

ANNEXES

ANNEX I. What is Competitiveness and Why is it Important?

The tendency to compete is in human nature, and we live in a world where competition is one of the main ways of interaction between nations, firms and humans. They compete for attaining more advantages or victories, more power and stronger leverages, more market share or profits, better living conditions and higher levels of development. In this day and age, with increasingly higher levels of factor mobility, technological development and wider and faster communication, competition becomes more and more intense and complex. And so, the notion of “competitiveness” becomes highly important and is widely used and interpreted.

The very basic and simple explanation to “what is competitiveness?” includes in itself a key for more comprehensive understanding of the notion - competitiveness is the ability to compete, i.e. to attain and sustain more advantages and victories against others. The word “*ability*” is the key for understanding the notion and for avoiding misinterpretation.

There has been much fuzzy thinking about competitiveness and the term is used in many ways. So it is important to first take a minute and understand what one is talking about. Competitiveness is not simply about having a positive trade balance. It does not help a country to export more if it does so at the expense of its own standard of living.

Some associate the competitiveness of a nation with abundant and/or cheap endowment factors and labor force, and favorable geographic location. They tend to relate competitiveness to outsourcing or relocation of manufacturing production units of multinational corporations (MNCs) as a result of cheap endowment factors, labor force, and devaluated currency; or to growing export shares of raw materials, basic commodities and low-tech products. Driven by this, governments can heavily subsidize exporters, provide favorable tax treatments or holidays, and remove duties to boost international competitiveness of the domestic companies in the global market based on low prices of basic goods and/or commodities.

Competitiveness is not about having abundant natural resources. Although many countries are currently benefiting from higher prices for oil and other natural resources, the long term trend in natural resource prices has been downwards. Most countries relying primarily on natural resources for their wealth have not gotten richer over time. It is good to have abundant natural resources, but these have often been a curse rather than a blessing.

Competitiveness is also not about having cheap labor. It is incorrect to say that a country is competitive because its labor force is willing to work for lower rates. Competitive countries have high wage levels. Uncompetitive countries have low wage or declining wage levels. This is because in a globalized economy competing on the price of labor means competing with very low cost labor in countries such as China and Indonesia.

Some speak of competitiveness relative to the exchange rate of the national currency. The way to achieve competitiveness in the long-run is not merely to depreciate the currency. Still others speak of the need for competitiveness as a justification for government protection or subsidies. While both provide temporary satisfaction to some businesses, neither are long term sources of competitiveness.

However, this approach makes domestic companies more reluctant to building their competitive edge versus international peers, and over the long-run requires more subsidies and even payroll cuts to sustain the current level of export volumes. It makes countries to compete in keeping their resources and labor force cheaper as much and as long as possible. In other words, it leads to a situation where countries compete “to see which country can stay the poorest the longest” (Fairbanks, 2000), thus, failing to produce prosperity for citizens and to create grounds for technological development. And so, comparative advantages such as abundant raw materials or cheap labor force can not guarantee competitiveness of a nation in long-run. They “began to erode and competitive advantages changed rapidly” (Mytelka et al., 2004; Ernst et al., 1998).

The overall productivity of the economy can be boosted by utilizing more of its labor force—something that Ireland has done to great effect. Beyond this, it is important to boost the productivity of the average worker. Productivity can be boosted by efficiency and this is often called operational productivity. Productivity can also be boosted by the strategic choices made by businesses as to where and how to compete. This is often called strategic productivity. If a company can change a product slightly or sell it in a different country and double its price, it has effectively increased its productivity by making astute strategic decisions. If a company makes a joint venture with an international firm resulting in better technology, better training and access to new markets, it has boosted productivity by making good strategic choices. If a government improves the business environment, enhances the efficiency of its infrastructure and reduces transaction costs and red tape, this also increases productivity.

Competitiveness involves increasing efficiency as well as innovation. Competitiveness drives global technological development and global value creation, and, hence, it creates better frameworks for cooperation.

