Russian Competitiveness:
Where Do We Stand?

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U.S.-Russian Investment Symposium
Boston, Massachusetts
13 November 2003

This presentation draws on ideas from Professor Porter's articles and books, in particular, The Competitive Advantage of Nations (The Free Press, 1990), "Building the Microeconomic Foundations of Competitiveness," in The Global Competitiveness Report 2003, (World Economic Forum, forthcoming 2003), "Clusters and the New Competitive Agenda for Companies and Governments" in On Competition (Harvard Business School Press, 1998), and ongoing research on clusters and competitiveness. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means - electronic, mechanical, photocopying, recording, or otherwise - without the permission of Michael E. Porter.

Further information on Professor Porter's work and the Institute for Strategy and Competitiveness is available at www.isc.hbs.edu
Russian Economic Performance 2003

• Russia’s overall economic performance has improved since 1999 but is not exceptional relative to peer countries

• Recent progress has reflected clear improvements in macroeconomic policy and, to a lesser extent, the legal and corporate governance framework
  – However, much work still lies ahead

• Russia’s prosperity and prosperity growth still rely heavily on inherited wealth, not created wealth

• The critical challenge for Russia is now microeconomic: mobilizing its potential strengths and address its considerable weaknesses to dramatically raise the productivity of Russia as a place to do business
Comparative Economic Performance
Real GDP Growth Rates

Countries sorted by 1999-2002 annual real GDP growth rate (CAGR)

- Azerbaijan
- Kazakhstan
- China
- S Korea
- Russian Federation
- Latvia
- Ukraine
- Estonia
- Uzbekistan
- Bulgaria
- Hungary
- Slovenia
- Thailand
- Lithuania
- Finland
- Romania
- Slovakia
- Croatia
- Poland
- Czech Republic
- Brazil

Source: EIU (2003)
Russian GDP over time

Real GDP, 1990 = 100

Source: EIU (2003)

26% Gap
Comparative Prosperity Performance
Selected Countries

GDP per capita (PPP adjusted) in US-$, 2002

Compound annual growth rate of real GDP per capita, 1996-2002

Source: EIU (2003)
What is Competitiveness?

• Competitiveness is determined by the **productivity** with which a nation uses its human, capital, and natural resources. Productivity sets a nation’s or region’s standard of living (wages, returns to capital, returns to natural resource endowments)
  – Productivity depends both on the **value** of products and services (e.g. uniqueness, quality) as well as the **efficiency** with which they are produced.
  – It is not **what** industries a nation competes in that matters for prosperity, but **how** firms compete in those industries
  – Productivity in a nation is a reflection of what both domestic and foreign firms **choose to do in that location**. The location of ownership is secondary for national prosperity.
  – The productivity of “**local**” industries is of fundamental importance to competitiveness, not just that of traded industries
  – Devaluation **does not** make a country more competitive

• Nations compete in offering the **most productive environment** for business
• The public and private sectors play **different but interrelated roles** in creating a productive economy
Sources of Prosperity

**Inherited Prosperity**
- Prosperity is derived from **selling inherited natural resources** or real estate
- Prosperity is **limited** by the amount of natural resources available, and is ultimately **temporary**
- Focus gravitates towards the **distribution** of wealth as interest groups seek a bigger share of the pie
- **Government** is the central actor in the economy as the owner and distributor of wealth

**Created Prosperity**
- Prosperity is derived from **creating valuable products and services**
- Prosperity is **unlimited**, based only by the innovativeness and productivity of companies in the economy
- Creating the **conditions** for productivity and innovation are the central policy question
- **Companies** are the central actors in the economy
- The **government**’s role is to create the enabling conditions
Determinants of Productivity and Productivity Growth

Macroeconomic, Political, Legal, and Social Context for Development

Microeconomic Foundations of Development

- A sound macroeconomic, political, legal, and social context creates the potential for competitiveness, **but is not sufficient**
- Competitiveness ultimately depends on improving the **microeconomic capability** of the economy and the **sophistication of local companies and local competition**
Progress in Human Development
Selected Countries

Source: HDR (2003)
Micro reform is needed to raise the level of sustainable prosperity

Macro reform alone can lead to short term capital inflows and growth spurts that ultimately are not sustainable

Microeconomic reform

Macroeconomic reform

Stability and confidence support investment and upgrading

Create opportunity for productivity

Required to achieve productivity

Productivity growth allows economic growth without inflation, making macroeconomic stability easier to achieve
Comparative Labor Productivity
Selected Countries

GDP per employee (PPP adjusted) in US-$, 2002

Compound annual growth rate of real GDP per employee, 1996-2002

Source: EIU (2003)
Russia’s Export Performance By Broad Sector
1997-2001

Russia’s average change in world goods export share:
- 0.10%

Source: UNCTAD Trade Data. Author’s analysis.

