Armenian Competitiveness: Towards a Strategy for Economic Development

Professor Michael E. Porter Institute for Strategy and Competitiveness Harvard Business School

> Armenia 2020 Summit Cambridge, Massachusetts 8 March 2005

This presentation draws on ideas from Professor Porter's books and articles, in particular, "Building the Microeconomic Foundations of Prosperity," in *The Global Competitiveness Report 2004-05* (World Economic Forum, 2004); "Clusters and the New Competitive Agenda for Companies and Governments," in *On Competition* (Harvard Business School Press, 1998). 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.

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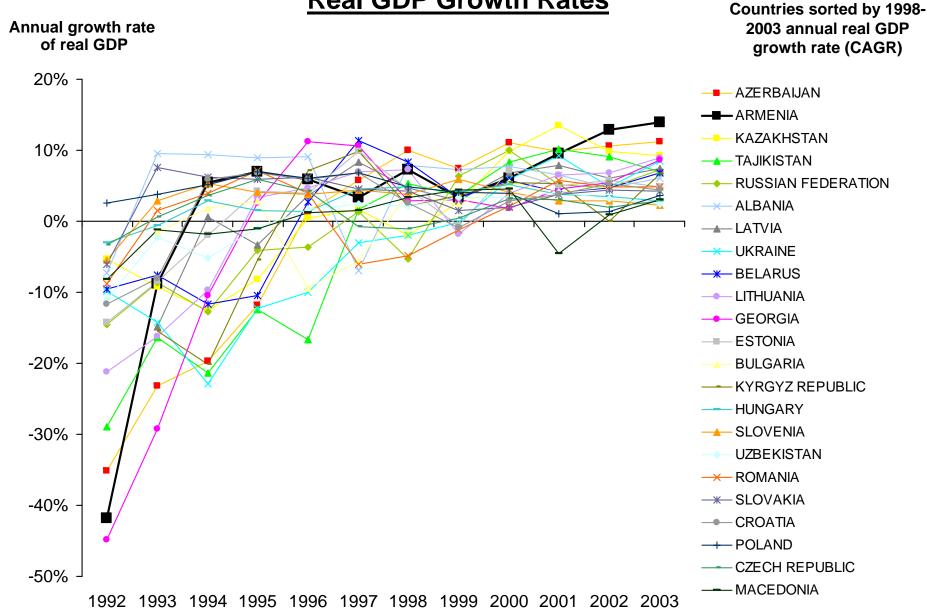
Armenia's Economic Performance

- Solid recent economic growth, above that of many CIS peers, has significantly raised prosperity
- Growth has been driven by a combination of policy reforms, a
 favorable external environment, and the availability of unusual
 production capacity after the Russian crisis
- Despite the recent growth, Armenian prosperity is still below the 1991 level



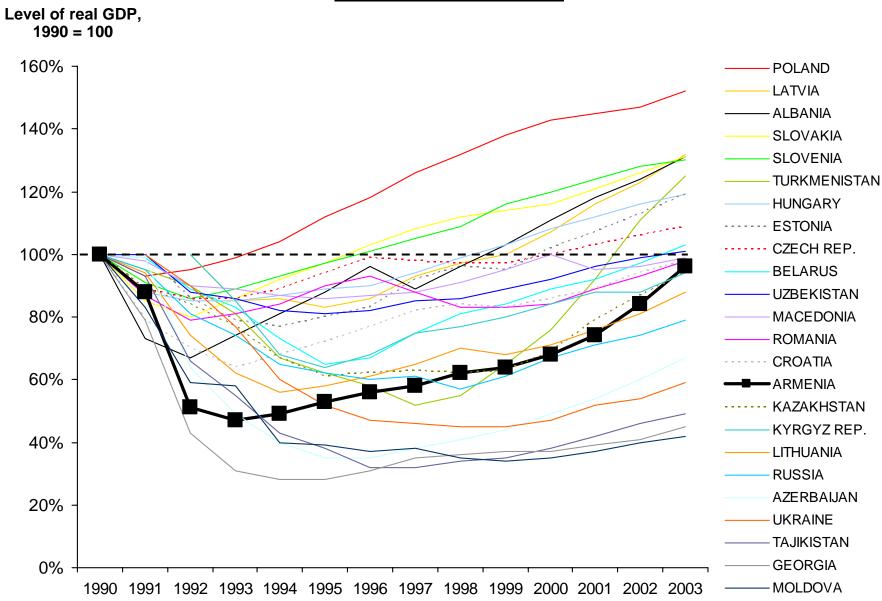
- Armenia is moving in the right direction but there are serious concerns whether progress is fast enough to reduce emigration and support sustainable growth in prosperity
- Armenia also faces a significant strategic challenge in deciding where and how it can be competitive given the constraints of its problematic relations with neighbors

Comparative Economic Performance
Real GDP Growth Rates



Source: EIU (2004)

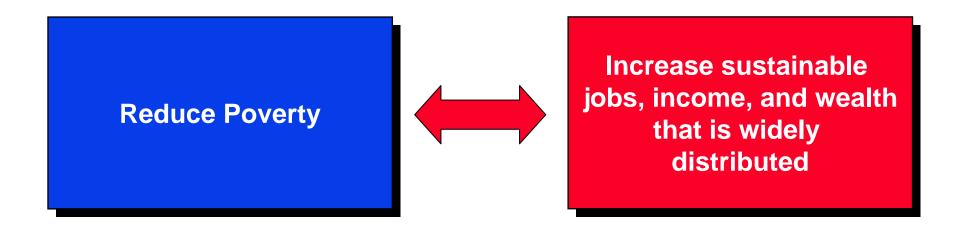
Comparative Economic Performance <u>Level of Real GDP</u>



Armenia's Competitiveness

- Foundations of Competitiveness
- Assessing Armenia's Current Position
- Armenia's Competitiveness Agenda

Defining the Right Goal





Competitiveness

What is Competitiveness?

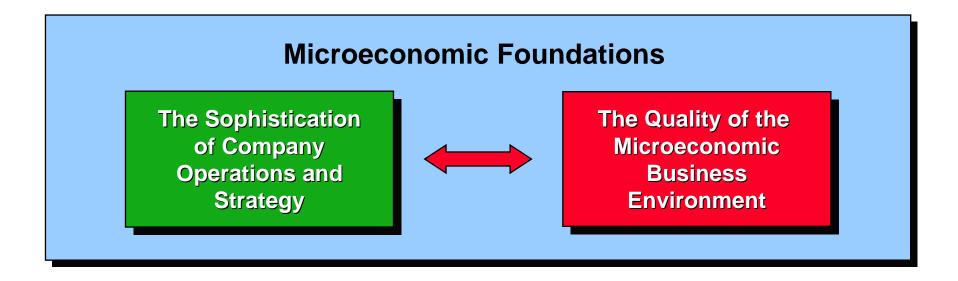
- The competitiveness of a nation or region is determined by the productivity (value per unit of input) with which it utilizes its human, capital, and natural resources.
 Productivity sets a nation's or region's standard of living (wages, returns on capital, returns on natural resources)
 - Productivity 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 or region competes in that matters for prosperity, but how firms compete in those industries
 - Productivity in a nation or region 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" or domestic industries is of fundamental importance to productivity and competitiveness, not just that of traded industries
 - Devaluation and revaluation do not make a country fundamentally more or less competitive



- Nations or regions compete in offering the most productive environment for business
- The public and private sectors play different but interrelated roles in creating a productive economy

Determinants of Competitiveness

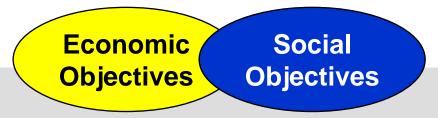
Macroeconomic, Political, Legal, and Social Context



 A sound macroeconomic, political, legal, and social context creates the potential for competitiveness, but is not sufficient

Integrating Economic and Social Policy

There is a synergy between economic and social objectives



- The competitiveness of companies depends heavily on
 - Rising skill levels
 - Safe working conditions
 - A sense of equal opportunity
 - Low levels of pollution (pollution is a sign of unproductive use of physical resources)
- Efforts to meet social objectives must be aligned with productivity and equip citizens to succeed in the market system
- Efforts to improve social conditions must take place in parallel to economic reform

Integrating Economic and Social Policy Examples

Training

Organize training investments around clusters

Housing

 Create mechanisms to encourage home ownership; provide incentives for new company formation in the construction cluster; reduce unnecessary costs of housing construction due to regulatory and admission delays; secure property rights to residents

Health Care

Create incentives for private insurance; open health care delivery to competition

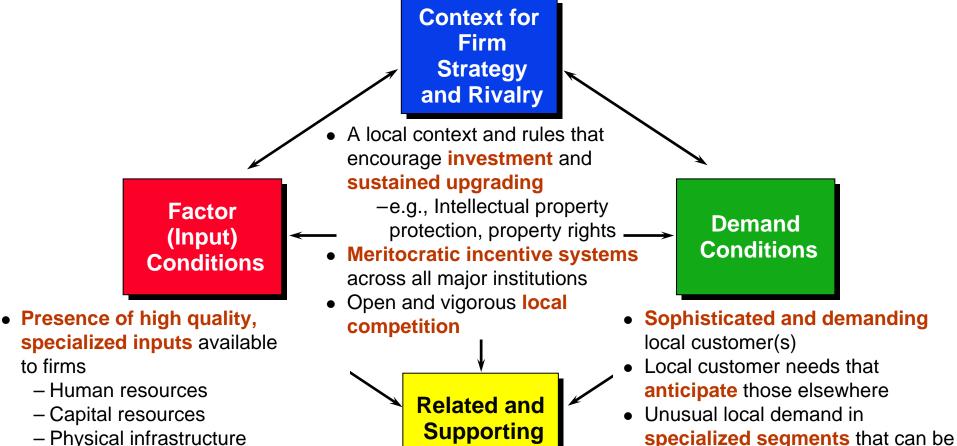
Social Security

 Establish a private pension system. Link welfare payments with training and incentives to return to the workforce