Dr. Porter and other researchers have noted that competitiveness is often associated with the development of industry clusters. Over time, a number of companies develop supported by related and supporting industries. Silicon Valley is associated with the IT industry. Northern Italy is associated with high end clothing and footwear. By creating an excellent business environment, governments can help create a national platform for the emergence of competitive industry clusters.

Competitiveness, thus, is more about a nation's ability than its resource endowments. It is about the nation's ability to create a system or an environment which enables firms and citizens to utilize nation's resources and factors productively or effectively and efficiently. It is about the ability of the nation, its firms and citizens to design, adopt and implement sophisticated operations and strategies which allow effective and efficient utilization of available resources and factors. *In other words, competitiveness is about the ability to be productive.*

Stable macroeconomic environment, abundant endowment factors and geographic location are necessary, but not sufficient conditions for the competitiveness of a given nation, since "*prosperity is not inherited, it is created*" by the strategic choices the companies of a particular nation make (Porter, 1990). The macroeconomic stability will enable the individual companies to operate in a predictable environment, and the abundance of raw materials or basic commodities will provide quick access to necessary inputs. The productivity by which the company utilizes the available resources and networks, etc. based on sophisticated operations and strategies adopted, depends on the quality of the national business environment that fuels the competitiveness of the private sector to create prosperity for the citizens of a particular country (Porter, 1990). Therefore, only the co-existence of both stable macro and microeconomic foundations will enable a company to constantly undertake innovations (new product design; production process; marketing approach, etc.) and sustain this competitive advantage through upgrading (better product quality) (Porter, 1990).

The competitive companies managing to survive tough local competition tend to export much. The globally competitive, "sophisticated" (productive) companies create unique and sophisticated products, invest in learning foreign customers' preferences and in training and retaining a skilled workforce, are integrated into global market, use modern marketing tools extensively and control the international distribution channel of their products and services (Fairbanks, 2000; Porter 1990, Sala-i-Martin et al., 2004). The growing export earnings of these "sophisticated" (productive) companies provide higher returns on "productive investments" and create wealth for the nation they are located in. The urge to reach highest international standards and to adopt most up-to-date technologies leads to innovation and continuous and sustainable development.

Thus, competitiveness is about creating prosperity for the citizens of a particular country and about sustaining grounds for future development. It enables an improvement in the well being of "average citizens", and is a unique toolkit for economic development that all members of the society will benefit of.

Figure 1: Productivity as a Driver of Competitiveness

Source: World Economic Forum, 2004

The aspiration of competitive nations and/or firms for innovation and continuous development, as well as for being competitive globally, in its turn, enhances international competition, and leads to rising international standards, upgrading product and service quality, and contributes to technological development in the world. *Thus, competitiveness is about contribution to global technological development and participation in global value chain creation.*

Selected definitions of competitiveness

Competitiveness is determined by the productivity with which a nation, region, or cluster uses 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).

Michael Porter (1990, 1998)

National competitiveness is that set of factors, policies, and institutions which determine the level of productivity of a country. Raising productivity— i.e., making better use of available factors and resources— is the driving force behind the rates of return on investment which, in turn, determine the aggregate growth rates of an economy. Thus, a more competitive economy will be one which will likely grow faster in the medium and long term.

World Economic Forum (2004)

Competitiveness is the set of institutions, policies, and factors that determine the level of productivity of a country. The level of productivity, in turn, sets the sustainable level of prosperity that can be earned by an economy. In other words, more competitive economies tend to be able to produce higher levels of income for their citizens. The productivity level also determines the rates of return obtained by investments in an economy. Because the rates of return are the fundamental determinants of the growth rates of the economy, a more competitive economy is one that is likely to grow faster over the medium to long run

World Economic Forum (2007)

A nation's competitiveness can be defined as a nation's relative competitive position in the international market among the nations of similar economic development.

