

# The Microeconomic Foundations of Prosperity: Findings from the Business Competitiveness Index<sup>1</sup>

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Competitiveness is a central preoccupation of both advanced and developing countries in an increasingly open and integrated world economy. In this chapter, we define competitiveness and offer a conceptual framework for understanding its causes with a focus on the microeconomic level. Despite its acknowledged importance, the concept of competitiveness is still misunderstood, and a discussion of its underpinnings remains a central task.

While many discussions of competitiveness remain focused on the macroeconomic, political, legal, and social circumstances that underpin a successful economy, progress in these areas is necessary but not sufficient. A sound and stable context improves the opportunity to create wealth, but does not create wealth. Wealth is actually created by the productivity with which a nation can utilize its human, capital, and natural resources to produce goods and services. Productivity ultimately depends on the *microeconomic* capability of the economy, rooted in the sophistication of companies (both local and subsidiaries of multinationals), the quality of the national business environment, and the externalities arising from the presence of clusters of related and supporting industries. Unless microeconomic capabilities improve, sustainable improvements in prosperity will not occur.

The Business Competitiveness Index (BCI), based on this conceptual framework, this year ranks competitiveness across 127 countries. Our aim is not only to provide rankings, but also to identify the competitive strengths and weaknesses of each country's economy, highlight trends in the global economy, and deepen the understanding of imperatives of successful economic development. We include 6 new countries in this year's Index, rank Serbia and Montenegro individually rather than jointly as in past years, and drop 1 country that was ranked last year.

The BCI explores the underpinnings of sustainable national prosperity over the medium term, measured here by the level of GDP per capita adjusted for purchasing power. The focus is on identifying the specific areas that must be addressed if GDP per capita in a country is to attain higher levels in the future. In addition to the BCI, we explore the influence of political and social context and of endowments in terms of location and natural resources in combining to set the prosperity of countries.

Our analysis in this chapter is pragmatic, making use of the best available data and econometric methods even though both are far from perfect. Despite the statistical challenges, our findings for 2007 are remarkably robust and stable compared with the findings in earlier *Reports*. The BCI accounts for more than 82 percent of the variation across countries in the level GDP per capita, which is remarkably high given the presence of so many unstable low-income countries in the rankings and the inherent imperfections in national income data.<sup>2</sup>

There remains a challenge of establishing the direction of causality of findings given limited time-series data. There may be a natural tendency for some microeconomic conditions to improve as GDP per capita increases. Yet the large observed differences across countries, even those at similar income levels, reveal that microeconomic improvement is far from automatic.

It is also clear that there are multiple paths to prosperity, and that individual countries succeed when they build on their unique strengths rather than emulating the economic choices of others. We aim to explore these further in subsequent *Reports*.

Our findings once again reveal the crucial importance of microeconomic competitiveness for sustainable economic prosperity. Many countries have achieved remarkable growth by opening up to the world economy, stabilizing macroeconomic policies, and removing internal barriers to competition. The greater challenge for these countries is to build the underlying microeconomic competitiveness to make these gains sustainable. If investments in microeconomic capabilities fail to materialize—and they often require significant shifts in economic policy—countries expose themselves to economic and social risks. Domestic consumption and inward foreign direct investment (FDI), fueled by global capital markets, can easily overshoot the capabilities of the economy to generate income, leading to significant macroeconomic imbalances. At the same time, rising social tensions between those well equipped to leverage the opportunities of the global economy and the rest of society can threaten the political viability of open market policies.

### Competitiveness and its causes

Competitiveness, then, is the fundamental underpinning of prosperity. While macroeconomic shifts, political developments, resource price swings, and spurts of foreign investment can move GDP per capita for periods of time, the only reliable basis of true prosperity is the productive potential of a nation's economy. Competitiveness is also essential to allow sound macro policies to be sustained. While short-term macroeconomic management remains important, the central focus of public policy must be on competitiveness.

#### What is competitiveness?

Competitiveness remains a concept that is not well understood, despite the widespread acceptance of its importance. The most intuitive definition of *competitiveness* is a country's share of world markets for its products. This makes competitiveness a zero-sum game, because one country's gain comes at the expense of others. This view of competitiveness is used to justify interventions to skew market outcomes in a nation's favor (so-called strategic industrial policy), including subsidies, artificial restraints on local wages, and intervention to devalue the

nation's currency. In fact, it is still often said that lower wages or devaluation "make a nation more competitive."

