

# Financial Markets and Corporate Investment in Catching Up Countries: Empirical Trends and Policy Insights for Transition Economies

Anthony Bartzokas  
Professorial Fellow  
UNU-MERIT

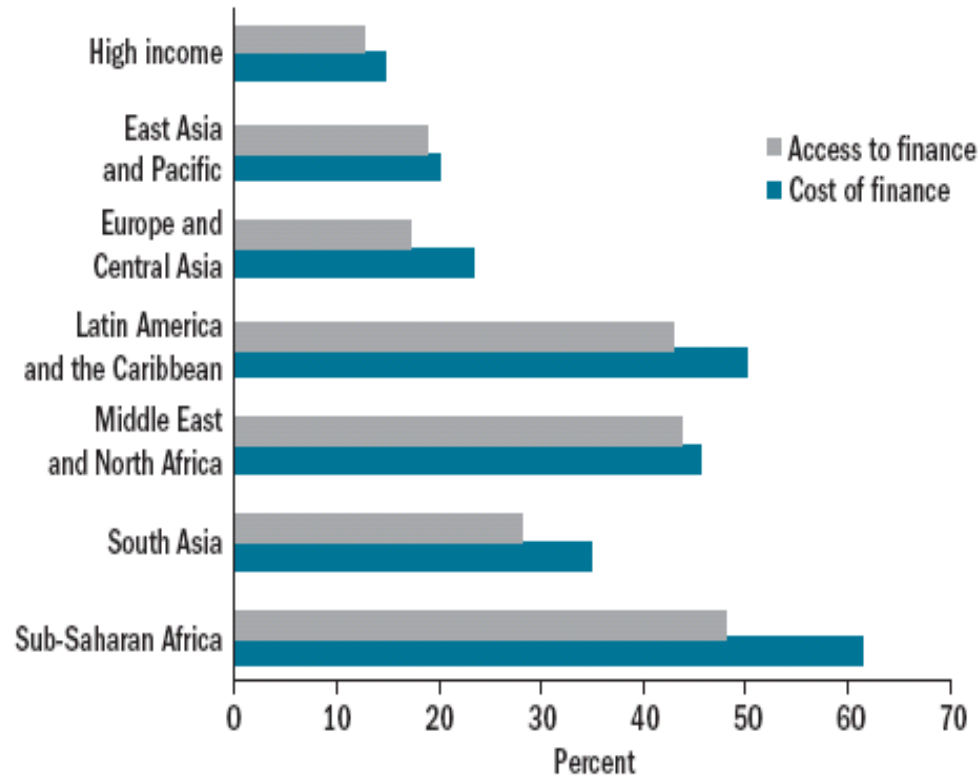
[bartzokas@merit.unu.edu](mailto:bartzokas@merit.unu.edu)

INTERNATIONAL CONFERENCE “INVESTING IN INNOVATION:  
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# Access to finance: a major structural constraint for Developing Countries



*Source:* Investment Climate Survey (ICS) responses by enterprises in 76 countries, grouped by region.