Environmental Quality

 Institute a regulatory regime that encourages environmental stewardship; invest in technical assistance in eco-efficient processes and practices

Productivity and the Business Environment



- Capital resources

to firms

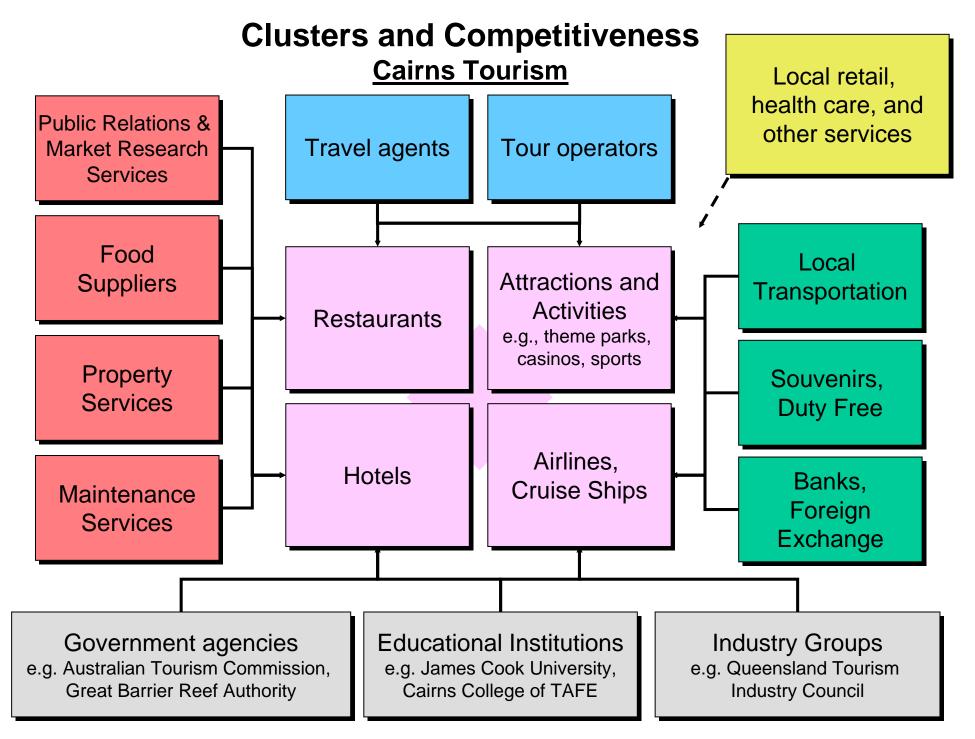
- Physical infrastructure
- Administrative infrastructure (e.g. business registration, permitting licenses)
- Information infrastructure
- Scientific and technological infrastructure
- Natural resources

 Access to capable, locally based suppliers and firms in related fields

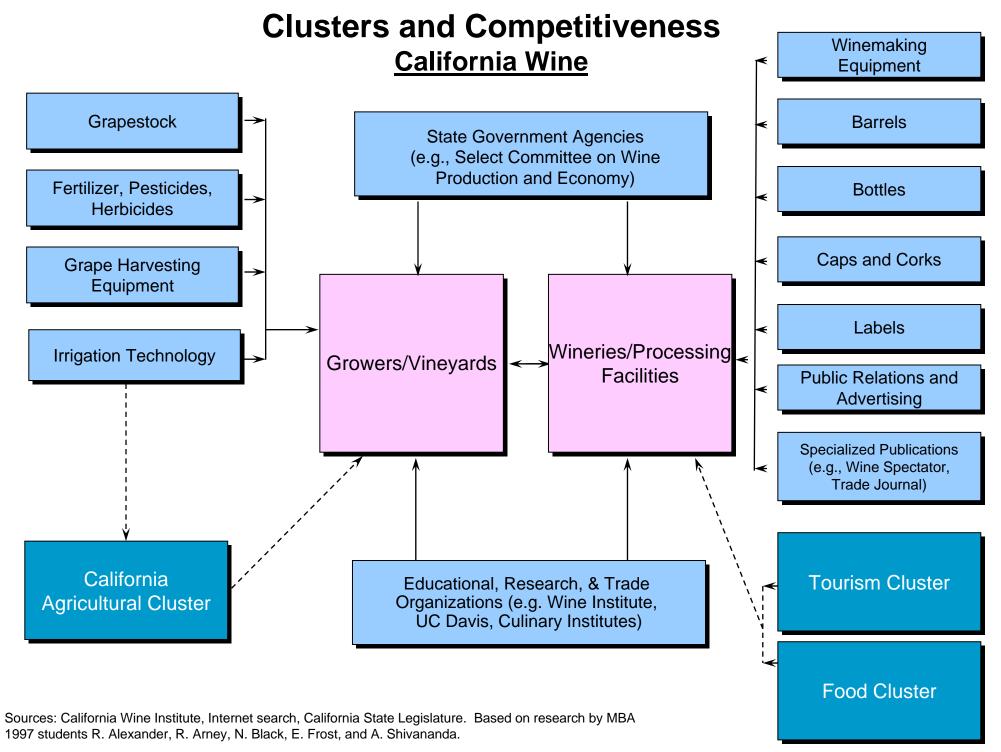
served nationally and globally

- 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

Industries



Source: Research by HBS Student Team, 2003



Leading Footwear Clusters

Portugal

- Production
- Focus on shortproduction runs in the medium price range

Romania

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



- Design, marketing, and production of premium shoes
- world market

Export widely to the

United States

- Design and marketing
- Focus on specific market segments like sport and recreational shoes and boots
- Manufacturing only in selected lines such as handsewn casual shoes and boots

China

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

Vietnam/Indonesia

- OEM Production
- Focus on the low cost segment mainly for the European market

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

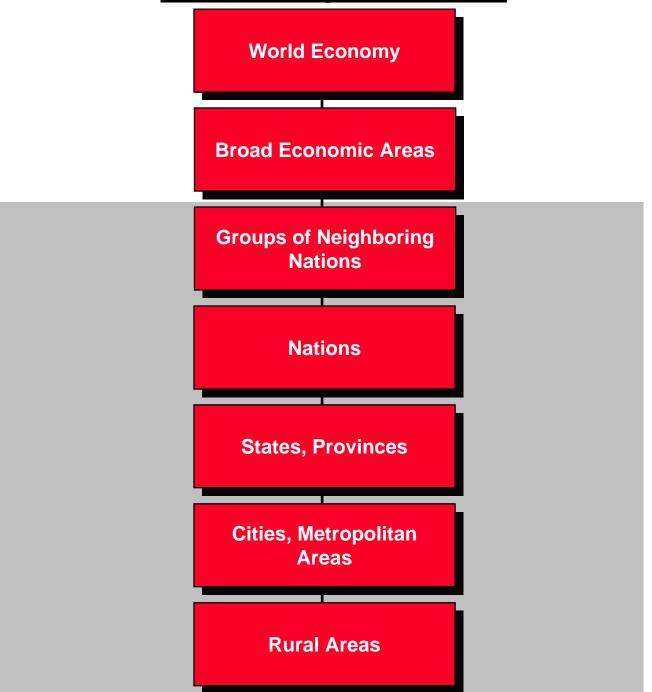
Informal networks

- Company alumni groups
- Venture capital community
- University alumni groups

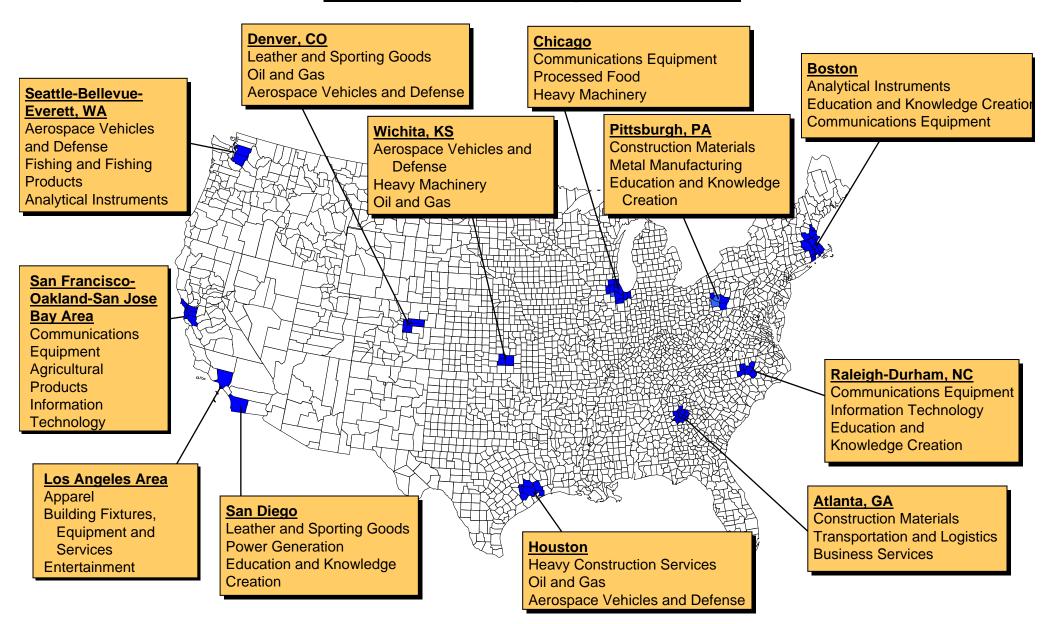
Joint Research Initiatives

- New England Healthcare Institute
- Whitehead Institute For Biomedical Research
- Center for Integration of Medicine and Innovative Technology (CIMIT)