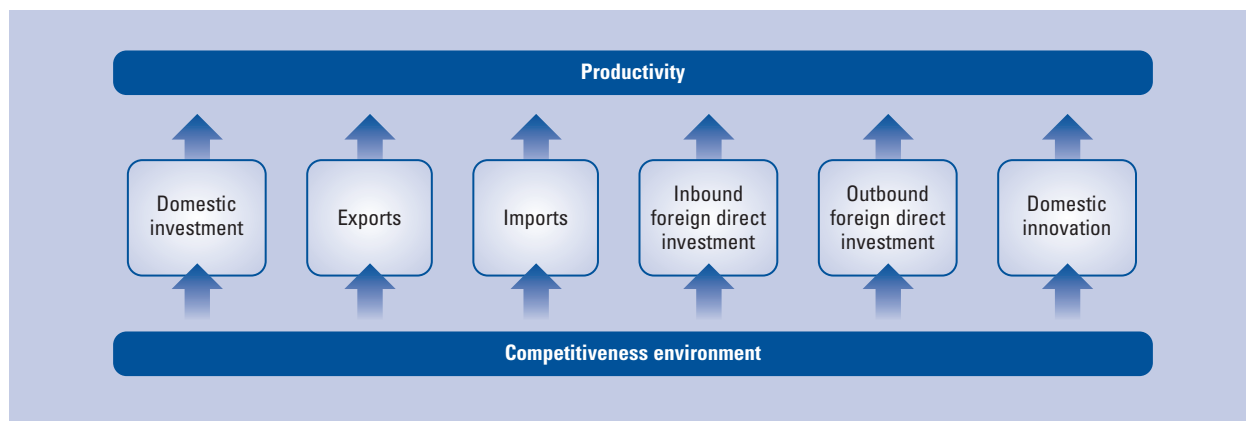
This view of competitiveness is deeply flawed. The need for low wages reveals a lack of competitiveness and depresses prosperity for citizens. Subsidies drain national income and bias choices away from the most productive use of the nation's resources. The need for devaluation results in a collective national pay cut by discounting the products and services sold in world markets while raising the cost of the goods and services purchased abroad. Exports based on low wages or a cheap currency, then, do not support an attractive standard of living.

Prosperity is determined by the *productivity* of an economy, which is measured by the value of goods and services produced per unit of the nation's human, capital, and natural resources. Productivity depends both on the value of a nation's products and services, measured by the prices they can command in open markets, and the efficiency with which they can be produced.

True competitiveness, then, is measured by productivity. Productivity supports high wages, a strong currency, and attractive returns to capital—and with them a high standard of living. Productivity is the goal, not exports *per se* or whether firms operating in the country are domestic or foreign owned. Finally, the productivity of local industries (such as local utilities, retail clothing, and local health services) also matters for competitiveness, not just the productivity of the traded sector, because this influences wages in a large part of the economy and has a major influence on the cost of living and the cost of doing business in the country.

The world economy is not a zero-sum game. Many nations can improve their prosperity if they can improve productivity. Improving productivity will raise the value of goods produced and improve local incomes, expanding the global pool of demand to be met. Globalization has increased the returns to productivity by opening up large new markets for competitive countries. Globalization has also raised the costs of low productivity, reducing the ability of a sheltered home market to sustain low-productivity companies or provide high-paying jobs for less-skilled employees. The central challenge is to create the conditions in which companies and employees throughout an economy can upgrade their productivity.

The productivity of an economy can be decomposed into two components: the most fundamental is the productivity of those working. However, productivity is also affected by the proportion of the available labor force that is employed. Many European countries have achieved high levels of productivity per employee and hours worked, but have failed to mobilize their labor forces due to unemployment, sick leave, or early retirement. This reduces overall national productivity, and with it prosperity. Countries with inefficient labor markets might report high productivity for their active labor force, but many potential employees are not participating in generating value in the economy.

**Figure 1: Enablers and indicators of competitiveness**

### Enablers and indicators of competitiveness

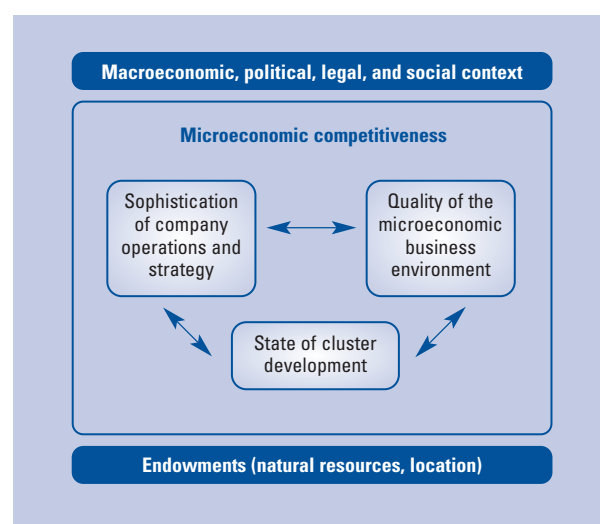
The process by which an economy upgrades and productivity grows works through a series of enablers, which also serve as intermediate indicators of competitiveness. Exports allow a country to grow its most productive activities beyond the demand in the local market. Imports allow a country to access goods that it cannot produce productively, provide access to foreign technology embedded in capital goods, and increase the level of rivalry on domestic markets. Domestic investment is critical to improving the productivity of companies and infrastructure. Inward FDI brings added capital as well as technology, skills, management, market access, and competitive pressure. Outward FDI fuels deeper international growth of local companies. Innovative output fuels productivity growth.

Each of these enablers depends, in turn, on underlying competitiveness. Investors will not invest unless there is a good value proposition, while exports cannot grow unless products are of high quality and can be produced efficiently. Exports, investments, or patenting rates are not important *per se*, but only if they contribute to productivity. Exports or investments that are the result of subsidies will do little to improve productivity, and may actually undermine it.