Moon and Cho (2000)

A nation's competitiveness is the degree to which it can, under free and fair market conditions, produce goods and services that meet the test of the international markets while simultaneously expanding the real incomes of its citizens. Competitiveness at the national level is based on the superior productivity performance.

*The Report of the President's Commission on Competitiveness,
written for Reagan administration (1984)*

National competitiveness refers to a country's ability to create, produce, distribute goods and/or service products in international trade while earning rising returns on its resources.

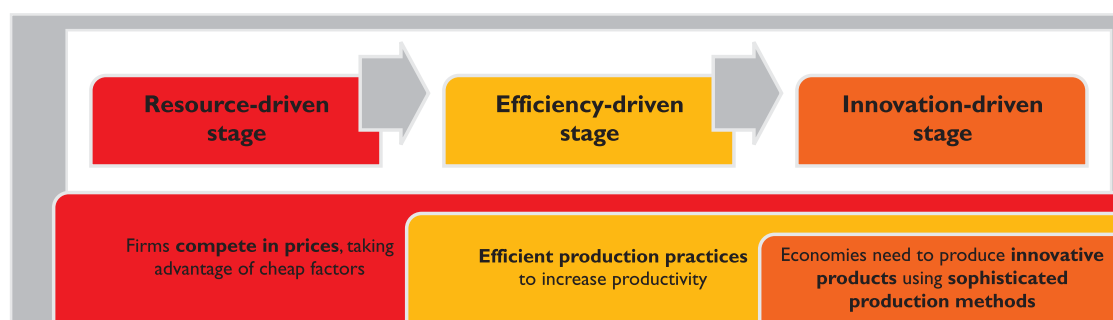
Scott and Lodge (1985)

ANNEX 2. Additional Details on WEF Methodology

Global Competitiveness Index (GCI)

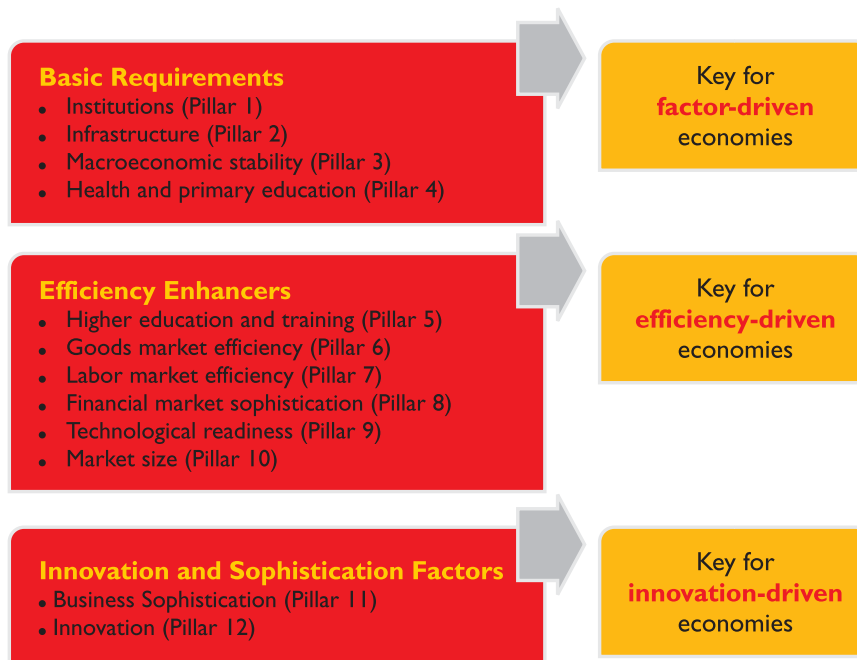
According to WEF methodology, three stages of economic development are defined (see Figure 1). In the first stage of development (resource-driven stage), the competition is based on the availability of abundant natural resources, cheap labor force, etc.; companies produce low value-added goods (basic commodities, unsophisticated goods); the share of extractive industry commodities in merchandise export comprises a very high percentage; the competition is based on low cost reflecting the low level of productivity of the particular nation. To stay competitive over the long-run, the countries in this stage of development need; to boost the efficiency of institutions (Pillar 1), modernize the physical and air infrastructures (Pillar 2); increase the stability of the macroeconomic conditions (Pillar 3); and invest in the health and primary education of the workforce to be able to provide the functionality of the whole economy (Pillar 4) (see Figure 2).

