

**Innovation and Diversification:
Challenges for Public Policy and
Development Finance**

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Russian context

- Five features of the Russian economy structure discussion of the role of public policy and development institutions
 1. Lack of diversity in output and trade
 - Oil and gas account for >66% of exports & 50% of government revenue
 2. Low rates of innovation across several indicators
 - Entry rates are significantly below those in OECD and other EMS
 - R&D outlays and incentives are weak and ineffectual; low levels of intangible investments and absent links between science and business
 - Patent applications remain limited
 - FDI inflows volatile and way below, for example, China or Brazil
 3. Business environment compromised, connected lending and capture is pervasive; lack of competition in key sectors
 4. Weak or non-existent political competition limits oversight
 5. Despite growth acceleration since 1999, Russia's output decline in 2009 particularly large & rebound may be muted
- How can government and development institutions help address these features effectively?

Policy instruments

- Interventions aimed at promoting structural change and productivity growth can take a variety of forms
 1. Horizontal policies: widely used interventions to improve environment in which firms operate
 - e.g., skills and human capital, entrepreneurship and risk capital, innovation and research funding, legal framework
 - framework policies - competition policy and regulation
 2. Vertical or sectoral policies: interventions that promote particular products or services
 - including clustering, regional policy, technology policy, subsidies and/or tax breaks for particular sectors/firms
- Diagnosis of actual constraints – e.g., finance, information etc – is always key to effective design
- But policy menu is not the same for all countries – depends critically on institutional capacity and integrity

Raising innovative capacity

- Instruments can include:
 - (a) direct loans/grants (b) credit lines to banks/financial institutions (c) tax incentives (d) establishment of venture finance
- *Supply side – encouraging generation of innovation*
 - Reducing barriers to entry
 - Stimulating R&D particularly by private sector, including tax incentives, such as accelerated write-offs
 - Legal protection via patenting and IPRP
 - Raising level of innovation-related human capital
 - FDI-friendly policies – e.g., China has used FDI to deliver local content & technology transfer
 - Technology parks and/or policies to induce clusters (SEZs)
- *Demand side – matching innovation to markets*
 - Venture finance and management to raise investment in innovation
 - Improving quality of business management
 - Forging better links between science and business
 - Competitive environment

Financing Innovation

- Financing risky projects often not well suited to private financial institutions
- Public institutions have advantage of deep pockets & relatively low cost of finance
 - Some successful examples of non-conventional finance – e.g., Israel high-tech VC fund or US Small Business Innovation Research (SBIR) – but hard to mimic
- Mixed – public-private - finance models can be appropriate but need to involve:
 - Very clear specification of objectives and targets
 - Use of private management and transparent governance with appropriate incentives
 - Competitive, open processes for allocating finance driven by commercial prospects
 - Options include: focus on small and medium sized firms with a bias to new entrants
 - Focus on activities subject to strong external competition & market discipline
 - Use of market-based decision rules for exit
 - Scope for setting up Regional Funds – Sector Funds make less sense
- For innovation, avoid projects driven by technological possibility rather than economic need or social value

Diversification

- Difficult to move into new product lines given high specificity of existing assets and skills
 - Lack of diversity associated with limiting endowment of skills
- Temptation to rely on vertical policy - but horizontal policies in Russia are often inappropriate
 - constraints on investment, poor business environment etc.
- Start by improving horizontal and framework policies
- Experience shows that subsidising new products or sectors in search for diversity rarely works
 - Identification is difficult and demand for products may be limited
 - Common failure to address underlying constraints/skill needs
 - Potential for rent-seeking and abuse, as well as implications for competition
- Diversification problem better addressed through innovation lens and through improving skill sets & education

Improving skills/capabilities

Funding skills acquisition

- Direct training programmes with a bias to private provision
- Subsidies for skill acquisition through carefully designed tax credits and proper monitoring
- Other options include;
 - Target specific groups of skills – e.g., natural and life sciences – with prior specialisation and future prospects
 - Note that adjusting for quality Russia performs best in maths, physics and engineering
 - Fund student scholarships or providing initial guarantees for private banks to offer student finance
 - Fund specific research initiatives & adoption with high social returns – for example, use of new technologies for carbon capture and storage
 - Use managed migration policy to facilitate import of scarce skills

Education infrastructure

- Educational infrastructure also urgently needs improvement and budget resources are inadequate
 - But - given institutions – great care required if PPP/PFI models to be used
- Key issue in funding educational infrastructure is introduction of greater oversight & effective decentralisation
 - Involvement of local communities and user associations will have to be key – but ultimately with more ownership and responsibility than now
 - Launch Education Investment Funds where resources are allocated competitively on the basis of business plans and governance indicators
 - Channel part of spending and support through communities with peer accountability using array of small scale pilot projects