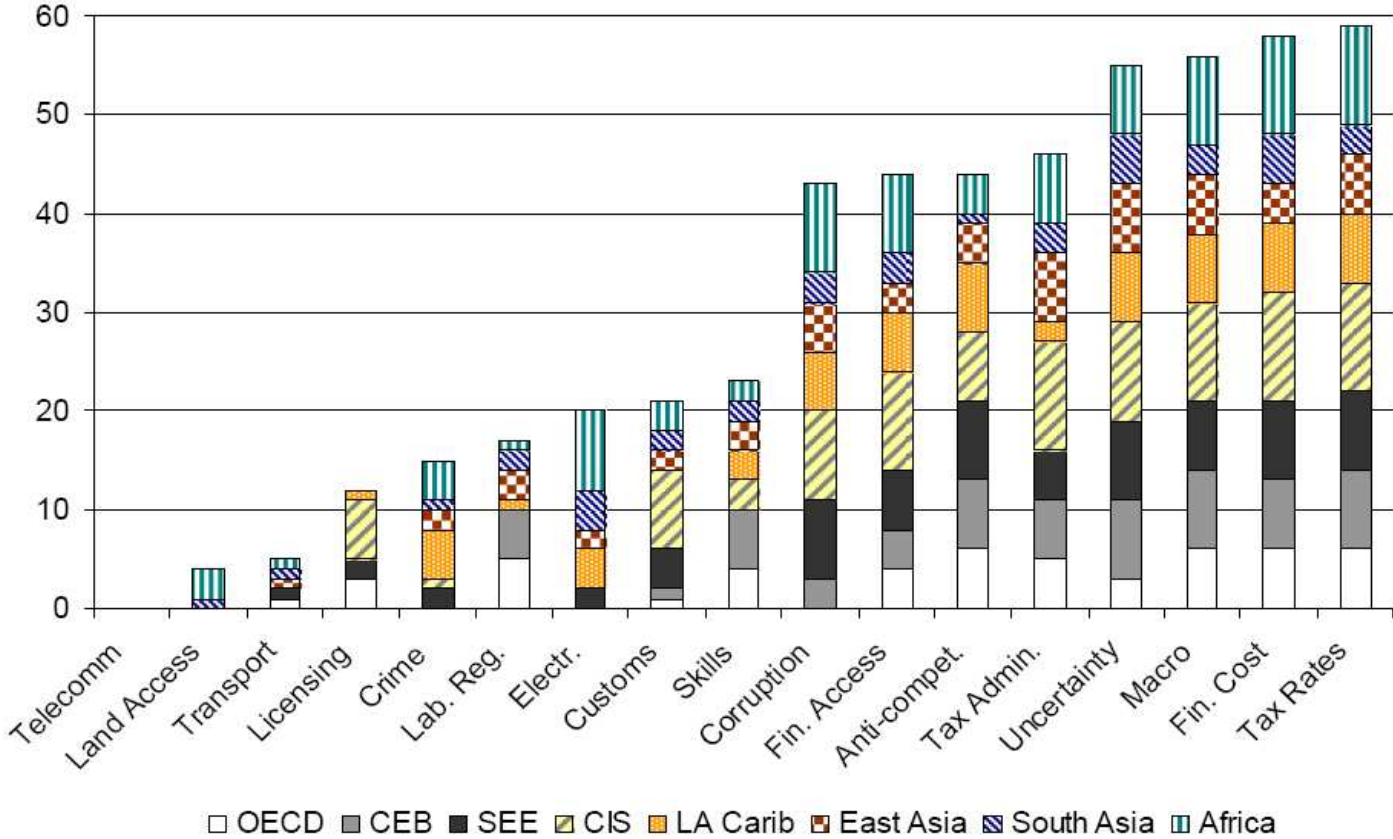
*Note:* Figure shows the percentage of firms reporting access to finance or cost of finance as a severe or major obstacle to firm growth.