Petroleum/Chemicals
Materials/Metals
Multiple Business
Food/Beverages
Textiles
Transportation
Entertainment
Materials/Metals

= $45 billion export volume in 2001

Russia’s average goods export share: 1.54%

World Export Share, 2001

Change in Russia’s World Export Share, 1997 - 2001
Comparative Inward Foreign Investment
Selected Economies

FDI Stocks as % of GDP, Average 1998-2000

FDI Inflows as % of Gross Fixed Capital Formation, Average 1998-2000

Note: FDI Stocks and Inflows for transition countries are the average of 1998-2001.
Germany’s FDI inflows in this period were exceptionally high due to the Vodafone-Mannesmann takeover in 2000.
Productivity and the Business Environment

Context for Firm Strategy and Rivalry

- A local context and rules that encourage investment and sustained upgrading—e.g., Intellectual property protection
- Meritocratic incentive system across institutions
- Open and vigorous competition among locally based rivals

Factor (Input) Conditions

- Presence of high quality, specialized inputs available to firms
  - Human resources
  - Capital resources
  - Physical infrastructure
  - Administrative infrastructure
  - Information infrastructure
  - Scientific and technological infrastructure
  - Natural resources

Demand Conditions

- Sophisticated and demanding local customer(s)
- Local customer needs that anticipate those elsewhere
- Unusual local demand in specialized segments that can be served regionally and globally

Related and Supporting Industries

- Access to capable, locally based suppliers and firms in related fields
- Presence of clusters instead of isolated industries

Successful economic development is a process of successive economic upgrading, in which the business environment in a nation evolves to support and encourage increasingly sophisticated ways of competing.
Clusters and Competitiveness
Houston Oil and Gas Products and Services Cluster

Oil & Gas Exploration & Development

Oilfield Services/Engineering & Contracting Firms

Equipment Suppliers
(e.g. Oil Field Chemicals, Drilling Rigs, Drill Tools)

Specialized Technology Services
(e.g. Drilling Consultants, Reservoir Services, Laboratory Analysis)

Subcontractors
(e.g. Surveying, MudLogging, Maintenance Services)

Business Services
(e.g. MIS Services, Technology Licenses, Risk Management)

Specialized Institutions
(e.g. Academic Institutions, Training Centers, Industry Associations)

Oil & Gas Completion & Production

Oil & Gas Transportaton

Gas Gathering

Gas Processing

Gas Trading

Gas Transmission

Gas Distribution

Gas Marketing

Oil Trading

Oil Refining

Oil Distribution

Oil Wholesale Marketing

Oil Retail Marketing

Oil Refining

Oil Distribution

Oil Wholesale Marketing

Oil Retail Marketing

Oil Refining

Oil Distribution

Oil Wholesale Marketing

Oil Retail Marketing
Leading Footwear Clusters

**Portugal**
- Production
- Focus on short-production runs in the medium price range

**Vietnam/Indonesia**
- OEM Production
- Focus on the low cost segment mainly for the European market

**China**
- OEM Production
- Focus on low cost segment mainly for the US market

**Romania**
- Production subsidiaries of Italian companies
- Focus on lower to medium price range

**Italy**
- Design, marketing, and production of premium shoes
- Export widely to the world market

**United States**
- Design and marketing
- Focus on specific market segments like sport and recreational shoes and boots
- Manufacturing only in selected lines such as hand-sewn casual shoes and boots

Source: Research by HBS student teams in 2002
Institutions for Collaboration
Selected Massachusetts Organizations, Life Sciences