Influences on Competitiveness <u>Multiple Geographic Levels</u>



Sub-National Regions Selected U.S. Metropolitan Areas



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

Competitiveness and Cross-National Regions

Traditional Views

 Regions as free trade zones; regions as economic unions (e.g., United States, European Union)



New View

- Regional economic integration to enhance competitiveness
 - 1. Expand internal trade and investment

and

- 2. Enhance the competitive capability of firms
- 3. Improve the business environment through cross-country collaboration
- 4. Encourage specialization and cluster development
- 5. Increase inward foreign investment
- 6. Improve the economic policy process
 - Motivate improvements at the national level

Competitiveness and Cross-National Regions Illustrative Policy Areas

Factor (Input) Conditions

- Improve the regional transportation infrastructure
- Create an efficient energy network
- Integrate regional communications
- Link national financial markets
- Upgrade higher education through specialization and student exchanges
- Coordinate activities to ensure personal safety

Context for Strategy and Rivalry

- Coordinate macroeconomic policies
- Eliminate trade and investment barriers within the region
- Simplify and harmonize cross-border regulations and paperwork
- Guarantee
 minimum basic
 investor
 protections
 and dispute
 resolution
 mechanisms

- Agree on foreign investment promotion guidelines to limit forms of investment promotion that do not enhance productivity
- Develop a regional marketing strategy
- Enhance internal competition in the region

Demand Conditions

- Set minimum safety standards
- Establish reciprocal consumer protections
- Set minimum environmental standards

Related and Supporting Industries

 Establish ongoing upgrading process in clusters that cross national borders,

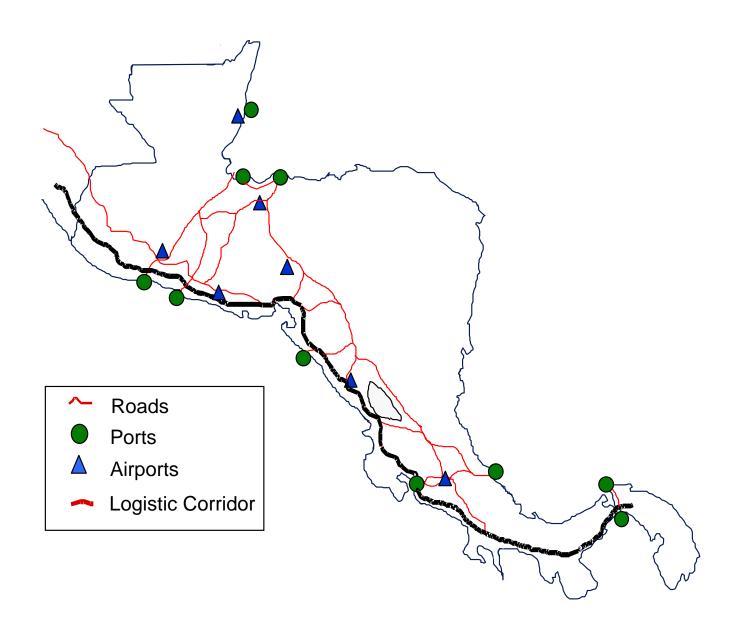
e.g.

- Tourism
- Agribusiness
- Textiles
- Electronic assembly and software

Regional Governance

- Share best practices in government operations
- Improve regional institutions
 - regional development bank
 - dispute resolution procedures

Competitiveness in Central America <u>Logistical Corridor</u>



Shifting Responsibilities for Economic Development

Old Model

 Government drives economic development through policy decisions and incentives

New Model

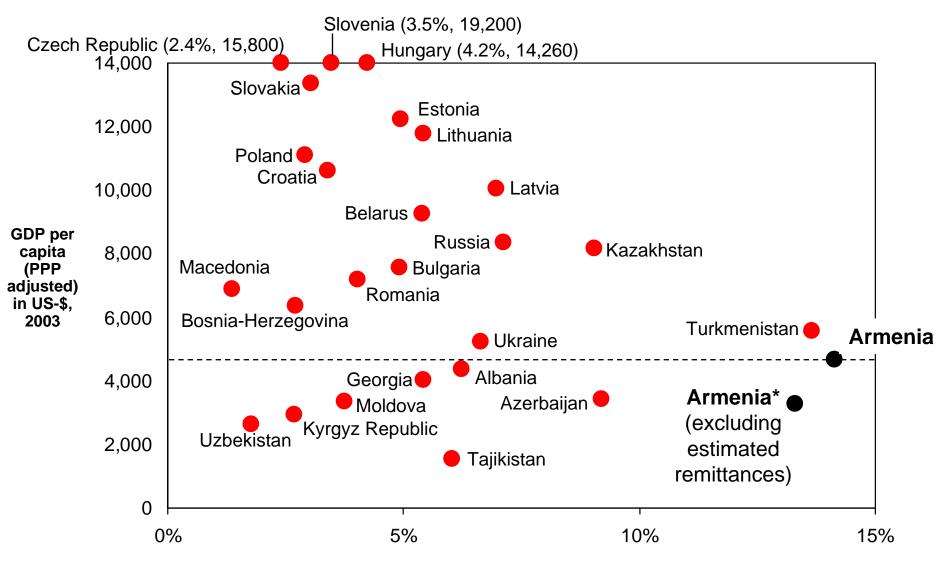


 Economic development is a collaborative process involving government at multiple levels, companies, teaching and research institutions, and institutions for collaboration

Armenia's Competitiveness

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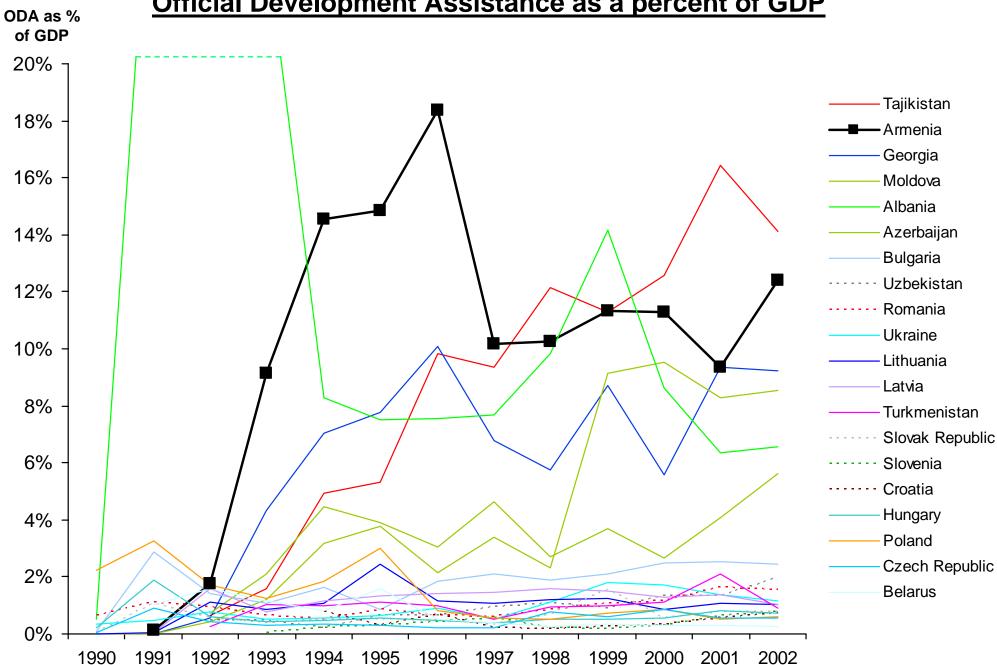
Comparative Economic Performance Selected Countries



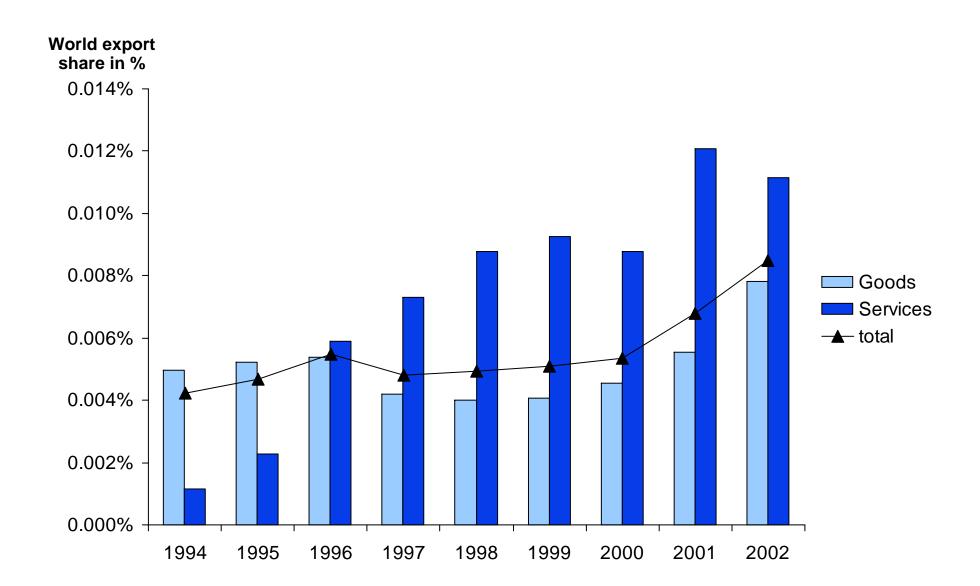
Compound annual growth rate of real GDP per capita, 1998-2003