Figure 1: The Three Stages of Development



Source: World Economic Forum, 2004, 2007

Figure 2: The Twelve Pillars of Competitiveness



Source: World Economic Forum, 2007

As the countries advance, they move into the second stage of development (efficiency-driven stage). In this stage, companies need to modernize the production processes, invest in the training of the workforce to upgrade the skills to produce high-quality goods and services. To maintain the competitiveness over the long-run, the companies need: to rely on the high quality of the higher education system that produces the graduates to be hired by the private sector (Pillar 5); a competitive environment urging enterprises to keep customers needs first (Pillar 6); a flexible labor-market regulation (Pillar 7); well-functioning and sophisticated financial markets to get access to funding to modernize production processes and upgrade the quality of products (Pillar 8); the ability to adopt new technologies (Pillar 9); and large foreign markets as an untapped potential to reach sophisticated consumers worldwide (Pillar 10).

In the third stage of development (innovation-driven stage), the private sector needs to sustain the high living standards and rising wages by boosting the productivity through heavily investing in R&D to market innovative high value-added, knowledge-intensive products and services (Pillar 12) along with upgrading the level of sophistication of business processes and strategies (Pillar 11).

Depending on the stage of development, different weights are assigned to the pillars for each stage. Higher weights are assigned to pillars that are crucial for the countries in each development stage (See Table 1).

Table 1: Weights of the Three Main Groups of Pillars at Each Stage of Development

Stage	Basic requirements	Efficiency enhancers	Innovation and sophistication factors
Resource-driven stage	60%	40%	20%
Efficiency-driven stage	35%	50%	50%
Innovation-driven stage	5%	10%	30%

Source, World Economic Forum, 2007

The classification of countries by stages of development is done based on two criteria: GDP per capita at market prices as a proxy of wages (see Table 2); and the share of exports of primary goods in total exports as a proxy of “extent to which countries are factor driven” (WEF, 2007). If the country exports of primary goods exceed 70% of the total exports, the given economy is considered as a largely resource-driven nation. The countries that fall in between two stages are considered to be in a “transition period”, and weights of pillars differ as the nations advance. The list of countries that are placed in each development stage is provided in Table 3.

Table 2: Income Thresholds for Establishing Stages of Development

Stage of Development	GDP per capita (in US\$)
Stage 1: Factor-driven	<2,000
Transition from Stage 1 to Stage 2	2,000–3,000
Stage 2: Efficiency-driven	3,000–9,000
Transition from Stage 2 to Stage 3	9,000–17,000
Stage 3: Innovation-driven	>17,000

Source: World Economic Forum, 2007

The Global Competitiveness Index is calculated based on hard data and soft data. 73 of the 110 variables used in calculating the GCI index come from the Executive Opinion survey conducted by WEF’s partner institutes among leading domestic and foreign companies operating within the borders of a given country/economy. WEF Global Competitiveness Network’s partner institute in Armenia is the Economy and Values Research Center. The remaining variables comprise statistical data published by the World Bank, International Monetary Fund, International Telecommunication Union, Economist Intelligent Unit, National Statistical Sources, United States Patent and Trademark Office, World Trade Organization, International Labor Organization, UNESCO Institute for Statistics, etc. For calculating soft variables, moving average techniques were applied (weighted average of 2007 and 2006 survey results).