### Microeconomic foundations of productivity

Wealth is actually created in an economy at the microeconomic level—in the ability of firms to create valuable goods and services using efficient methods. Only firms can create wealth, not government or other societal institutions.

The microeconomic foundations of productivity rest on three interrelated areas: (1) the sophistication and capabilities with which domestic companies or foreign subsidiaries compete, (2) the quality of the microeconomic business environment in which they operate, and (3) the state of development of clusters that provide benefits through the proximity of related companies and institutions.

**Figure 2: Determinants of competitiveness**

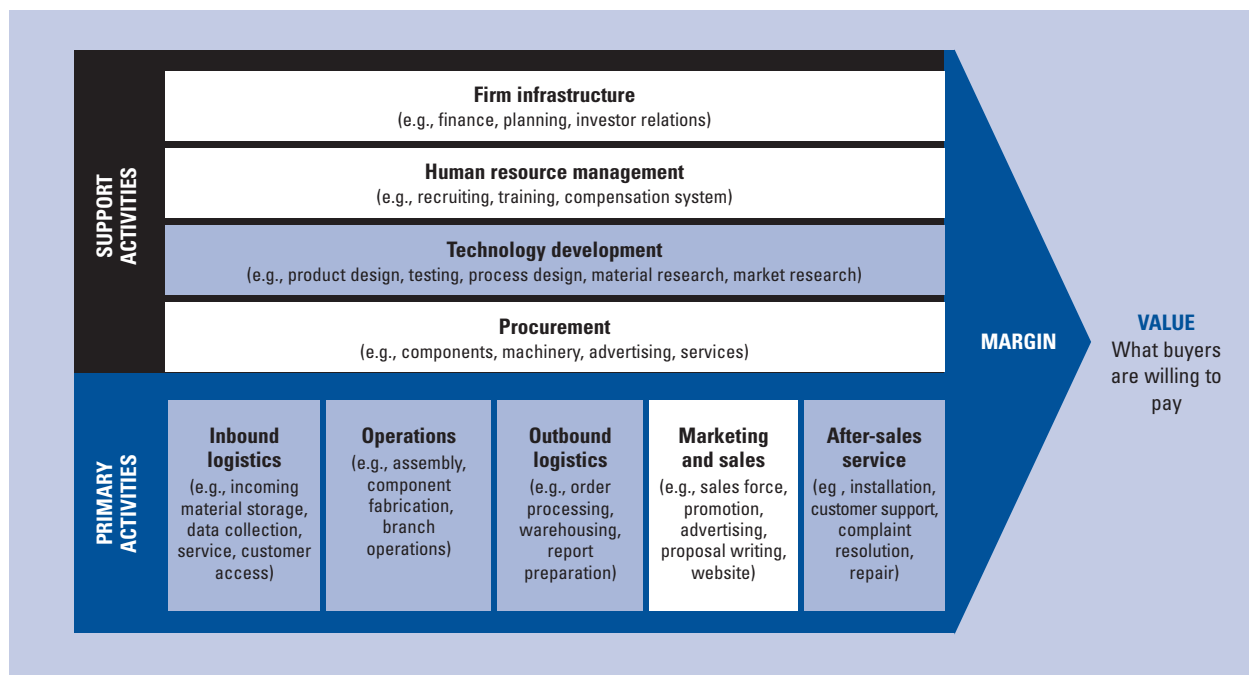
Microeconomic conditions translate the opportunities created by the macroeconomic, political, legal, and social context and the endowments of natural resources and geographic location into prosperity.

### Company sophistication

The productivity of a country is ultimately set by the productivity of its companies. An economy cannot be competitive unless companies operating there are competitive, whether they are domestic firms or subsidiaries of foreign companies. The productivity of companies depends on the sophistication with which companies compete. The Value Chain provides the conceptual framework to analyze company operating practices and strategy.<sup>3</sup>

Productivity rises as a company improves the operational effectiveness of its activities and gets closer to global best practices. At the same time, productivity is further enhanced by the ability of companies to pursue distinctive strategies, which involves differentiated

Figure 3: Value Chain



Source: Porter, 1985.

positioning and innovative means of production and service delivery. Conversely, competing based on low factor input costs at low productivity does little to contribute to sustainable prosperity.

The productivity of companies is affected by their corporate governance structure. The presence of large, highly diversified business groups, common in developing countries, can retard productivity because of monopoly, government favoritism, and lack of focus. If business groups are instruments of market power or preferential political access, they can generate private profitability but retard public prosperity. Business groups in which related business activities support productivity and innovation enhance productivity, and hence national prosperity.