Note: Unofficial remittances are estimated at about 20% of GFP, official remittances at 10% of GDP Source: EIU (2004), Roberts/Banaian (2005)

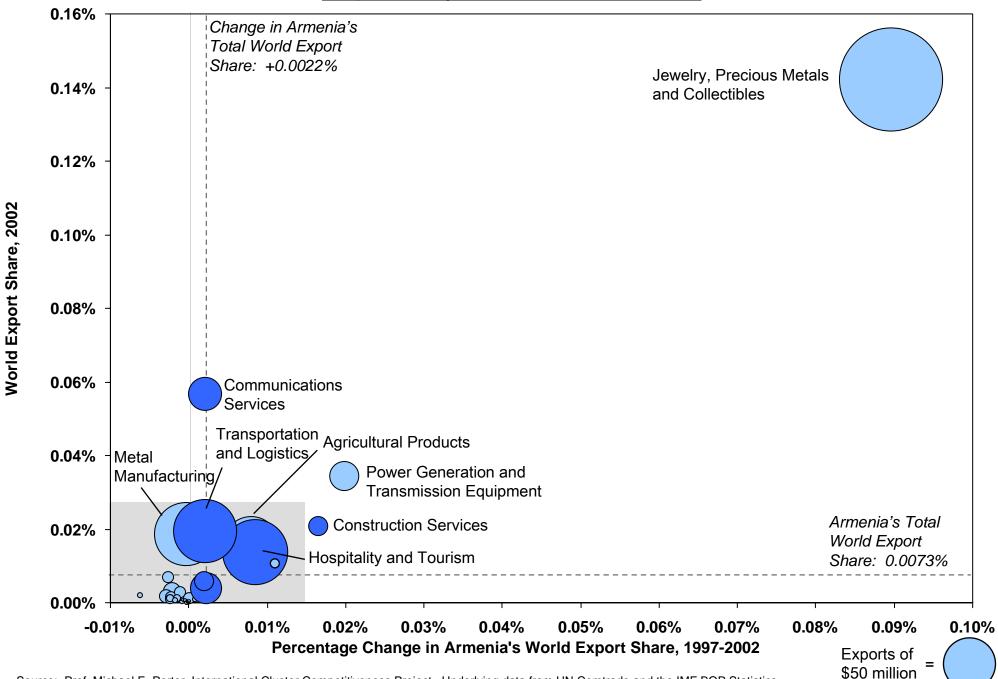
Aid and Economic Growth Official Development Assistance as a percent of GDP



Armenia's Export Performance World Export Market Shares

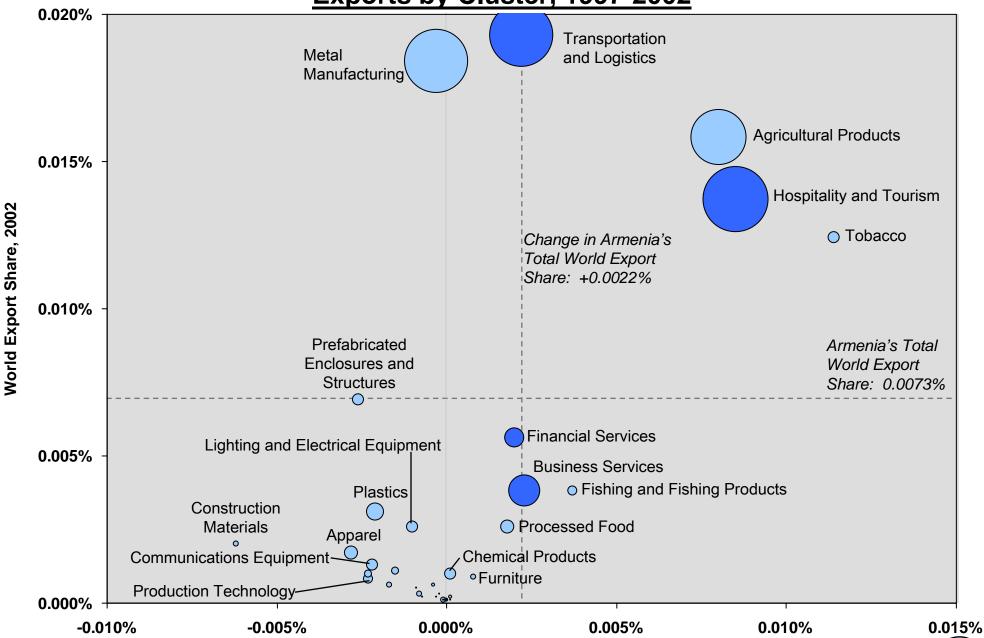


Armenia's Export Portfolio Exports by Cluster, 1997-2002



Source: Prof. Michael E. Porter, International Cluster Competitiveness Project. Underlying data from UN Comtrade and the IMF BOP Statistics.

Armenia's Export Portfolio, continued Exports by Cluster, 1997-2002



Source: Prof. Michael E. Porter, International Cluster Competitiveness Project. Underlying data from UN Comtrade and the IMF BOP Statistics.

Exports of \$50 million

Percentage Change in Armenia's World Export Share, 1997-2002

Armenian Goods Exports Leading Export Industries, 2002

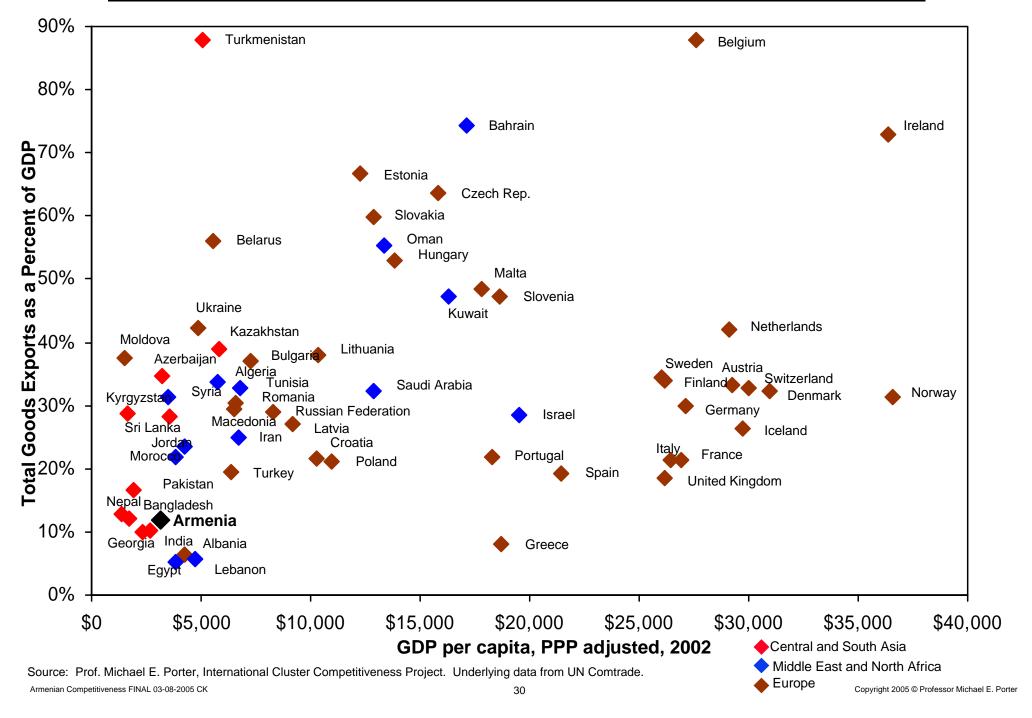
	Industry	Cluster	World Export Share	Change in Share 1997-2002	Export Value in \$thousands
1	Diamonds excluding industrial	Jewelry, Precious Metals and Collectibles	0.313%		
	Spirits	Agricultural Products	0.375%		
3	Gold, non-monetary, excluding ores	Jewelry, Precious Metals and Collectibles	0.127%	0.119%	\$ 23,796
4	Ores and concentrates of molybdenum, titanium, zirconium	Metal Mining and Manufacturing	0.925%	0.925%	\$ 15,038
5	Electric current	Power Generation and Transmission Equipment	0.134%	0.114%	\$ 13,427
6	Copper ores and concentrates	Metal Mining and Manufacturing	0.211%	0.095%	\$ 12,192
7	Other non-ferrous metal waste	Metal Mining and Manufacturing	0.144%	-0.191%	\$ 9,652
8	Copper, copper anodes and alloys	Metal Mining and Manufacturing	0.078%	0.071%	\$ 9,648
9	Pig iron, spiegeleisen, sponge iron or steel granules	Metal Mining and Manufacturing	0.112%	0.083%	\$ 8,917
10	Synthetic rubber	Plastics	0.091%	-0.062%	\$ 5,144
11	Miscellaneous prepared or preserved vegetables	Agricultural Products	0.037%	0.030%	\$ 4,046
12	Parts for telecommunication equipment	Communications Equipment	0.004%	0.004%	\$ 2,730
13	Miscellaneous non-ferrous base metals	Metal Mining and Manufacturing	0.090%	0.085%	\$ 2,649
14	Aluminum foil < .2mm thickness	Prefabricated Enclosures and Structures	0.049%	0.034%	\$ 2,479
15	Cigarettes containing tobacco	Tobacco	0.018%	0.018%	\$ 2,081
16	Mill, grindstones, grinding wheels and the like	Chemical Products	0.106%	0.105%	\$ 1,712
17	Crustaceans, mollusks, and aquatic invertebrates	Fishing and Fishing Products	0.012%	0.012%	\$ 1,665
18	Other ferrous waste and scrap	Metal Mining and Manufacturing	0.029%	-0.253%	\$ 1,660
19	Watches, precious metal cases	Jewelry, Precious Metals and Collectibles	0.048%	0.025%	\$ 1,434
20	Electric motors, generators, AC	Motor Driven Products	0.015%	-0.019%	\$ 1,331
21	Other garments, not knitted	Apparel	0.026%	0.024%	\$ 1,273
22	Precious metal waste and scrap	Jewelry, Precious Metals and Collectibles	0.070%	0.036%	\$ 1,241
23	Miscellaneous non-alcohol beverages	Processed Food	0.017%	0.012%	\$ 1,070
24	Fruit, preserved or prepared	Agricultural Products	0.018%	0.011%	\$ 1,069
25	Electric control panels, boards, cabinets and other bases	Lighting and Electrical Equipment	0.009%	0.000%	\$ 1,032