# Financial systems and corporate credit: aggregate trends in the world economy(1990-2005)

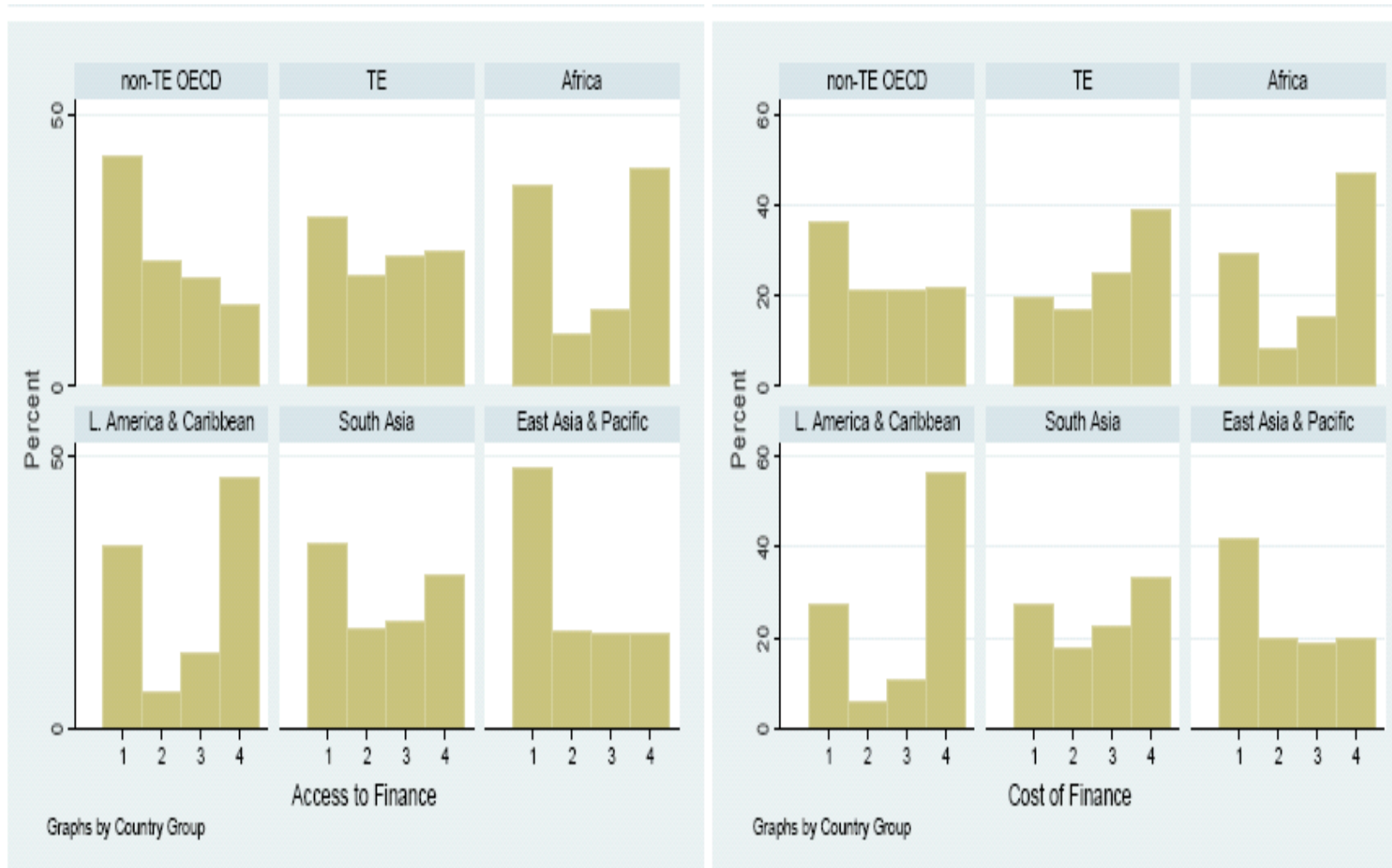
	1990	2000	2005	% change 2005/1990	1990	2000	2005	% change 2005/1990
	Financial system deposits				Stock market capitalization			
	<i>(% GDP)</i>				<i>(% GDP)</i>			
<b>Regions</b>								
East Asia and the Pacific	40.9	41.7	45.6	11.5	38.7	44.1	51.3	32.5
Europe and Central Asia	23.8	22.8	31.2	31.0	8.5	13.8	19.7	130.8
Latin America and the Caribbean	31.1	39.9	39.8	28.1	11.7	28.2	46.4	298.3
Middle East and North Africa	46.5	47.4	59.8	28.7	16.0	26.1	63.8	298.3
South Asia	22.5	33.3	43.7	94.0	6.7	13.4	26.1	290.0
Sub-Saharan Africa	18.5	19.9	24.4	31.4	31.0	27.0	34.9	12.4
<b>Income groups</b>								
High-income countries	76.0	87.0	91.4	20.4	45.1	105.0	112.2	148.7
Upper-middle-income countries	34.3	43.6	45.2	31.8	37.7	36.5	50.2	33.4
Lower-middle-income countries	36.0	34.3	39.4	9.7	13.4	20.4	34.3	156.7
Low-income countries	16.7	17.4	21.8	30.7	7.6	10.8	22.3	194.7
	Private-sector credit				Private-sector debt			
	<i>(% GDP)</i>				<i>(% GDP)</i>			
<b>Regions</b>								
East Asia and the Pacific	30.3	36.7	44.9	48.2	—	37.5	31.0	..
Europe and Central Asia	22.3	18.2	27.9	25.3	—	12.7	12.2	.
Latin America and the Caribbean	28.6	40.6	32.1	12.3	—	27.2	23.3	..
Middle East and North Africa	35.3	40.5	46.1	30.7	—	—	—	..
South Asia	16.2	21.6	34.1	110.4	—	1.9	4.0	..
Sub-Saharan Africa	17.4	16.3	18.2	4.4	—	20.1	30.2	..
<b>Income groups</b>								
High-income countries	81.1	94.2	108.2	33.3	—	47.9	50.0	..
Upper-middle-income countries	32.8	42.5	40.5	23.6	—	27.5	26.1	..
Lower-middle-income countries	27.3	29.3	31.9	16.7	—	27.7	23.4	..
Low-income countries	14.9	13.4	16.4	9.7	—	1.9	4.0	..