#### Quality of the business environment

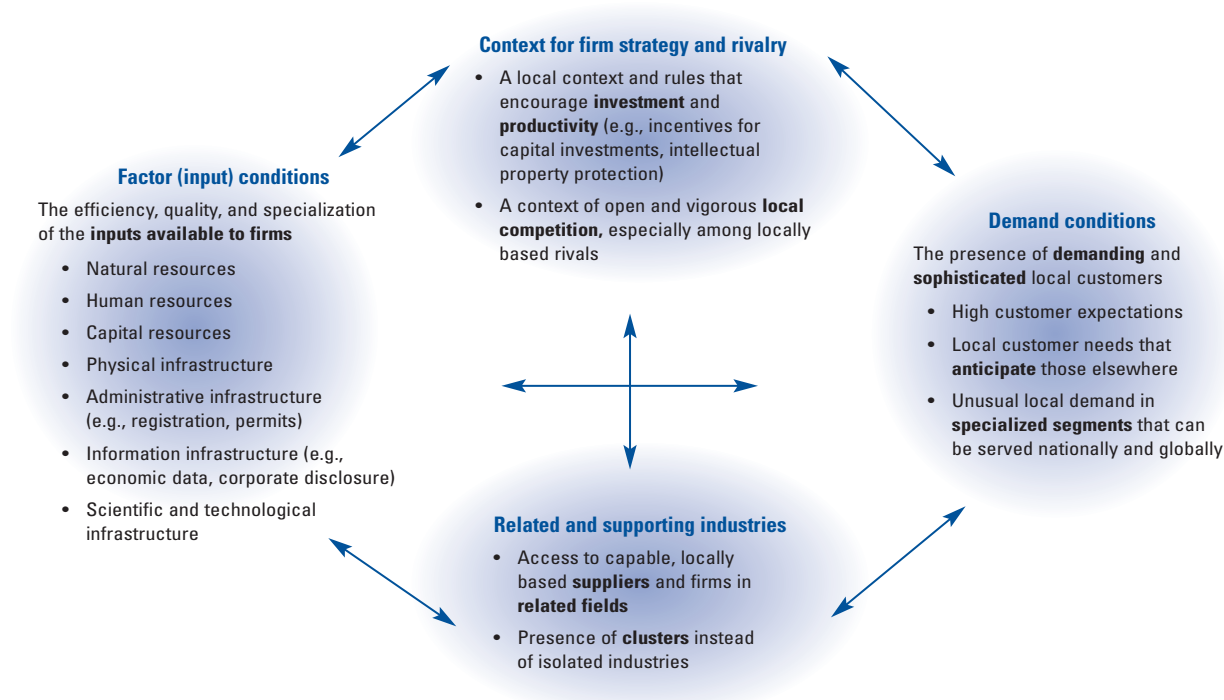
Internal choices and capabilities within a nation's companies are central to competitiveness. But the productivity of companies is also inextricably intertwined with the external environment in which they operate. More productive company strategies and operating practices require more highly skilled people, better information, more efficient government processes, improved infrastructure, better suppliers, more advanced research institutions, more intense competitive pressure, and so on. A higher-quality business environment and the presence of a deep cluster significantly affect the capabilities a company can build, the competitive choices it can make, and the output that it can generate from its internal assets.

Moving to more sophisticated ways of competing depends on parallel improvements in the microeconomic business environment. The business environment can be understood in terms of four interrelated areas: the quality of factor (input) conditions, the context for firm strategy and rivalry, the quality of local demand conditions, and the presence of the related and supporting industries. Because of their graphical representation (see Figure 4), these four areas have collectively become referred to as the *diamond*. We have discussed the business environment extensively elsewhere, in previous reports.<sup>4</sup>

As the diamond framework reveals, *almost everything matters* for competitiveness. Universities matter, the roads matter, financial markets matter, the sophistication of customer needs matters, and so on. Many of these influences are deeply rooted in a nation's institutions, people, and culture. Improving competitiveness is a special challenge, because no single policy or grand step can create competitiveness.

Ultimately all dimensions of the business environment must be improved. In any given country at a particular point in time, however, there will be a few elements that represent the most pressing barriers keeping companies from reaching higher levels of productivity.<sup>5</sup> These barriers can be identified only by understanding the specific circumstances in a country or region. Improvements in some areas of the business environment will have little or even negative effects unless the binding constraints to productivity are removed. This reveals the mistake of competitiveness strategies based

Figure 4: The microeconomic business environment



Source: Porter, 1990.

on political ideology—the “right” always arguing for lower taxes and more privatization, the “left” always arguing for more investments in skills and infrastructure. It also calls into question any theory that suggests generic answers to economic development.

*Multiple geographic levels* in a nation influence the quality of the business environment.<sup>6</sup> There are striking differences in economic performance *within* countries, not just across countries. This is because policy choices at the subnational level affect important aspects of the business environment, such as local transportation infrastructure or university programs. Each state and region must improve locally controlled or influenced aspects of the business environment. The need for such decentralization in policy and implementation is one of the most important new directions in competitiveness thinking and practice.