Top 25 Industries as percentage of Armenia's total goods exports: 93.1%

Armenian Services Exports by Cluster, 2002

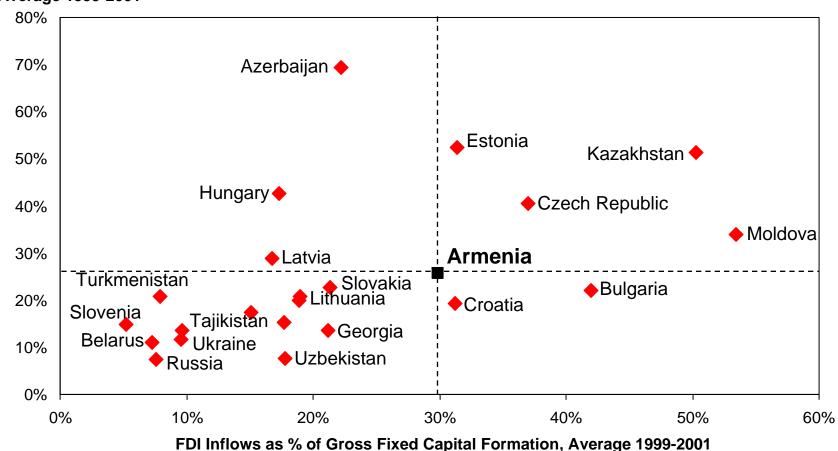
Cluster	World Export Share	Change in Share, 1997-2002	(port Value \$thousands	Cł	nange in Value, 1997-2002
Hospitality and Tourism	0.014%	0.009%	\$ 65,312	\$	43,092
Transportation and Logistics	0.019%	0.002%	\$ 64,289	\$	13,659
Communications Services	0.057%	0.002%	\$ 17,709	\$	3,379
Business Services	0.004%	0.002%	\$ 15,864	\$	11,034
Financial Services	0.006%	0.002%	\$ 6,712	\$	3,752
Construction Services	0.021%	0.017%	\$ 6,216	\$	4,586

Export Intensity <u>Total Goods Exports as a Share of GDP vs. GDP per capita, 2002</u>



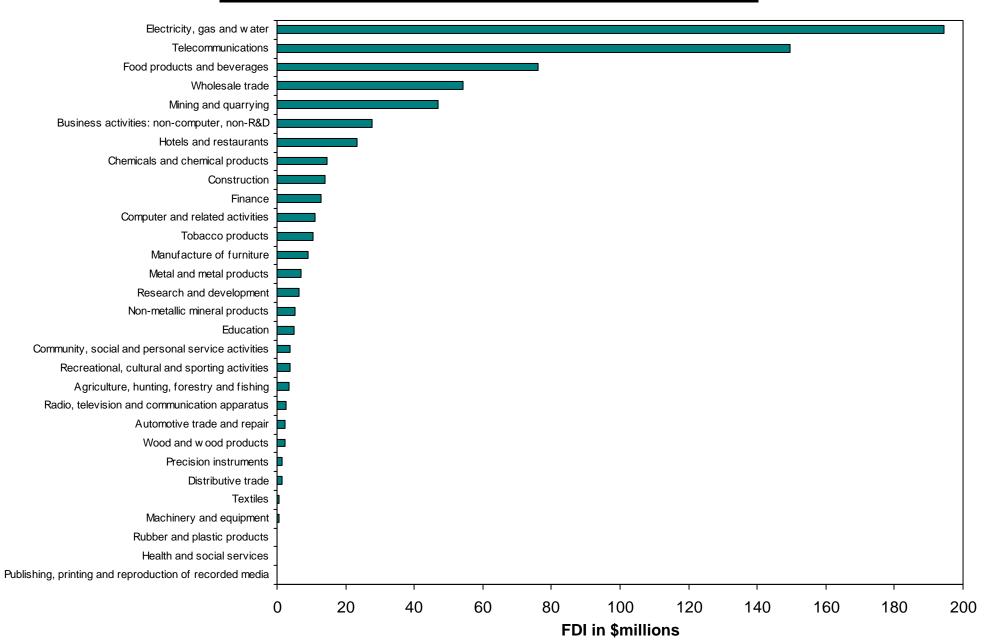
Comparative Inward Foreign Investment Selected Transition Countries

FDI Stocks as % of GDP, Average 1999-2001



Source: UNCTAD (2004)

Foreign Direct Investment in Armenia Composition of FDI by Industry, 1998-2002

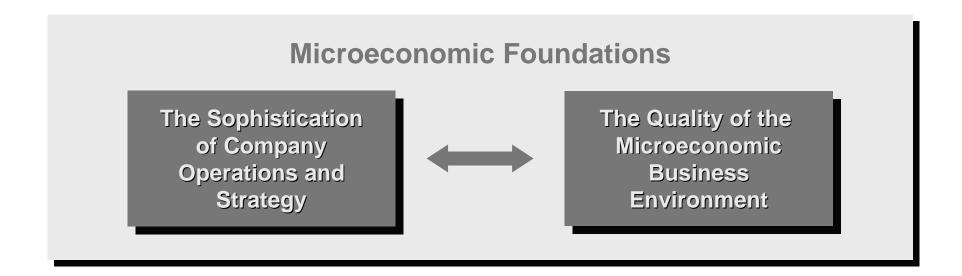


Note: Total FDI 1998-2002 = \$735 million. \$45 million of FDI in unspecified categories is not included above.

Source: UNCTAD

Competitive Assessment of Armenia

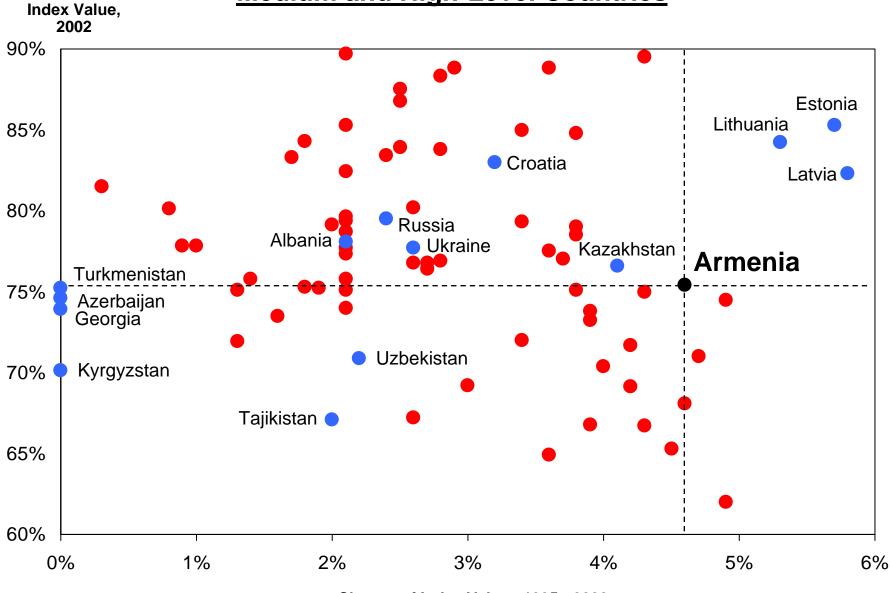
Macroeconomic, Political, Legal, and Social Context



Macroeconomic Context <u>Armenia</u>

- Strong GDP growth in the post-1998 period; driven by net exports since 2001
- Low inflation reflecting steady improvements in Central Bank policies
- Dramatic reduction of the fiscal deficit, mainly through reductions in expenditures. The tax system remains weak
- A negative current account but this has been financed through remittances and foreign aid; the ratio external debt service to export revenues has improved due to export growth and the renegotiation of debt terms in 2003
- The real exchange rate has fallen between 2000 and 2005