# The relative importance of constraints to business by country group

Each bar shows the number of countries in each country group for which the constraint is ranked more important than the average constraint for that country.



# Financial constraints in Transition Economies (TE) and other country groups



# National Innovation Systems and the Business Environment in East Asia: selected indicators

Region or country	1. Credit market depth, 2000–04 <sup>a</sup>	2. Starting a business, days	3. Average years of schooling, 2000	4. Researchers per million population, 2003	5. Quality of scientific research institutions <sup>b</sup>	6. University-industry research collaboration <sup>b</sup>	7. Intellectual property protection <sup>b</sup>	8. Phone subscribers, 2003 <sup>c</sup>
East Asia (9)	102	40	7.6	1,375	4.5	4.1	4.3	878
NIEs	125	22	9.2	3,165	5.2	4.7	5.1	1,475
Hong Kong, China	153	11	9.5	1,564	4.9	4.1	5.0	1,640
Korea, Rep. of	98	22	10.5	3,187	5.1	4.8	4.5	1,240
Singapore	115	6	8.1	4,745	5.5	5.0	6.1	1,284
Taiwan, China	135	48	8.5	..	5.2	4.9	4.9	1,735
Southeast Asia	75	66	6.6	210	4.1	3.6	3.8	398
Indonesia	20	151	4.7	207	3.9	3.4	3.2	127
Malaysia	141	30	7.9	299	5.0	4.7	5.1	642
Philippines	38	48	7.6	48	3.3	2.7	2.8	322
Thailand	102	33	6.1	287	4.0	3.6	4.1	499
China	118	48	5.7	663	3.8	3.9	3.2	413
High income (21)	112	20	9.5	3,616	5.1	4.4	5.5	1,392
Japan	100	31	9.7	5,287	5.6	4.6	5.3	1,151
United States	249	5	12.3	4,484	6.4	5.7	6.4	1,175
Latin America (11)	36	67	6.7	300	3.5	3.0	3.1	409
Emerging Europe (9)	29	30	8.7	1,503	4.0	3.1	3.3	850

Sources: 1 and 8: World Development Indicators Database, World Bank, <http://www.worldbank.org/data/datapubs/datapubs.html>. 2: Doing Business Database, World Bank and International Finance Corporation, <http://www.doingbusiness.org/>. 3: Barro and Lee 2000. 4: UNESCO 2006. 5, 6, and 7: López-Claros, Porter, and Schwab 2005.

Note: For region or country, the number of countries involved is shown in parentheses.

.. = negligible.

a. Credit to the private sector as a % of GDP.

b. This is an index ranging from 1 (weakest) to 7 (strongest).

c. Fixed line and mobile subscribers per 1,000 population. All regional data are simple averages.