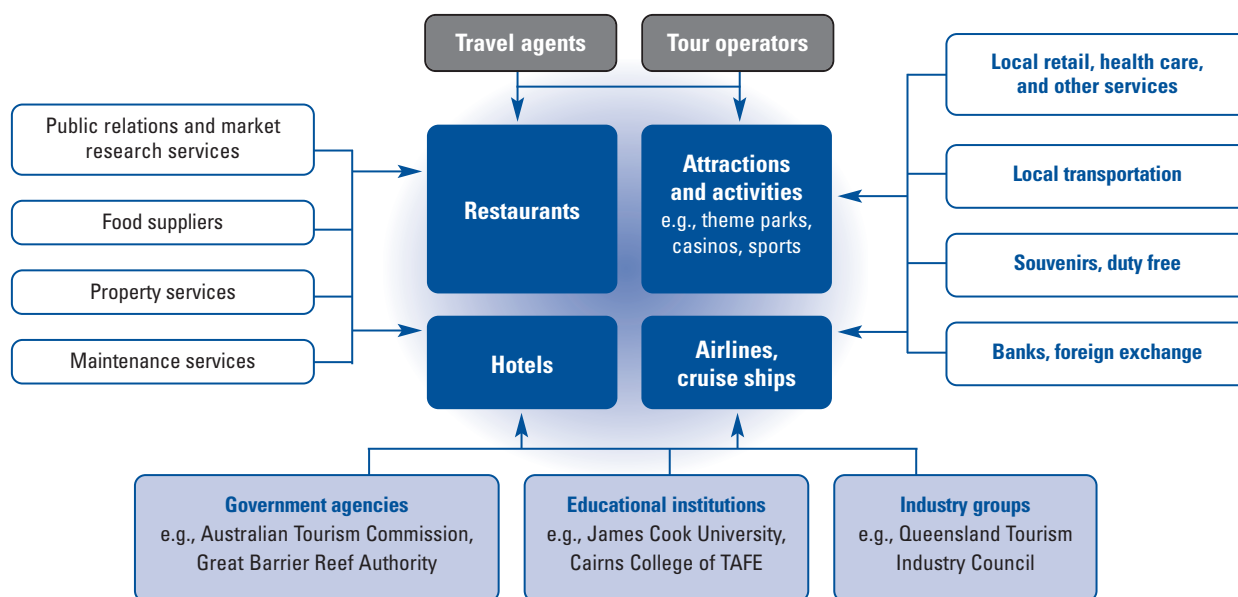
Also, national productivity can be enhanced, or eroded, by the circumstances of neighboring countries—we term this the *neighborhood*. Economic cooperation and coordination among neighbors is an important tool for improving the business environment, as well as for expanding trade and investment. While cooperation on the level of large geographic units (e.g., the European Union or the Asia-Pacific Economic Cooperation APEC) or the world economy (e.g., World Trade Organization WTO) can be helpful to improve competitiveness, especially in terms of the legal rules and regulations affecting trade and investment, the greatest influence tends to be among immediate neighboring countries.

### State of cluster development

*Clusters* are geographic agglomerations of companies, suppliers, service providers, and associated institutions in a particular field, linked by externalities and complementarities of various types. Clusters, such as consumer electronics in Japan or high-performance cars in Germany, are often concentrated in a particular region within a larger nation, and sometimes in a single town. Clusters are a natural manifestation of the role of specialized knowledge, skills, infrastructure, and supporting industries in enhancing productivity.

Location within a cluster enables companies to become more specialized, more productive, and more innovative. The presence of a cluster also tends to lower the barriers for entry into individual industries within a field, increasing the intensity of local competition. Clusters also increase the value that companies can derive from overall business environment conditions. The externalities of clusters apply to virtually all parts of an economy, not only to knowledge-intensive industries such as life sciences or information technology as is sometimes assumed. A good example is tourism: in the Cairns tourism cluster of Northwestern Australia, there are natural attractions such as proximity to the Great Barrier Reef and a tropical rainforest, but productivity (and the amount tourists spend per day) is much higher because there are also high-quality hotels, restaurants, tour guides, and many other supporting activities important to offering an excellent overall experience for the visitor.<sup>7</sup>



**Figure 5: The Cairns (Australia) tourism cluster**

Source: Research by HBS Student Team, 2003.

The cluster framework suggests spillovers influencing economic performance at three levels: within cluster; across clusters related by technology, skills, or other linkages; and across common clusters in neighboring regions. Economies of agglomeration multiply when we recognize these channels, which are most significant at the region level. National economies tend to specialize in a subset of clusters, in which they develop a particularly favorable business environment. Such clusters often account for a disproportionate share of a nation's traded output. This specialization of economies is even more evident in subnational regions.<sup>8</sup> Conversely, lower levels of regional specialization tend to be associated with lower levels of prosperity. The weaker cluster structure in Europe—the result of its history of barriers to trade and investment that encouraged breadth and limited cluster specialization across countries, for example—seems to be a significant factor in explaining Europe's prosperity gap with the United States.<sup>9</sup>

The nature and depth of clusters varies with the state of development of the economy. In developing countries, clusters are less developed and firms perform relatively less advanced activities in the cluster. Clusters normally lack many supporting industries and institutions. Firms compete primarily based on cheap labor or local natural resources, and they depend heavily on imported components, machinery, and technology. Specialized local infrastructure and institutions such as educational programs and industry associations are absent or inefficient.

In more advanced economies, clusters usually deepen to include suppliers of specialized inputs, components, machinery, and services; specialized infrastructure emerges from public and private investment; and institutions arise that provide specialized training, education, information, research, and technical support.