Human Development Index Medium and High-Level Countries



Political, Social, and Legal Conditions in Armenia

Political

- Armenia has suffered from significant political instability
- Problematic
 relationships with
 neighbors increase
 the level of political and
 economic uncertainty

Social

- Poverty rates are still high (close to 40% in 2002), despite some recent improvements
- Inequality remains significant after a sharp increase in the 1990s
- Public spending on education and health has not reached the lower income levels

Legal

- Armenia ranks higher on most governance indicators than many of its regional peers, including Russia,
- However, Armenia still performs worse than Eastern European countries like Romania that aim for the EU
- The large grey
 economy signals
 significant governance
 and regulatory
 problems

Economic Freedom Armenia, 2005

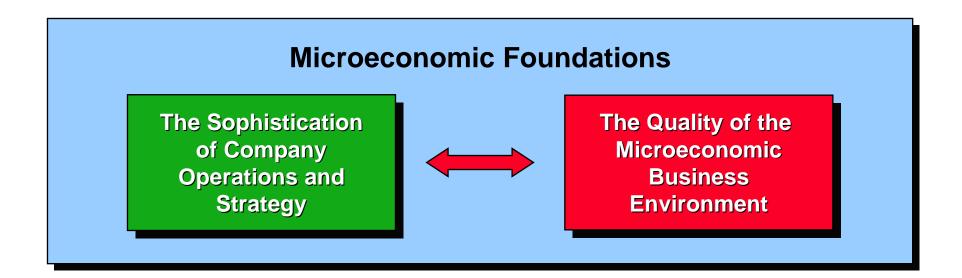
Most Free (1)

Banking and Finance 1.0 Foreign Investment 2.0 Trade Policy 2.0 **Monetary Policy** 2.0 Fiscal Burden 2.3 **Government Intervention** 2.5 Wages and Prices 3.0 **Property Rights** 3.0 Regulation 4.0 **Informal Market** 4.0

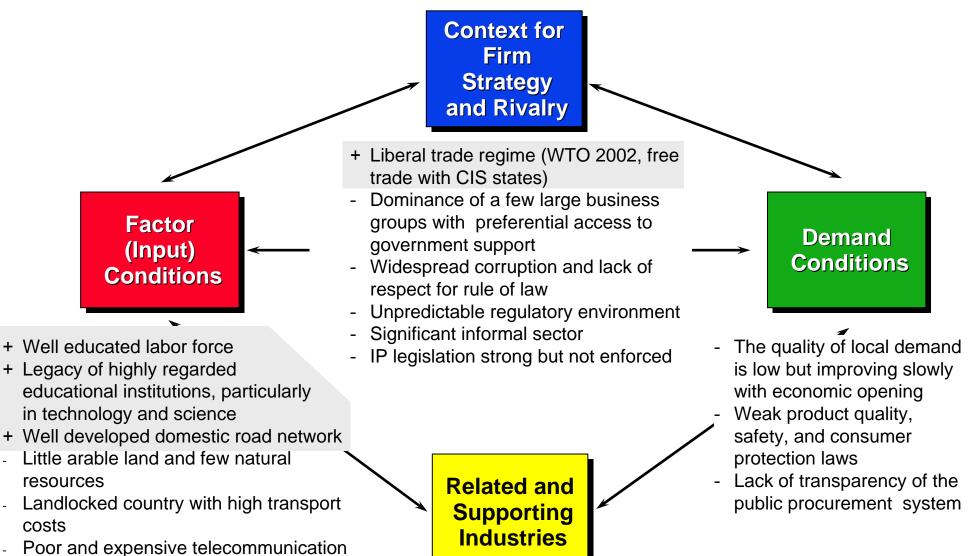
Least Free (5)

Competitive Assessment of Armenia

Macroeconomic, Political, Legal, and Social Context



Armenia's Microeconomic Business Environment

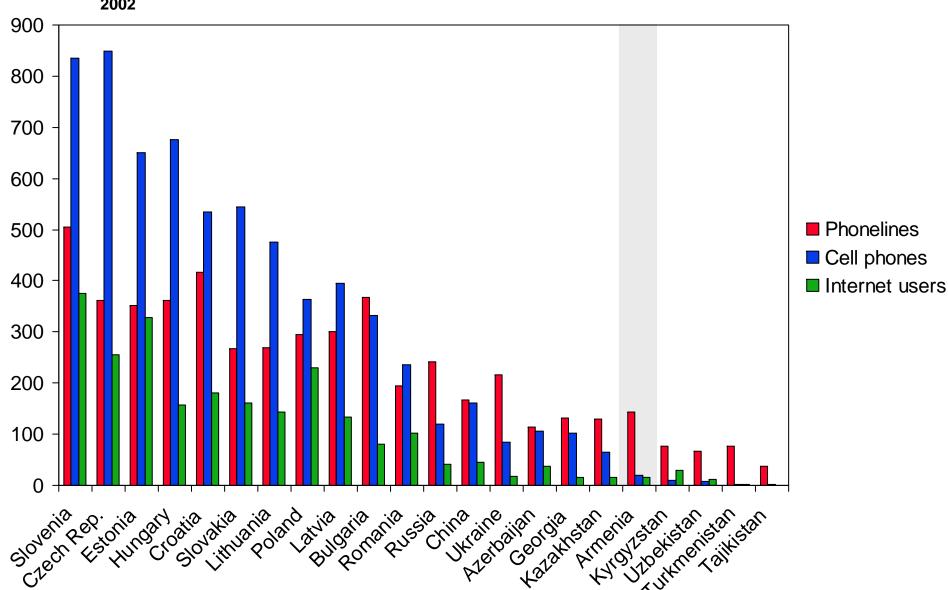


- infrastructureOutdated rail transport system; lack of air cargo facilities
- Skills generated by the education system do not much the needs of business
- High level of bureaucracy and red tape
- + A few significant clusters: diamonds, IT, and agricultural products (including wine and brandy)
- Clusters are generally weak and no formal cluster building mechanisms exist



Communication Infrastructure Armenia's Relative Position

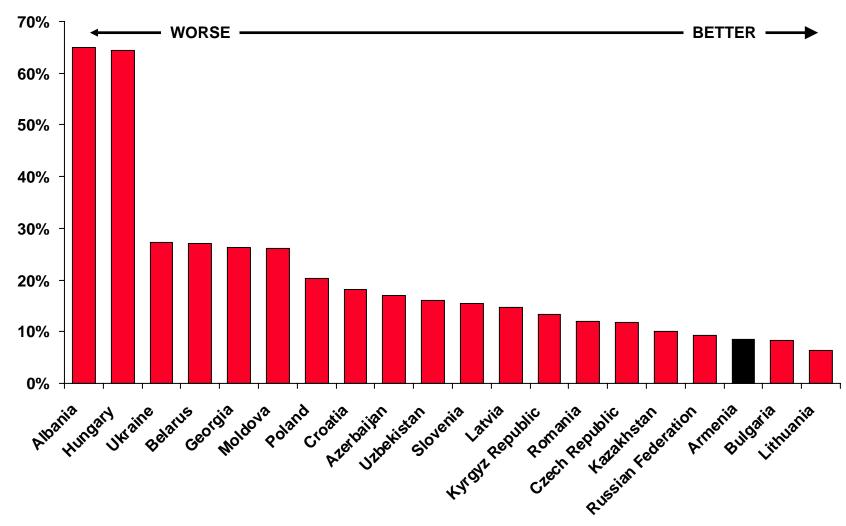




Context for Firm Strategy and Rivalry

Ease of Business Formation Selected Transition Countries

Cost of Business Formation relative to GDP per capita



Source: World Bank (2003)

Armenia's Competitiveness

- Foundations of Competitiveness
- Assessing Armenia's Current Position
- Armenia's Competitiveness Agenda

Upgrading Armenian Competitiveness <u>Towards a Strategic Plan</u>

Secure existing Armenian strengths

- Strengthen educational institutions
- Continue the mobilization of the Armenian Diaspora

Strengthen the foundations of competitiveness

- Address critical weaknesses in the business environment
- Launch an aggressive cluster development agenda
- Create a focused strategy to attract foreign direct investment

Overcome the challenges of Armenia's location

- Build an efficient domestic economy, not just the traded sector
- Upgrade telecommunications and air transport
- Build capabilities in clusters with less dependence on the physical transport of goods
- Create a long-term plan for cross-border economic cooperation in the region

Redefine the roles of government and the private sector

- Strengthen the effectiveness of government
- Enhance public-private collaboration

Articulate and build consensus around a long-term vision and strategy for Armenia based on the principles of competitiveness

– What role in the world economy and region will Armenia play?