### Life Sciences Industry Associations
- Massachusetts Biotechnology Council
- Massachusetts Medical Device Industry Council
- Massachusetts Hospital Association

### General Industry Associations
- Associated Industries of Massachusetts
- Greater Boston Chamber of Commerce
- High Tech Council of Massachusetts

### Economic Development Initiatives
- Massachusetts Technology Collaborative
- Mass Biomedical Initiatives
- Mass Development
- Massachusetts Alliance for Economic Development

### University Initiatives
- Harvard Biomedical Community
- MIT Enterprise Forum
- Biotech Club at Harvard Medical School
- Technology Transfer offices

### Informal networks
- Company alumni groups
- Venture capital community
- University alumni groups

### Joint Research Initiatives
- New England Healthcare Institute
- Whitehead Institute For Biomedical Research
- Center for Integration of Medicine and Innovative Technology (CIMIT)
Global Competitiveness Report 2003
The Relationship Between Business Competitiveness and GDP Per Capita

y = 2002.2x² + 8427.7x + 9514.9
R² = 0.8266
Russia’s Competitive Promise

Competitive Advantages Relative to GDP per Capita

Human Resources
Quality of Math and Science Education 18
Quality of Educational System 38
Quality of Public Schools 41
Cooperation in Labor-Employer Relations 41

Science and Technology Base
Quality of Scientific Research Institutions 25
Availability of Scientists and Engineers 26

Country Ranking, Arrows indicate a change of 5 or more ranks since 1998

Note: Rank by countries; overall Russia ranks 65 (63 on National Business Environment, 48 on GDP pc 2002)
Source: Global Competitiveness Report 2003
International Patenting Output
Selected Countries


Annual U.S. patents per 1 million population, 2001

International Patenting Output
Selected Transition Countries

Annual U.S. patents per 1 million population, 2001

Average Growth Rate of Countries shown: 11.1%


Note: Other Latin American countries have negligible rates of US patenting.
Barriers to Structural Change in the Russian Economy

• Competition
  – Russia scores low in the Global Competitiveness Report on *trade liberalization* and *non-tariff barriers*
  – Russia scores low on the level of *domestic competition*
  – Competition is hampered and distorted by *corruption* and *administrative inefficiencies*

• Entry and exit
  – Russia has low formal barriers to entry, but business leaders report significant *burdens for start-ups*
  – Russia has high formal barriers for *firing employees* and *closing businesses*, but business leaders report them as non-binding in practice

• Financial market
  – Russian financial markets get low scores for providing sophisticated services and *credit* to companies
### Competitive Advantages Relative to GDP per Capita

**Human Resources**
- Quality of Math and Science Education: 18
- Quality of Educational System: 38
- Quality of Public Schools: 41
- Cooperation in Labor-Employer Relations: 41

**Science and Technology Base**
- Quality of Scientific Research Institutions: 25 (↓)
- Availability of Scientists and Engineers: 26

**Physical Infrastructure**
- Railroad Infrastructure Quality: 17
- Port Infrastructure Quality: 42

### Competitive Disadvantages Relative to GDP per Capita

**Openness and Vitality of Competition**
- Foreign Ownership of Companies: 93
- Intensity of Local Competition: 83
- Hidden Trade Barrier Liberalization: 79
- Adequacy of Public Sector Legal Recourse: 78
- Tariff Liberalization: 76
- Effectiveness of Anti-Trust Policy: 73
- Extent of Distortive Government Subsidies: 70
- Efficacy of Corporate Boards: 64 (↑)

**Administrative Efficiency and Transparency**
- Extent of Bureaucratic Red Tape: 89 (↓)
- Police Protection of Businesses: 80
- Favoritism in Decisions of Government Officials: 74
- Judicial Independence: 74
- Business Costs of Corruption: 53

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**Note:** Rank by countries; overall Russia ranks 65 (63 on National Business Environment, 48 on GDP pc 2002)

**Source:** Global Competitiveness Report 2003
Corruption
Transparency International Global Corruption Report

Note: Eastern European and CIS countries in blue, constant country sample
Source: Global Corruption Report, 2003
Russian Competitiveness
Competitive Advantages and Disadvantages (Continued)