In a given field, it is rare that there is only a single cluster location in the world economy, but instead there is an array of clusters in different locations with different levels of sophistication, specialization, and depth. In a given field, only a small number of clusters tend to be true innovation centers, such as Silicon Valley and Japan in semiconductors, and now South Korea. These innovation centers sometimes specialize in particular market segments—the Silicon Valley cluster, for example, is unusually strong in microprocessors, while Korea's strength is almost exclusively in memory chips. Other cluster locations in a field may play the role of manufacturing centers, while still others become regional assembly and service centers.

Firms based in the most advanced clusters often seed or enhance clusters in other locations as they disperse some activities in the value chain to reduce risk, access cheaper inputs, or better serve particular regional markets. Intel, for example, has moved some assembly and testing, as well as some wafer fabrication, to a number of non-US locations. Several of these have become regional electronics clusters in their own right. The same development can be seen in other fields—for example, the offshoring of business services (e.g., IT services to

Bangalore) and manufacturing activities (e.g., auto assembly to Thailand) to locations with lower labor costs. Instead of spreading these activities across geography, however, multinationals have found it advantageous to co-locate in newly emerging clusters. A striking example is textile production in Timisoara, Romania, where many subsidiaries are owned by Italian firms.<sup>10</sup>

As competition has become more global, companies have gained more freedom to choose the location of their activities based on economic efficiency, not just market access. Perhaps paradoxically, this has increased the importance of clusters as their productivity advantages become more important. Truly competitive clusters are able to leverage their position and grow, shallow clusters that existed behind trade barriers are declining, and new clusters emerge in regions that provided attractive business environment conditions. As the international division of labor has risen, individual cluster locations seem to be becoming more specialized in particular segments, or in particular parts of the value chain. Competition has moved to higher levels of sophistication and productivity, driving clusters toward higher levels of specialization.

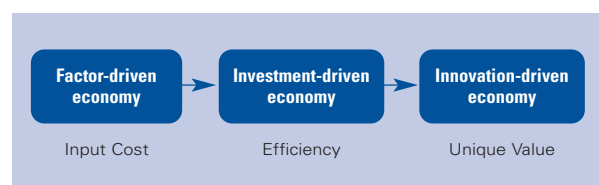
To achieve economic development, the challenge is for a country to move from isolated firms depending on low-skilled labor and generic, inherited inputs, to positions in an array of clusters. For an economy to advance, the sophistication of clusters must grow to support more advanced activities (clusters and parts of clusters) in the nation.

### Stages of competitive development

Successful economic development is a process of successive upgrading, in which a nation's business environment evolves to support and encourage increasingly sophisticated and productive ways of competing by firms (and multinational subsidiaries) located there. Nations at different levels of development face distinctly different competitiveness challenges.

As nations develop, their competitive advantages and modes of competing move through several characteristic stages, though rates of progress and the specific path will vary by country.<sup>11</sup> In the *factor-driven stage*, basic factor conditions such as low-cost labor and unprocessed natural resources are the dominant basis of competitive advantage and exports. Firms produce commodities or relatively simple products designed in other, more-advanced countries. Technology is assimilated through imports, supply agreements, foreign direct investment, and imitation. In this stage, companies compete on price and normally lack direct access to foreign consumers. Companies have limited roles in the value chain, focusing on assembly, labor-intensive manufacturing, and resource extraction. Factor-driven economies are highly sensitive to world economic cycles, commodity prices, and exchange rate fluctuations; this sensitivity is mitigated only in very large countries such as China, which have

Figure 6: Stages of competitive development



Source: Porter, 1990.

large internal markets to attract investment independent of export potential.

In the *investment-driven stage*, a country's advantage comes from producing more-advanced products and services highly efficiently. Heavy investment in efficient infrastructure, business-friendly government administration, strong investment incentives, improving skills, and better access to investment capital allow major improvements in productivity. The products and services produced are not globally differentiated, however, and technology and designs still largely come from abroad. Technology is accessed through licensing, joint ventures, foreign direct investment, and imitation. Nations at this stage normally assimilate foreign technology but also begin to develop the capacity to improve technology themselves. Companies extend capabilities more widely in the value chain, and serve a wider mix of original equipment manufacturing customers and end users. An investment-driven economy is concentrated on manufacturing and outsourced service exports. It remains susceptible to financial crises and external, sector-specific demand shocks, but competitiveness is more stable than in countries depending on commodity cycles and factor prices.

In the *innovation-driven stage*, the ability to produce innovative products and services at the global technology frontier using the most advanced methods becomes the dominant source of competitive advantage. The national business environment is characterized by strengths in all parts of the diamond, including sophisticated demand conditions and deep supporting industries. Competitiveness emerges in an array of clusters where knowledge, supporting industries, and specialized inputs are present. Institutions and incentives that enable innovation are well developed. Companies compete with unique strategies that are often global in scope. An innovation-driven economy is characterized by distinctive producers and a high share of services in the economy and is quite resilient to external shocks.