# Foreign debt contracted by developing-country firms, 1999–2006, billions \$

	1999	2000	2001	2002	2003	2004	2005	2006
<i>Total</i>	91.86	110.29	86.83	87.54	117.58	147.96	237.59	332.92
<i>By instrument</i>								
Bond	19.20	14.78	19.03	21.67	35.95	41.38	65.93	87.70
Bank lending	72.66	95.51	67.80	65.87	81.63	106.58	171.66	245.22
<i>By region</i>								
Latin America and the Caribbean	46.17	54.23	46.87	25.89	36.58	43.45	54.16	86.07
East Asia and Pacific	15.85	20.87	11.38	28.76	31.15	24.80	47.34	47.36
Europe and Central Asia	14.31	22.25	16.10	20.83	28.71	50.55	92.43	134.92
Sub-Saharan Africa	5.52	5.41	6.38	5.13	11.14	9.78	13.69	24.71
Middle East and North Africa	3.42	3.51	2.68	1.92	3.91	7.70	14.54	10.71
South Asia	6.58	3.91	3.37	5.00	6.11	11.58	15.37	29.15
<i>By ownership</i>								
Public	24.73	29.56	25.14	33.21	44.81	50.34	66.35	71.76
Private	67.13	80.73	61.69	54.33	72.78	97.62	171.24	261.16
<i>By sector</i>								
Finance	17.09	23.15	19.94	15.55	20.03	40.99	64.11	102.31
Oil and gas	14.42	25.91	21.92	23.40	30.09	32.47	57.46	54.70
Telecommunications	17.39	17.93	11.38	8.85	9.19	15.33	19.22	31.93
Energy/utilities	16.57	16.66	9.66	11.05	19.52	11.37	14.89	15.92
Construction/building/metal and steel	4.18	5.70	5.08	3.51	6.60	11.73	22.37	35.71
Mining	2.58	2.70	2.88	1.78	2.38	7.04	7.11	7.67
Others	19.62	18.24	15.97	23.41	29.78	29.03	52.43	84.68

Source: World Bank staff estimates based on Dealogic Loanware and Bondware.