**Competitive Advantages Relative to GDP per Capita**

*Human Resources*
- Quality of Math and Science Education: 18
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*Science and Technology Base*
- Quality of Scientific Research Institutions: 25
- Availability of Scientists and Engineers: 26

*Physical Infrastructure*
- Railroad Infrastructure Quality: 17
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**Competitive Disadvantages Relative to GDP per Capita**

*Efficiency of Financial Markets*
- Protection of Minority Shareholders: 94
- Regulation of Securities Exchanges: 86
- Financial Market Sophistication: 84
- Existence of Bankruptcy Law: 82
- Ease of Access to Loans: 72
- Local Equity Market Access: 70
- Venture Capital Availability: 60

*Quality of the Regulatory Environment*
- Intellectual Property Protection: 85
- Laws Relating to Information Technology: 71
- Stringency of Environmental Regulations: 70

Note: Rank by countries; overall Russia ranks 65 (63 on National Business Environment, 48 on GDP pc 2002)
Source: Global Competitiveness Report 2003

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The Costa Rica Information Technology Cluster

- **Specialized Packaging** (e.g., plastics, corrugated materials)
- **Specialized Chemicals**
- **Specialized Academic and Training Institutions** (e.g., Instituto Tecnológico de Costa Rica, Instituto Nacional de Aprendizaje)
- **State Government Agencies** (e.g., export and investments promotion agencies: Cinde and Procomer)

**Electronic Assembly**

- **Other Electronic Components** (e.g., circuitboards)
- **Passive Electronic Components** (e.g., inductors, transistors)

**Semiconductor Production**

- **Computer Software** (e.g., ArtinSoft)
- **Venture Capital Firms**

Source: Niels Ketelhohn research for Professor Michael E. Porter
Legacies of a Planned-Economy

- Economic policy is centrally directed
- Buyer/supplier linkages seen from a national perspective
- Relationships between suppliers and buyers are specified and focused on production of defined goods and services
- The geographic locations of related economic activities driven by political and security considerations

Cluster-based Economy

- Economic policy involves significant autonomy and institutions at the regional and local level
- There is specialization of regions across the fields in which they compete
- Externalities across firms and institutions in clusters facilitate productivity and dynamism
- Geographic choices are based on the economic attractiveness of locations; firms co-locate with others to reap cluster benefits
The Australian Wine Cluster
Trade Performance

Source: UN Trade Statistics
The Australian Wine Cluster

History

1930
First oenology course at Roseworthy Agricultural College

1955
Australian Wine Research Institute founded

1965
Australian Wine Bureau established

1970
Winemaking school at Charles Sturt University founded

1980
Australian Wine and Brandy Corporation established

1990
Winemaker’s Federation of Australia established

1991 to 1998
New organizations created for education, research, market information, and export promotions

1950s
Import of European winery technology

1960s
Recruiting of experienced foreign investors, e.g. Wolf Bass

1970s
Continued inflow of foreign capital and management

1980s
Creation of large number of new wineries

1990s
Surge in exports and international acquisitions

Cluster Policy versus Industrial Policy

**Industrial Policy**

- Target desirable industries / sectors
- Focus on domestic companies
- Intervene in competition (e.g., protection, industry promotion, subsidies)
- Centralizes decisions at the national level

**Cluster-based Policy**

- All clusters can contribute to prosperity
- Domestic and foreign companies both enhance productivity
- Relax impediments and constraints to productivity
- Emphasize cross-industry linkages / complementarities
- Encourage initiative at the state and local level

**Distort competition**

**Enhance competition**
The Role of Clusters in Economic Development

Overview

• Clusters are **critical engines** in the economic structure of national and regional economies
  – The health of their cluster determines the level of productivity companies can reach
  – Regional prosperity depends on significant positions in a number of competitive clusters

• Clusters can **identify fundamental challenges** in the national or regional business environment
  – Clusters are more aligned with the nature of competition and the microeconomic factors that influence competitive advantage
  – At the economy-wide level, only generic topics like taxes and trade protection are of joint interests to all companies

• Clusters provide a **new way of thinking** about an economy and organizing economic development efforts
  – Recast the role of the private sector, government, trade associations and educational or research institutions
  – Brings together firms of all sizes to identify common opportunities, not just common problems
Influences on Competitiveness
Multiple Geographic Levels