Ultimately, companies in a nation must upgrade their modes of competing and capabilities if successful economic development is to occur. Broadly, companies must shift from competing on inputs and inherited endowments (comparative advantages) to *created* competitive advantages arising from efficient and distinctive products and processes. These and other transitions in

corporate strategies and operating practices required for successful economic development are shown in Figure 7.

The sequential process of building interdependent microeconomic capabilities, improving incentives, evolving company strategies, and increasing rivalry creates important pitfalls in economic policy. The influence of one part of the business environment depends on the state of others. Lack of improvement in any important area can lead to a plateau in productivity growth and stalled development. Worse yet, key weaknesses in the diamond can undermine the entire economic reform process. For example, when well-trained college graduates cannot find appropriate jobs because companies are still competing based on cheap labor, a backlash against business is created.

This analysis also begins to reveal why countries find the transition to a new stage of development so difficult. Such inflection points require wholesale transformation of many interdependent aspects of competition.

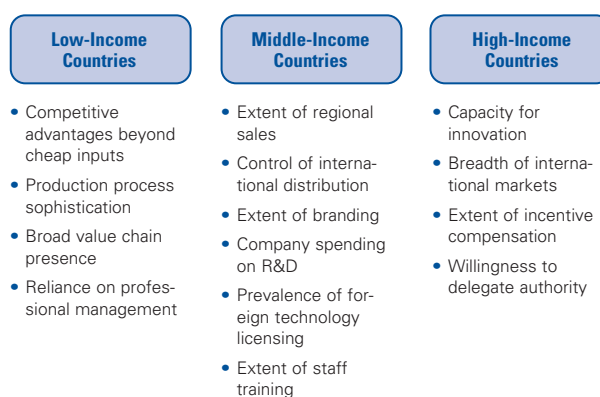
### The relationship between context and competitiveness

Microeconomic capability is the ultimate source of sustained prosperity, but contextual factors also matter. We can use our framework to better understand the roles and significance of a series of overall policies that have traditionally dominated debate on economic development, notably those relating to macroeconomic and political stability. Each of these areas can benefit competitiveness, but cannot itself create competitiveness.

Macroeconomic policy is a prime example. Well-accepted policies to foster high rates of capital investment, for example, will not translate into rising productivity unless the actual investments take place in appropriate markets and activities, companies have the adequate skills and supporting industries to make the investments efficient, and corporate governance and strong competitive pressures provide the needed market discipline. Privatization will not boost prosperity unless privatized companies develop capabilities to operate efficiently and are pressured by local competition. Similarly, sound monetary and fiscal policies and the removal of distortions in exchange rates and other prices will eliminate impediments to productivity, but the microeconomic foundations must be present if productivity is actually to increase.

The effects of trade agreements and other market opening measures, a major focus in today's international economic policymaking, also depends on microeconomic policies. Market opening is good, but its prosperity benefits assume microeconomic progress. If the local business environment fails to become more efficient, and if local companies do not improve their productivity and sophistication, market opening will boost imports but the growth of exports and the attraction of foreign investment will be painfully slow. Trade liberalization is most beneficial if it is used as a tool to aggressively upgrade the competitiveness of local companies and

**Figure 7: Company sophistication and economic development**



domestic business environments. The failure to make progress on the current round of WTO negotiations and the prospect of a US administration without fast-track trade promotion authority threatens to leave the world economy without this tool.

Political stability is crucial to a company's decisions, especially to investments with a longer-term perspective. It is obvious that political unrest make efficient business activity, long-term investment, and upgrading competitiveness all but impossible. Without stability, only short-term investments to exploit known resources will be made. Predictability of laws and regulations, confidence in judicial recourse, and clarity of private property rights all erode if the political system is suspect. The challenge for many transition and emerging economies is that the reforms in their political systems often increase short-term instability, even though they make the countries more stable in the long term.<sup>12</sup>

Reform strategies that are focused only on improvements in the legal and macroeconomic context tend to be fragile, because they do not offer visible improvements to groups in society that are just gaining their voice in the political system. Reform strategies with a strong microeconomic pillar have a much higher likelihood of success: they can improve the opportunities for many small businesses, often the main source of employment, and include a focus on upgrading the productivity of services traditionally provided by the government, such as health care.

### The role of endowments

Endowments of natural resources and geographic location also play an important role in competitiveness. They are essentially "given," and not the result of policy choices. Natural resources and geographic location can have a direct impact on the level of competitiveness countries can achieve. However, their impact on prosperity can be heavily influenced by countries' underlying competitiveness, and whether or not they pursue policies that realize



their potential. Natural resources and geography can also be a drag on competitiveness. Natural resources, in particular, create risks of retarding competitiveness improvements.

Natural resource exports create direct benefits to prosperity. But there is substantial evidence that such “inherited” prosperity can also come at a considerable price to competitiveness: resource-rich countries often become preoccupied with wealth distribution, and resource wealth deters productivity improvements. In addition, resource-rich countries face well-known economic challenges from “Dutch disease” and macroeconomic volatility, driven by real exchange rate appreciation and the sudden movements of global commodity prices. Many natural resource-rich countries are attempting to overcome this curse through offshore investment funds and by launching economic competitiveness and diversification programs. However, experience suggests that achieving success is very challenging.