## Net portfolio equity flows to developing countries, 2000–06 (billion \$)

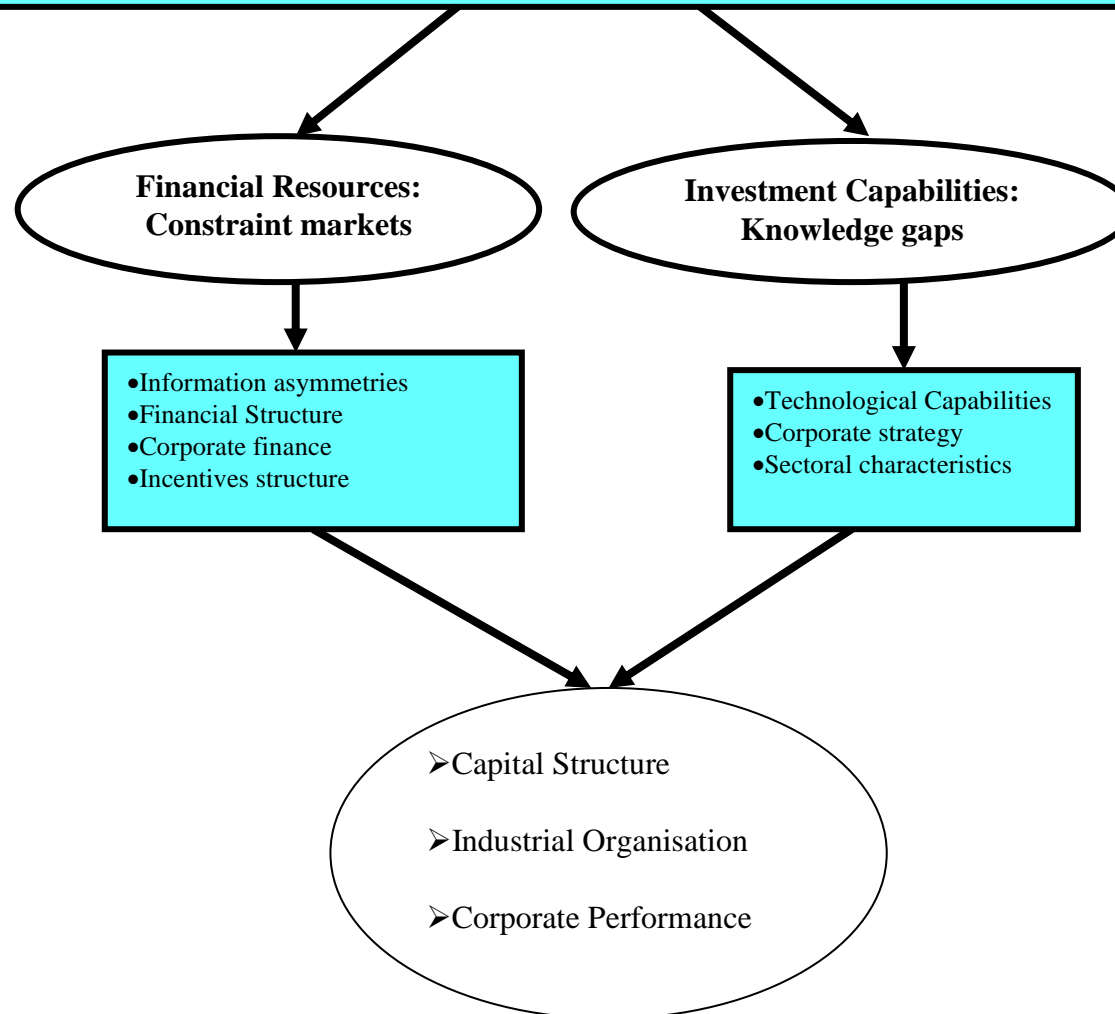
	2000	2001	2002	2003	2004	2005	2006e
Total	13.4	5.6	5.8	24.3	39.9	66.7	94.1
<i>East Asia and Pacific</i>	6.6	1.8	3.8	12.5	19.0	26.1	48.4
China	6.9	0.8	2.2	7.7	10.9	20.3	32.0
Thailand	0.9	0.4	0.5	1.8	1.3	5.7	5.4
<i>Europe and Central Asia</i>	0.6	-0.4	0.1	-0.6	5.3	6.3	10.5
Russian Federation	0.2	0.5	2.6	0.4	0.2	-0.2	9.2
<i>Latin America and the Caribbean</i>	-0.6	2.5	1.4	3.4	-0.6	12.4	11.1
Brazil	3.1	2.5	2.0	3.0	2.1	6.5	7.7
Mexico	0.4	0.2	-0.1	-0.1	-2.5	3.4	3.9
<i>Middle East and North Africa</i>	0.2	-0.1	-0.3	0.3	0.7	2.3	1.6
<i>South Asia</i>	2.4	2.7	1.0	8.0	8.8	12.2	10.0
India	2.3	2.9	1.0	8.2	9.1	12.2	8.7
<i>Sub-Saharan Africa</i>	4.2	-0.9	-0.4	0.7	6.7	7.4	12.5
South Africa	4.2	-1.0	-0.4	0.7	6.7	6.9	12.4

Sources: World Bank Debt Reporting System and staff estimates.

Note: e = estimate.