- World Economy
- Broad Economic Areas
- Groups of Neighboring Nations
- Nations
- States, Provinces
- Cities, Metropolitan Areas
Specialization of Regional Economies
Select U.S. Geographic Areas

Seattle-Bellevue-Everett, WA
Aerospace Vehicles and Defense
Fishing and Fishing Products
Analytical Instruments

San Francisco-Oakland-San Jose Bay Area
Communications Equipment
Agricultural Products
Information Technology

Los Angeles Area
Apparel
Building Fixtures, Equipment and Services
Entertainment

San Diego
Leather and Sporting Goods
Power Generation
Education and Knowledge Creation

Wichita, KS
Aerospace Vehicles and Defense
Heavy Machinery
Oil and Gas

Chicago
Communications Equipment
Processed Food
Heavy Machinery

Pittsburgh, PA
Construction Materials
Metal Manufacturing
Education and Knowledge Creation

San Francisco-Oakland-San Jose Bay Area
Communications Equipment
Agricultural Products
Information Technology

Boston
Analytical Instruments
Knowledge Creation
Communications Equipment

Atlanta, GA
Construction Materials
Transportation and Logistics
Business Services

Note: Clusters listed are the three highest ranking clusters in terms of share of national employment
Source: Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School
## U.S. Patenting by Russian Institutions

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Note: Shading indicates universities, research institutions, and other government agencies
Innovative Capacity Index
Russia’s Relative Position

Source: Global Competitiveness Report 2003
Leveraging the Russian Technology Base
Illustrative Strategic Options

• Russia faces **challenges in attracting traditional manufacturing investments** given the inefficiencies in its business environment relative to other locations
• Near term opportunities should focus where Russia is **most unique**

• Improve the **innovation policy environment**
  – Intellectual property right protection

• Create **Technology Parks** and R&D Free Zones
  – Simplified administrative rules

• Support **cluster-development efforts** around universities
  – Technology transfer offices
  – Recruiting foreign companies
  – Incubators
Shifting Responsibilities for Economic Development

Old Model

- **Government** drives economic development through policy decisions and incentives

New Model

- Economic development is a **collaborative process** involving government at multiple levels, companies, teaching and research institutions, and institutions for collaboration
Roles of Government in Economic Development

• **Improve the macroeconomic, political, legal, and social context**
  – Establish a **stable and predictable** macroeconomic, legal, and political environment
  – Improve the **social conditions** of citizens

• **Upgrade the general business environment**
  – Improve the availability, quality, and efficiency of **cross-cutting or general purpose inputs, infrastructure, and institutions**
  – Set **overall rules and incentives** governing competition that encourage productivity growth

• **Facilitate cluster formation and upgrading**
  – Identify **existing and emerging clusters**
  – Convene and participate in the identification of **cluster constraints** and **action plans** to address them

• **Lead a collaborative process of economic change**
  – Create institutions and **processes for upgrading competitiveness** that inform citizens and mobilize the private sector, government at all levels, educational and other institutions, and civil society to take action
Role of the Private Sector in Economic Development

- Take an **active role** in upgrading the local infrastructure
- Nurture **local suppliers** and attract new supplier investments
- Work closely with local **educational and research institutions** to upgrade **quality** and create specialized programs addressing **cluster needs**
- Provide government with **information** and **substantive input** on regulatory issues and constraints bearing on cluster development
- Focus **corporate philanthropy** on enhancing the local business environment

- An important role for **trade associations**
  - Greater influence
  - Cost sharing
Russia’s Competitiveness Agenda

• Raise the productivity of the Russian business environment

• Adopt a cluster-based approach to economic development

• Push economic strategy to the regional level

• Shift the roles of government, business, and other institutions in economic development

• Creating the microeconomic foundations of sustainable prosperity in Russia
Selected References on Clusters, Competition, Innovation, and Regional Economies
Professor Michael E. Porter


• “UK Competitiveness: Moving to the Next Stage”, with Christian Ketels, DTI Economics Papers, No.3, London: 2003


Selected References on Clusters, Competition, Innovation, and Regional Economies

Professor Michael E. Porter


• “Innovation Lecture,” published by the Dutch Ministry of Economics, 2001