Secure Existing Armenian Strengths <u>Skills</u>

 The strong skill base of Armenia requires continued investments if it is to be sustainable



- Educational institutions
 - Investments to reverse erosion of buildings, educational capacity, etc.
 - Improve the regulatory environment to strengthen the focus on performance and tie teaching to the needs of the business community
 - Strengthen linkages between educational institutions and business
 - Improve computer and internet access in all schools, particularly in the outlying provinces
- Demand for skills
 - Create incentives for companies to invest in skill upgrading
- Stem the brain drain
 - Will only occur based on improving economic opportunities within Armenia

Strengthen the Foundations of Competitiveness Address Weaknesses in the Business Environment

- Legal and regulatory environment
 - Mount a broad-based effort to address corruption
 - Address the root causes of the grey economy
- Competition policy
 - Reduce political influence on competition
 - Create and implement a strong competition policy that limits anticompetitive practices, cartels, and monopolies
- Infrastructure
 - Upgrade physical infrastructure through regulatory reform and mobilization of private investment capital
- Financial markets
 - Improve the transparency and reliability of ownership rights; this is critical to improve their possible use as collateral
 - Laws on corporate governance are good, following the IFC project 1999-2001, but they need to be implemented more aggressively

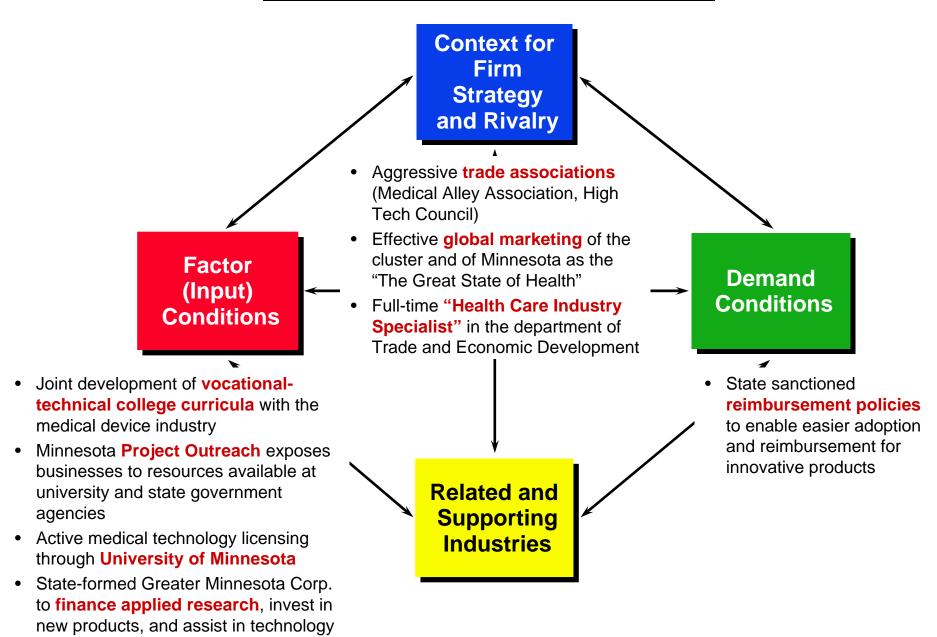
Strengthen the Foundations of Competitiveness <u>Cluster Development</u>

- Clusters are critical engines of productivity growth and economic development
 - Clusters enable companies to improve performance and seize market opportunities otherwise unavailable to them
 - Clusters are especially important for fostering new business formation
- Clusters are a forum to identify important challenges in the business environment
- Clusters provide an opportunity for government, companies, and other institutions to work constructively together in economic development
- Clusters are the best way to focus export promotion, attracting FDI, and developing industrial parks



Cluster development should be a central element of any competitiveness plan

Public / Private Cooperation in Cluster Upgrading Minnesota's Medical Device Cluster



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transfer

Armenian Clusters

- Diamonds and Jewelry
- Spirits and Brandy
- Hospitality and Tourism
- Agricultural Products
- Metal Mining and Manufacturing

Emerging/Potential

- IT Services
- Outsourced Services

Strengthen the Foundations of Competitiveness Attracting Foreign Direct Investment

- Foreign multinational companies bring significant benefits to the economies in which they locate, especially in developing countries
 - Local employment and investment
 - Inflow of foreign human capital and skills
 - Training of citizens
 - Competition and exposure to world-class business practices
 - Access to world-class products and services and to global supply and distribution networks
- Armenia has already attracted some investment but needs to tightly link its investment attraction and cluster development efforts
 - Investors are easier to attract to clusters
 - Clusters multiply the benefits of foreign investments for the local economy
- Current approaches to business attraction need to be significantly improved

Upgrading Armenian Competitiveness <u>Towards a Strategic Plan</u>

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Upgrade the foundations of competitiveness

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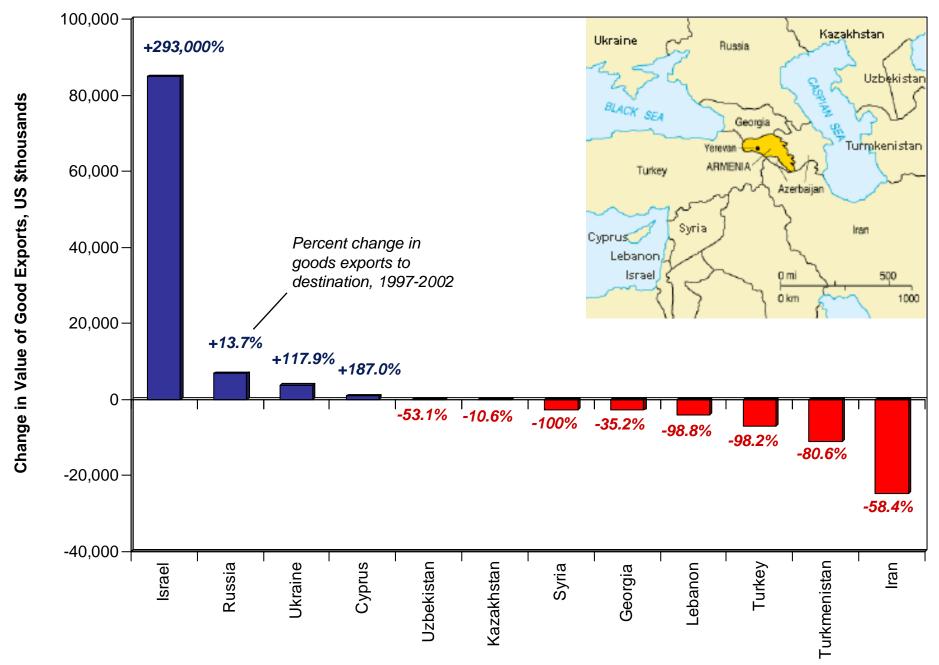
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Redefine the roles of government and the private sector

- Strengthen the effectiveness of government
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- Articulate and build consensus around a long-term vision and strategy for Armenia based on the principles of competitiveness
 - What role in the world economy and region will Armenia play?

Trade within the Region <u>Armenia's Goods Exports to Nearby Nations, Change 1997-2002</u>



Overcome the Challenge of Location Steps Towards Regional Economic Integration

- Redouble efforts to ease the economic blockades
 - Trade agreements and harmonization of customs procedures with neighbors
- Pursue infrastructure collaboration as a means to begin practical integration efforts in the region
 - Joint planning on road and railroad infrastructure
- Opportunities for win-win cooperation in tourism



 International institutions are increasingly open to fund cross-national projects and strongly support their benefits in terms of political stability

Upgrading Armenian Competitiveness <u>Towards a Strategic Plan</u>

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Shifting Responsibilities for Economic Development

Old Model

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New Model



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What Could Armenia Become? <u>Analogies</u>

Ireland

- Strategy build on attracting foreign investment
- Advantages: proximity to EU, English speaking, well educated, moderate cost labor
- Significant Diaspora

Singapore

- Highly advantageous geographic location
- Strong government leadership
- Business hub of its region

Israel

- Isolated from its neighbors
- Highly educated population, strengths in science and technology
- Sizable, wealthy, involved Diaspora

Where Is Armenia Unique?

- Education and skills
 - Legacy of training in physics, math and other sciences
 - Musical talent--piano in even the poorest households
 - World chess champions
 - Known as resilient, rugged, individualistic people
- Diaspora
 - Sizable, wealthy, successful, caring Diaspora
- Culture and history
 - First Christian nation (recently celebrated 1700th anniversary)
 - Biblical sites



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Appendix

Levels of Clusters

- There is often an array of clusters in a given field in different locations, each with different levels of specialization and sophistication
- Global innovation centers, such as Silicon Valley in semiconductors, are few in number. If there are multiple innovation centers, they normally specialize in different market segments
- Other clusters focus on manufacturing, outsourced service functions, or play the role of regional assembly or service centers
- Firms based in the most advanced clusters often **seed or enhance clusters** in other locations in order to reduce the risk of a single site, access lower cost inputs, or better serve particular regional markets
- The challenge for an economy is to move from isolated firms to an array of clusters, and then to upgrade the breadth and sophistication of clusters to more advanced activities

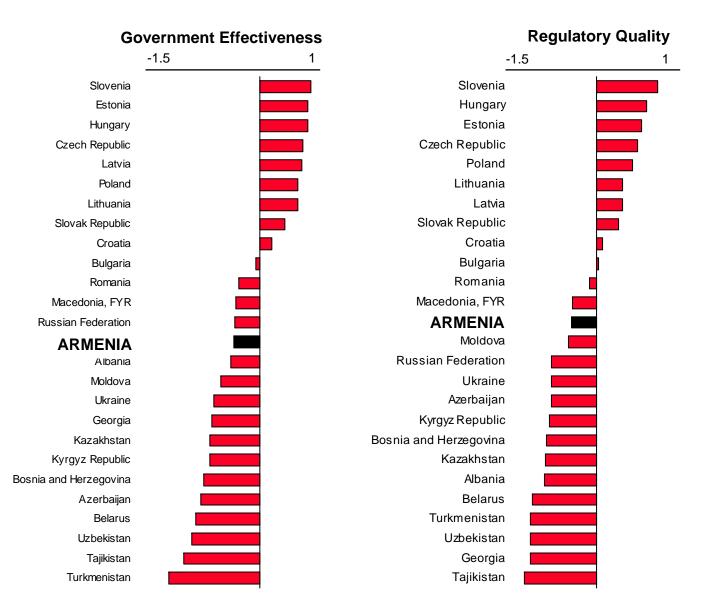
Governance Indices Selected Transition Countries



Note: Minimum of -2.5, maximum of 2.5.