# INVESTMENT AND TECHNOLOGICAL CHANGE

- ❑ Cost of new investment
- ❑ Adjustment costs (complementary investment and learning)
- ❑ Working capital



# Corporate expansion and investment financing

<b>STAGES OF BUSINESS DEVELOPMENT</b>	<b>START-UP FIRMS</b>	<b>GROWTH FIRMS</b>	<b>MATURE FIRMS</b>
	No demonstrated track record; Minimal business system development.	Demonstrated product potential on small scale or prototype basis; Proven management team; Rapid business system development.	Stabilisation of competition; Development of sophisticated business systems; Increasing concentration on cost economies.
<b>STAGES OF FINANCE</b>	<b>EARLY-STAGE FINANCING</b>	<b>LATER-STAGE FINANCING</b>	<b>MATURE AND LATE-STAGE FINANCING</b>
	<b>Seed finance-</b> A relatively small amount of capital provided to an inventor or entrepreneur to develop and/or improve a concept.	<b>Second-stage finance-</b> Working capital provided for the initial expansion of a company.	<b>Turn-around finance-</b> Financing provided for companies in trouble for bankruptcy or reorganisation purposes.
	<b>Start-up finance-</b> Financing provided to companies for product development and marketing.	<b>Third-stage finance-</b> Financing provided for major expansion of a company whose sales volume is increasing.	<b>Management/lever-aged buy-out-</b> Financing provided for management to acquire equity interest in firm.
	<b>First-stage finance-</b> Financing provided to companies to initiate commercial manufacturing and sales.	<b>Bridge finance-</b> Financing provided for a company expecting to go public within six months to a year.	<b>Mergers/acquisition privatisation-</b> Financing provided to cover firm's share of costs in a merger, acquisition or privatisation of company.