Table 3: List of Countries/Economies at Each Stage of Development

Stage 1	Transition from 1 to 2	Stage 2	Transition from 2 to 3	Stage 3
Armenia	Albania	Algeria	Bahrain	Australia
Bangladesh	Azerbaijan	Argentina	Barbados	Austria
Benin	Bosnia and Herzegovina	Brazil	Croatia	Belgium
Bolivia	Botswana	Bulgaria	Czech Republic	Canada
Burkina Faso	China	Chile	Estonia	Cyprus
Burundi	Colombia	Costa Rica	Hungary	Denmark
Cambodia	Ecuador	Dominican Republic	Malta	Finland
Cameroon	El Salvador	Jamaica	Qatar	France
Chad	Guatemala	Latvia	Slovak Republic	Germany
Egypt	Jordan	Lithuania	Taiwan, China	Greece
Ethiopia	Kazakhstan	Macedonia, FYR	Trinidad and Tobago	Hong Kong, SAR
Gambia, The	Kuwait	Malaysia		Iceland
Georgia	Libya	Mauritius		Ireland
Guyana	Oman	Mexico		Israel
Honduras	Saudi Arabia	Montenegro		Italy
India	Tunisia	Namibia		Japan
Indonesia	Ukraine	Panama		Korea
Kenya	Venezuela	Peru		Luxembourg
Kyrgyz Republic		Poland		Netherlands
Lesotho		Romania		New Zealand
Madagascar		Russia		Norway
Mali		Serbia		Portugal
Mauritania		South Africa		Puerto Rico
Moldova		Suriname		Singapore
Mongolia		Thailand		Slovenia
Morocco		Turkey		Spain
Mozambique		Uruguay		Sweden
Nepal				Switzerland
Nicaragua				United Arab Emirates
Nigeria				United Kingdom
Pakistan				United States
Paraguay				
Philippines				
Senegal				
Sri Lanka				
Syria				
Tajikistan				
Tanzania				
Timor-Leste				
Uganda				
Uzbekistan				
Vietnam				
Zambia				
Zimbabwe				

Source: World Economic Forum, 2007

ANNEX 3. Selected macroeconomic indicators (1991-2006)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
GDP growth, %	-11.7	-41.8	-8.8	5.4	6.9	5.9	3.3	7.3	3.3	5.9	9.6	13.2	14.0	10.5	14.0	13.4
Wages, monthly average, USD	..	7.2	7.0	5.9	17.4	22.9	24.2	30.6	35.2	40.2	43.8	47.5	58.8	81.4	113.7	154.5
Inflation, CPI change (average)	174	729	1823	4962	176	18.7	14.0	8.7	0.6	-0.8	3.1	1.1	4.7	7.0	0.6	2.9
Inflation, CPI change (end of period)	204	1240	10996	1762	32.2	5.5	21.8	-1.3	2.0	0.4	2.9	2.0	8.6	2.0	-0.2	5.2
Nominal exchange rate AMD/USD, average	..	193.1	1733.2	297.74	405.88	413.44	490.77	504.89	535.06	539.52	555.07	573.35	578.77	533.45	457.69	416.04
Real effective exchange rate, 1997=100							100	107.4	112.3	111.9	108.0	98.4	88.4	91.4	99.6	106.3
Export growth, USD, nominal, %			-24.4	37.9	25.8	7.2	-19.9	-5.1	5.1	29.7	13.8	47.8	35.7	5.4	34.7	3.1
National savings, % of GDP	24.4	-12.0	0.7	12.2	-4.6	-2.6	-5.3	-4.3	0.03	-0.6	3.3	8.0	13.4	15.0
Fiscal deficit, % of GDP	+1.6	-15.9	-11.7	-6.9	-6.0	-3.6	-2.5	-3.7	-5.4	-4.8	-4.2	-2.5	-1.3	-1.5	-1.7	-1.1
Public Spending on social services, % of GDP					7.4	5.4	5.4	7.0	7.9	7.5	7.1	6.1	8.4	6.6	7.6	
Gross reserves (excluding gold), months of imports			0.6	0.9	1.6	2.1	2.3	3.5	4.0	4.0	3.9	4.6	4.4	4.6	4.6	
Current account balance, excl. transfers, % of GDP			-24.8	-33.3	-30.0	-29.7	-32.0	-30.6	-26.1	-24.4	-17.6	-13.5	-14.5	-13.8	-12.3	
Current account balance, overall, % of GDP			-13.6	-16.5	-17.0	-18.2	-18.7	-21.3	-16.6	-14.6	-9.4	-6.2	-6.7	-4.5	-3.9	
Other																