Source: World Bank (2004)

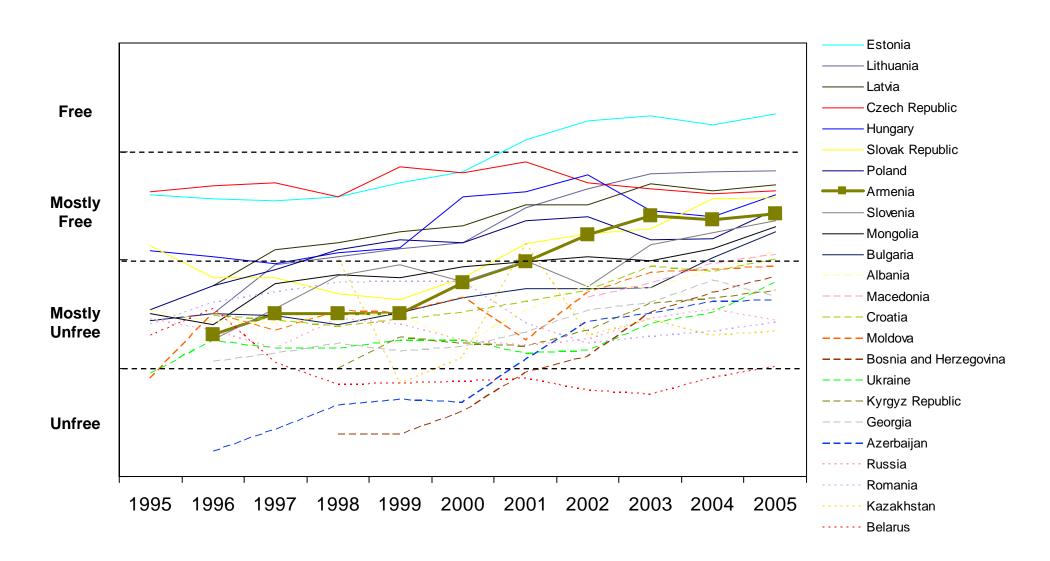
Governance Indices Selected Transition Countries



Note: Minimum of -2.5, maximum of 2.5.

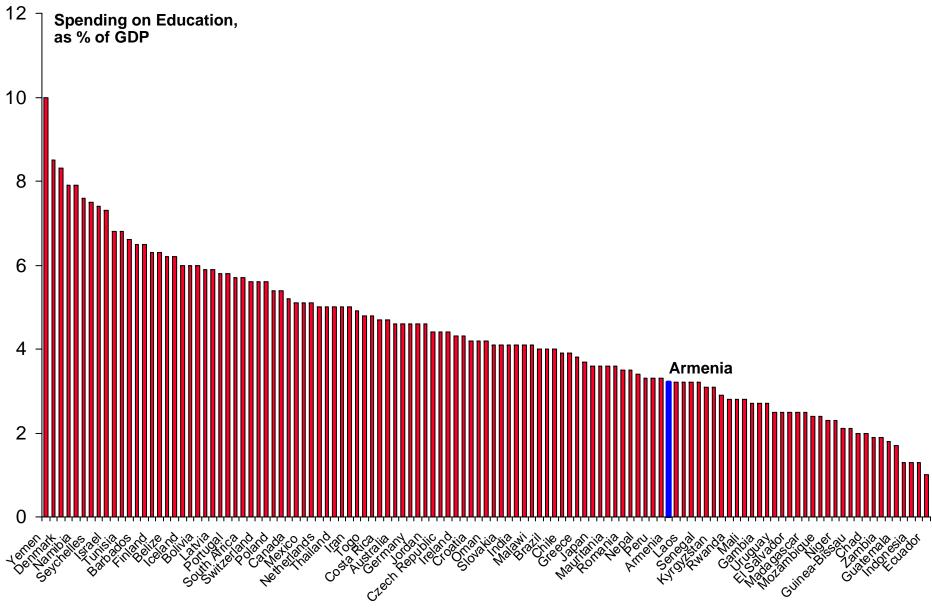
Source: World Bank (2004)

Economic Freedom Selected Transition Economies



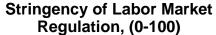


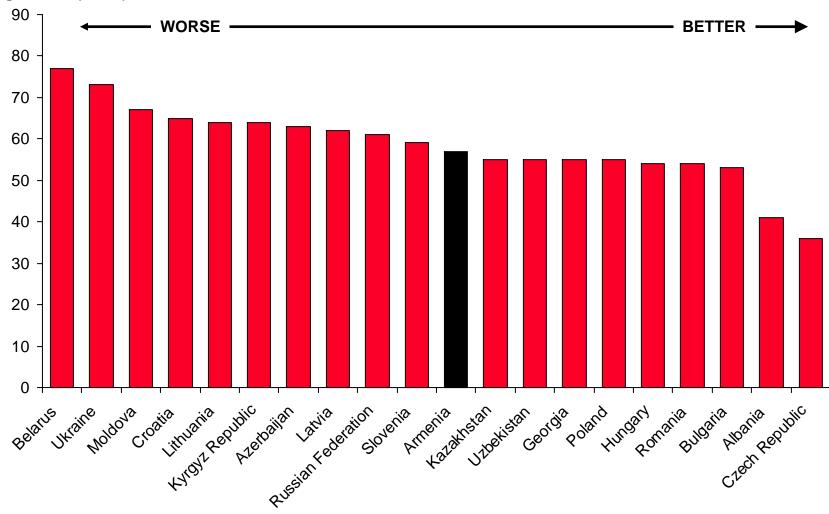
Public Expenditure on Education Selected Countries



Source: Human Development Report (2004)

Labor Market Regulation Selected Transition Countries



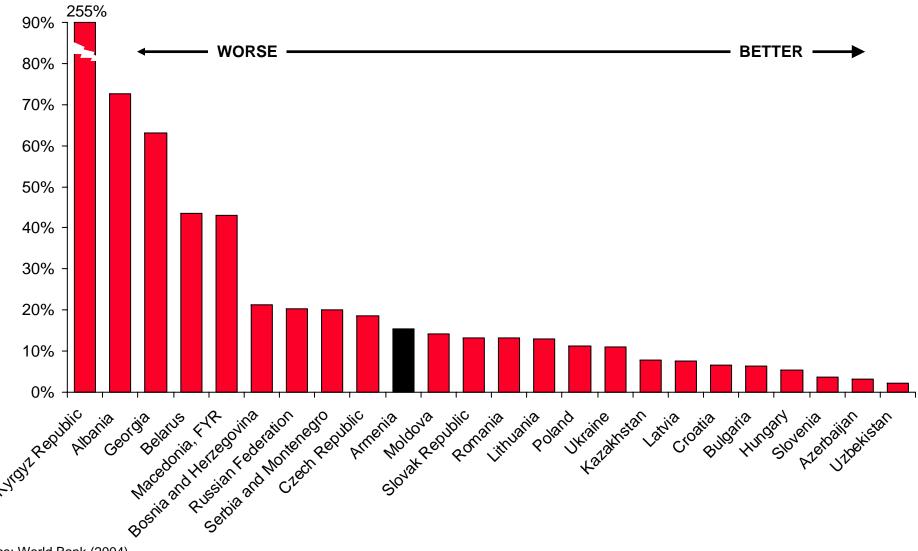


Source: World Bank (2003)

Context for Firm Strategy and Rivalry

Contract Enforcement Selected Transition Countries

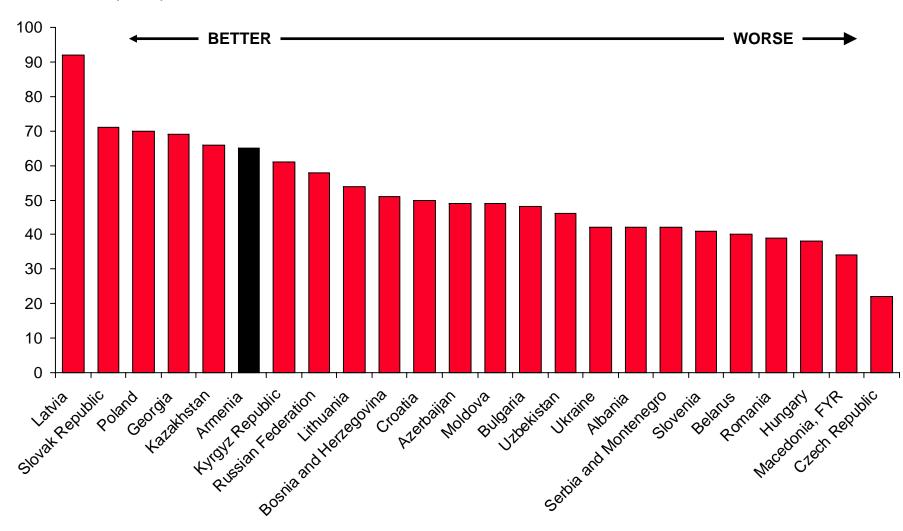
Cost of Contract Enforcement relative to GNI per capita



Source: World Bank (2004)

Bankruptcy Selected Transition Countries

Efficiency of Bankruptcy Procedures, (0-100)



Source: World Bank (2004)