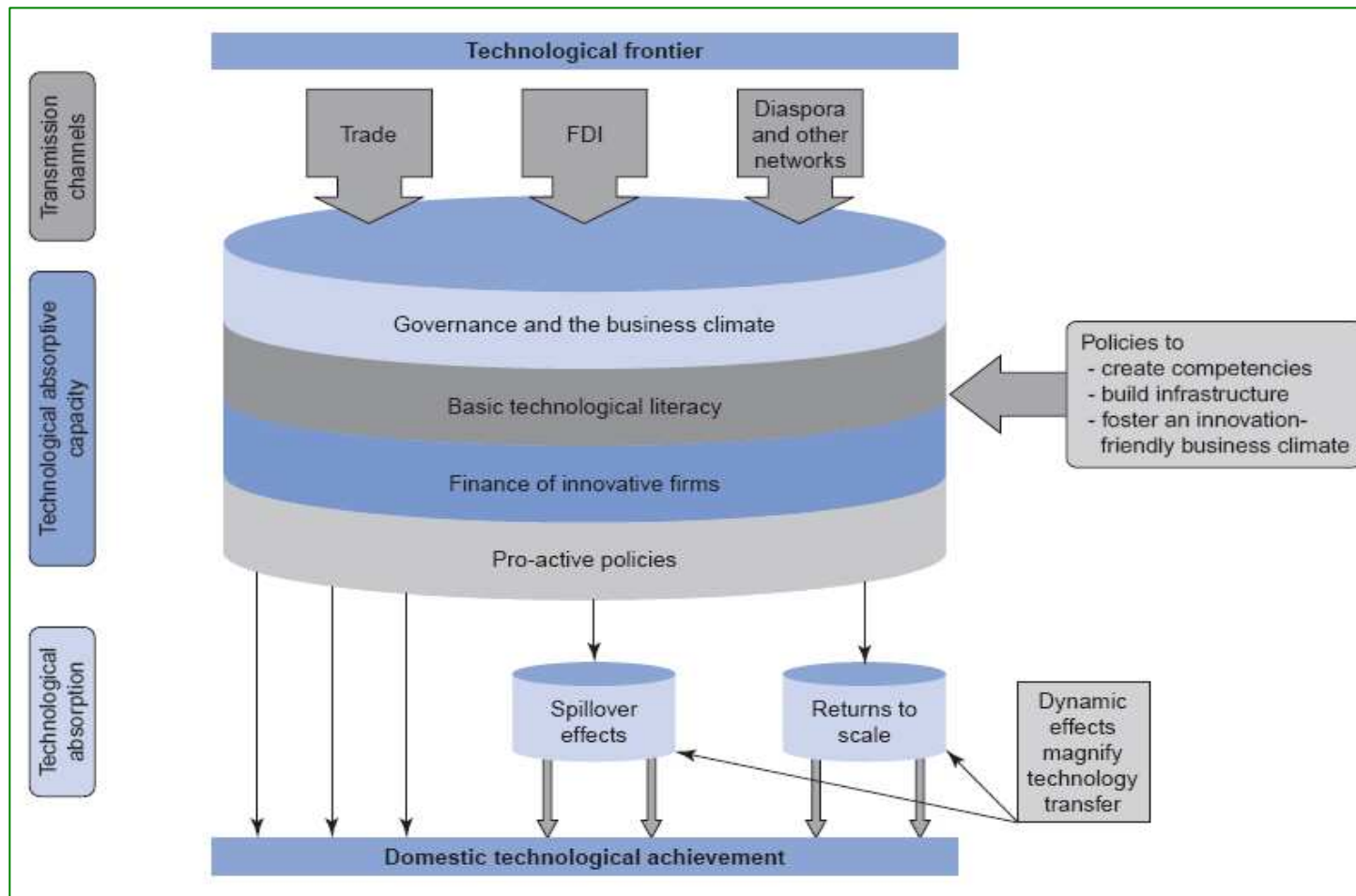
# INSIGHTS from SECTORAL BENCHMARKING

Main mode of innovation	Sources of sectoral innovation failure	Typical sectors	Policy Instrument	Countries
Development of inputs for using industries	Financial market transactions costs facing SMEs; risk associated with standards for new technology; limited appropriability of generic technologies	Software, equipment, instruments	Support for venture capital markets; bridging institutions to facilitate standards adoption	Israel, Sweden, Finland
Application of inputs developed in supplying industries	Small firm size, large external benefits; limited appropriability	Agriculture, light industry	Bridging institutions (extension services) to facilitate technology transfer (e.g., PRCs)	USA, Chile
Development of complex systems	High cost, risk, limited appropriability (particularly for infrastructure technology)	Aerospace, electrical and electronics technology, telecom/computer technologies, semiconductors	R&D cooperation subsidies (e.g. research consortia)	Japan, USA
Applications of high-science-content technology	Knowledge base originates outside commercial sector; creators may not recognize potential applications to effectively communicate new developments to potential users	Biotechnology, chemistry, materials science, pharmaceuticals	Bridging institutions to facilitate diffusion of advances in big research; incentives for knowledge appropriation	USA

# Market failures and technological investment in Developing Countries

- Imperfections:
  - credit markets
  - equity markets, and
  - insurance markets
- Coordination failures
- Externalities

# The technological development process in catching up countries



# A Summary of Policy Responses

- **Coordinating technology acquisition decisions across firms and sectors**
- **Sharing risk and enabling the financing of investment in new technologies and sectors**
- **Sharing risks in labour training and learning processes**
- **Providing targeted infrastructure to critical sectors**
- **Developing regulatory capacity to maintain and enhance competitiveness**

The mix of policies will depend on the technologies being adopted and the pre-existing strengths and weaknesses of entrepreneurs, financial institutions, infrastructure and skills in the sector.

The critical determinant of success is likely to be governance and regulatory capacities to maintain and enhance competitiveness through monitoring and taking tough action when required, including the early withdrawal of support if progress is unsatisfactory.

While most countries have tried variants of industrial and technology policies in the past, the main cause of their differential success has often been the efficacy with which incentives have been implemented, and the credibility with which their withdrawal has been organized in cases of poor performance.

# Relevance to Transition Economies

- Generic market failures justify the need for a policy framework aiming at the triangle: **firms-capital markets-technological development**.
- The global search for innovative projects is increasing the importance of risk. In this context, the quality of local financial intermediation is influencing investment decisions.
- The European integration process is enhancing the credibility of transition economies and perceived lower risk is reducing the cost of credit.
- This trend combined with supply-side financial incentives, supported by the EU, is leading to a proliferation of competing investment projects.
- Thus, the quality of investment decisions is emerging as a strategic problem for transition economies.

# Bank loans to the corporate sector: EA-12 vs. Transition Economies and Southern Europe (% GDP)