Source: NSS, various publications

ANNEX 4. Prioritization Filter Methodology and Application

The list of factors employed by GCR was used to develop the “populace” of possible areas of intervention. The list is quite comprehensive and reflects the experience of the World Economic Forum and its academic contributors of assessing different economies during almost 40 years. The list served for ACR as a base, however, adjusted to address the country’s specifics. From the list we identified the factors that comprise competitive disadvantages for Armenia. We also added specific interpretation (sometimes paraphrased) to some factors taking into account the mentioned specifics as well as the opportunity to formulate concrete actions to alleviate the competitive disadvantage that a certain factor presents. Thus, we identified and assessed 84 factors spanning from broad macroeconomic to specific management issues at company level. The assessment has been done using four criteria: resource constraints, competence gap, time horizon and spillover effect. We used 1-5 rating scale and adjusted with corresponding weights for each factor to derive the total weight. The factors that received higher than 3.5 total rate have been identified as quick wins. The table below shows the results of the assessments.

Competitive Disadvantages	QuickWin Filters								Total Rates	Prioritized
	Resource Constraints		Competence Gap		Time Horizon		Spillover Potential			
	Weight	0.2	Weight	0.2	Weight	0.35	Weight	0.25		
	Rate	Weighted Rate	Rate	Weighted Rate	Rate	Weighted Rate	Rate	Weighted Rate		
I	2	3	4	5	6	7	8	9	10	11
Judicial Independence	4	0.8	2	0.4	1	0.4	3	0.8	2.3	no
Favoritism in decisions of government officials	5	1.0	2	0.4	1	0.4	3	0.8	2.5	no
Ethical behavior of firms	5	1.0	1	0.2	2	0.7	4	1.0	2.9	no
Public trust of politicians	4	0.8	2	0.4	1	0.4	5	1.3	2.8	no
Diversion of public funds	4	0.8	2	0.4	3	1.1	3	0.8	3.0	no
Strength of auditing & reporting standards	4	0.8	2	0.4	2	0.7	3	0.8	2.7	no
Property rights protection	4	0.8	4	0.8	1	0.4	4	1.0	3.0	no
Wastefulness of government spending	3	0.6	2	0.4	4	1.4	2	0.5	2.9	no
Burden of government regulation	3	0.6	1	0.2	3	1.1	4	1.0	2.9	no
Reliability of police services	4	0.8	2	0.4	3	1.1	2	0.5	2.8	no
Efficacy of corporate boards	4	0.8	2	0.4	2	0.7	2	0.5	2.4	no

