producers or importers.

What is needed? A more detailed elaboration of the distribution of IPRs among inventors, research organizations, and the State. A current draft of the Civil Code allows research organizations to become owners of IPRs for the technologies developed using government funds "provided that the procurement contracts do not specify otherwise." The research and business communities are rightly concerned that this open-ended provision would allow public authorities to continue to exercise ownership for subsequent IPRs and prevent closer cooperation between innovators and firms.

Proposal: Support business associations to strengthen the consultative basis for regulatory decisions**.**

Although firms facing competitive pressures are subjected to harsher investment climate constraints, these same firms that are members of business associations find themselves more protected from investment climate obstacles than their counterparts that are not business association members. Informing market participants about new and forthcoming legal and regulatory changes and requesting comments (consultation period) can improve the quality, sector buy-in and stability of regulations. The participation of business associations that represent smaller firms should be actively encouraged, and the government should develop adequate mechanisms to consult the community of entrepreneurs and business people in an inclusive manner, and to inform market participants well in advance of new proposed measures. Regulatory transparency and predictability are particularly important for smaller domestic investors and for prospective foreign investors. In sum, there is power in numbers: through collective action, innovative firms can improve these investment climate constraints.