1	2	3	4	5	6	7	8	9	10	11
Protection of minority shareholders' interests	4	0.8	2	0.4	2	0.7	3	0.8	2.7	no
Efficiency of legal framework	4	0.8	2	0.4	2	0.7	4	1.0	2.9	no
Transparency of government policymaking	4	0.8	3	0.6	2	0.7	5	1.3	3.4	no
Overall infrastructure quality	2	0.4	3	0.6	2	0.7	5	1.3	3.0	no
Railroad infrastructure development	2	0.4	3	0.6	3	1.1	4	1.0	3.1	no
Quality of port infrastructure	1	0.2	1	0.2	3	1.1	5	1.3	2.7	no
Quality of air transport infrastructure	2	0.4	3	0.6	3	1.1	4	1.0	3.1	no
Quality of electricity supply	2	0.4	4	0.8	4	1.4	2	0.5	3.1	no
Telephone lines	2	0.4	4	0.8	3	1.1	2	0.5	2.8	no
Available seat kilometers	2	0.4	3	0.6	4	1.4	4	1.0	3.4	no
Quality of roads	3	0.6	4	0.8	2	0.7	4	1.0	3.1	no
Interest rate spread	3	0.6	3	0.6	5	1.8	5	1.3	4.2	yes
Real effective exchange rate	3	0.6	2	0.4	2	0.7	5	1.3	3.0	no
Infant mortality (hard data)	2	0.4	2	0.4	2	0.7	2	0.5	2.0	no
Life expectancy (hard data)	2	0.4	3	0.6	1	0.4	3	0.8	2.1	no
Primary enrollment (hard data)	2	0.4	5	1.0	2	0.7	3	0.8	2.9	no
Quality of primary education	2	0.4	2	0.4	3	1.1	4	1.0	2.9	no
Education expenditure / GNI	2	0.4	3	0.6	4	1.4	4	1.0	3.4	no
Tertiary enrollment	4	0.8	2	0.4	2	0.7	4	1.0	2.9	no
Extent of staff training	2	0.4	2	0.4	4	1.4	4	1.0	3.2	no
Quality of education system	2	0.4	2	0.4	2	0.7	5	1.3	2.8	no
Local availability of research & training services	2	0.4	2	0.4	3	1.1	4	1.0	2.9	no
Quality of math and science education	2	0.4	3	0.6	2	0.7	4	1.0	2.7	no

1	2	3	4	5	6	7	8	9	10	11
Quality of management schools	2	0.4	2	0.4	2	0.7	4	1.0	2.5	no
Internet access in schools	3	0.6	4	0.8	4	1.4	4	1.0	3.8	yes
Intensity of local competition	3	0.6	2	0.4	2	0.7	5	1.3	3.0	no
Extent of market dominance	3	0.6	2	0.4	3	1.1	4	1.0	3.1	no
Effectiveness of anti-monopoly policy	4	0.8	3	0.6	4	1.4	5	1.3	4.1	yes
Extent and effect of taxation	3	0.6	3	0.6	4	1.4	5	1.3	3.9	yes
Total tax rate	4	0.8	4	0.8	4	1.4	5	1.3	4.3	yes
Degree of customer orientation	4	0.8	2	0.4	3	1.1	5	1.3	3.5	no
Buyer sophistication	4	0.8	2	0.4	2	0.7	4	1.0	2.9	no
The prevalence of FDI	3	0.6	2	0.4	2	0.7	5	1.3	3.0	no
Burden of customs procedures	3	0.6	3	0.6	4	1.4	4	1.0	3.6	yes
Business impact of rules on FDI	4	0.8	3	0.6	4	1.4	3	0.8	3.6	yes
Cooperation in labor-employer relations	3	0.6	2	0.4	2	0.7	4	1.0	2.7	no
Non-wage labor costs	3	0.6	4	0.8	4	1.4	3	0.8	3.6	yes
Brain drain	1	0.2	2	0.4	3	1.1	4	1.0	2.7	no
Ease of access to loans	2	0.4	4	0.8	5	1.8	5	1.3	4.2	yes
Local equity market access	2	0.4	2	0.4	2	0.7	4	1.0	2.5	no
Venture capital availability	3	0.6	1	0.2	3	1.1	3	0.8	2.6	no
Financial market sophistication	3	0.6	3	0.6	2	0.7	5	1.3	3.2	no
Soundness of banks	2	0.4	4	0.8	3	1.1	3	0.8	3.0	no
Strength of investor protection	3	0.6	2	0.4	4	1.4	4	1.0	3.4	no
Cellular telephones	3	0.6	5	1.0	5	1.8	2	0.5	3.9	yes
Number of Internet users	3	0.6	4	0.8	4	1.4	5	1.3	4.1	yes
Number of broadband internet subscribers	2	0.4	4	0.8	3	1.1	4	1.0	3.3	no
Laws relating to ICT	2	0.4	2	0.4	5	1.8	5	1.3	3.8	yes
FDI & technology transfer	3	0.6	2	0.4	2	0.7	5	1.3	3.0	no

1	2	3	4	5	6	7	8	9	10	11
Personal computers	2	0.4	4	0.8	4	1.4	4	1.0	3.6	yes
Availability of latest technologies	2	0.4	2	0.4	3	1.1	4	1.0	2.9	no
Firm-level technology absorption	2	0.4	3	0.6	3	1.1	5	1.3	3.3	no
Domestic market size index	1	0.2	1	0.2	1	0.4	5	1.3	2.0	no
Exports as percentage of GDP	2	0.4	2	0.4	2	0.7	5	1.3	2.8	no
Foreign market size index	2	0.4	2	0.4	2	0.7	5	1.3	2.8	no
Local supplier quality	2	0.4	2	0.4	3	1.1	4	1.0	2.9	no
Local supplier quantity	2	0.4	2	0.4	3	1.1	4	1.0	2.9	no
Production process sophistication	2	0.4	1	0.2	2	0.7	5	1.3	2.6	no
Extent of marketing	2	0.4	2	0.4	4	1.4	5	1.3	3.5	no
Control of international distribution	2	0.4	2	0.4	3	1.1	4	1.0	2.9	no
Willingness to delegate authority	4	0.8	1	0.2	2	0.7	3	0.8	2.5	no
Nature of competitive advantage	3	0.6	2	0.4	1	0.4	5	1.3	2.6	no
Value-chain breadth	2	0.4	2	0.4	1	0.4	4	1.0	2.2	no
State of cluster development	2	0.4	2	0.4	2	0.7	5	1.3	2.8	no
Reliance on professional management	3	0.6	1	0.2	2	0.7	4	1.0	2.5	no
Company spending on R&D	2	0.4	2	0.4	2	0.7	4	1.0	2.5	no
IP protection	4	0.8	3	0.6	2	0.7	3	0.8	2.9	no
State procurement of technology products	2	0.4	3	0.6	5	1.8	4	1.0	3.8	yes
Quality of scientific research institutions	2	0.4	2	0.4	2	0.7	4	1.0	2.5	no
University/industry research collaboration	3	0.6	2	0.4	3	1.1	4	1.0	3.1	no
Availability of scientists and engineers	2	0.4	2	0.4	2	0.7	4	1.0	2.5	no
Utility patents	2	0.4	2	0.4	2	0.7	4	1.0	2.5	no
Capacity for innovation	2	0.4	2	0.4	2	0.7	5	1.3	2.8	no

Rating Explanations

Resource Constraints

Rate Meaning of the Rate

- 5 Full availability of resources to combat the disadvantage
- 4 Wide availability of resources to combat the disadvantage
- 3 Partial availability of resources to combat the disadvantage
- 2 Very limited availability of resources to combat the disadvantage
- 1 Total unavailability of resources to combat the disadvantage

Competence Gap

Rate Meaning of the Rate

- 5 Competence is fully available for removing the disadvantage
- 4 Competence is widely available for removing the disadvantage
- 3 Competence is partially available for removing the disadvantage
- 2 Competence is very limited for removing the disadvantage
- 1 Competence is totally unavailable for removing the disadvantage

Time Span

Rate Meaning of the Rate

- 5 The disadvantage can be removed in 5 years
- 4 The disadvantage can significantly be removed in 5 years
- 3 The disadvantage can partially be removed in 5 years
- 2 The disadvantage can not significantly be removed in 5 years
- 1 The disadvantage can not be removed in 5 years at all

Spillover Potential

Rate Meaning of the Rate

- 5 Removal of disadvantage will have very big spillover effect on the entire economy
- 4 Removal of disadvantage will have big spillover effect on the entire economy
- 3 Removal of disadvantage will have limited spillover effect on the entire economy
- 2 Removal of disadvantage will have little spillover effect on the entire economy
- 1 Removal of disadvantage will have no spillover effect on the entire economy