Geographic location, too, has direct influences on prosperity. Direct access to waterways and international trade routes enable easier integration into international markets and supply chains. Proximity to prosperous neighbors facilitates market expansion and can make the attraction of resources and skills easier. In both cases, however, microeconomic competitiveness, such as the quality of transportation infrastructure and the efficiency of rules and regulations surrounding international trade and investment, is fundamental to whether a country takes advantage of the opportunities offered by its location (or minimizes its challenges).

### Competitiveness policy: Influencing the process of economic development

The traditional notion that government should restrict itself to the context for competition, and companies should focus on competing, is no longer sufficient to guide economic policy. Government plays an inevitable role in competition because it affects many aspects of the business environment. The sophistication of home demand, for example, is influenced by regulatory standards, consumer protection laws, government purchasing practices, and openness to imports. Many government departments and agencies impinge on competitiveness, as do government entities at the provincial, state, and city levels.

The question is not whether government has a role, but what that role should be and how to coordinate policies across parts of government. Many countries have sought to limit the inappropriate roles of government while ignoring its positive roles. In the short term, eliminating inefficient government institutions and activities is much easier than creating more efficient ones. But over time, such an approach is insufficient: government has an inescapable role in setting the right rules and incentives, and in overseeing the public investments needed for a productive economy. It needs to learn to

create the capabilities necessary for competitiveness upgrading, not just avoid being a barrier.

Although government is important to competitiveness, however, government alone is less and less able to build a competitive economy as the sophistication and specialization of competition rises. Many other national and local actors *outside of government* have a role in competitiveness and economic development. The influence of universities and schools is growing as knowledge, skills, and technology become more and more essential to competition. Universities must not only improve their educational and research capabilities, but become better connected to the private sector.

The private sector itself is a crucial actor in improving competitiveness and in setting economic policy, not just a passive bystander.<sup>13</sup> The private sector not only depends on the business environment, but needs to play a role in shaping it. Firms, through steps such as sponsoring educational programs, recruiting units of foreign suppliers, or defining product standards, not only benefit themselves but also improve the overall environment for competing. Engaging the private sector in economic development is also important to provide the *continuity* necessary to sustain progress through changes of government, and to counteract the relatively short attention spans of political leaders.

Finally, a whole class of other organizations, which we term *institutions for collaboration* (IFCs), plays an important role in competitiveness though they have been largely ignored in economic development thinking.<sup>14</sup> These organizations—trade associations, entrepreneurs networks, standard setting agencies, quality centers, technology networks, and many others—are not government agencies, educational institutions, or private firms. They are surprisingly numerous, and especially are prevalent in highly advanced economies. However, they also have crucial roles in developing countries where they often compensate for weaknesses in government. IFCs play an essential role in connecting the parts of the diamond and fostering efficient collective activities in both advanced and developing countries.<sup>15</sup> For example, collective industry bodies, such as trade associations and chambers of commerce, have essential roles to play in improving infrastructure, organizing training, quality certification, and opening export markets that are often overlooked.

The fundamental challenge that many countries face is how to mobilize a competitiveness effort across such a broad coalition of participants. The ability to do so varies by country. Finland has been motivated by a deep economic crisis. Singapore benefits from a mentality that it consistently needs to “re-earn” its prosperity. Catalonia and the Basque Country in Spain drew on strong regional identities. Iceland and Costa Rica are countries with small populations in which joint action has been easier to achieve. Denmark has launched a Globalization Council to create national awareness

around the need to upgrade competitiveness and define a strategy for moving forward. Each country and region needs to find its own solution to the problem of how to enable collective action on competitiveness. That ability to find such a solution will be an increasingly important determinant of future economic success.

### The need for a national economic strategy

Globalization has increased the importance of local conditions in the competitiveness of companies and countries, rather than diminishing them as sometimes perceived. Globalization requires every country to compete based on its productivity as a business platform for a widening array of activities, and is driving rapid improvement in the business environments of more and more countries. Many countries are aggressively pursuing best practices in terms of the regulatory environment, infrastructure, university assets, and other diamond conditions. There are numerous policy areas that must be addressed, and it is difficult to make progress on all aspects of competitiveness simultaneously.

Globalization and the sheer complexity of policy toward competitiveness have elevated the need for a true national economic strategy. Every country must pursue best practices in terms of policy choices and infrastructure development across all aspects of the business environment. But the real question is, how will the country be distinctive? How can a country achieve value as a location for business compared to its wages and other factor costs? What particular path should a country take to develop? What aspects of the business environment can offer advantages versus other locations? What clusters are present or emerging that can be built upon?

Countries need to offer advantages as business locations, not just minimize weaknesses. A unique development path for each country is often needed, which reflects its natural resources, location, unique historical and cultural assets, and state of competitive advantages in an array of fields.

### Ranking competitiveness

Assessing a country's strengths and weaknesses in competitiveness is challenging because of the sheer number and variety of influences on national productivity, as we have highlighted. The Business Competitiveness Index (BCI) aims to confront this complexity through the use of a combination of survey and hard data. The core of the 2007 BCI is based on a rich set of measures drawn from 11,127 responses to the World Economic Forum's Executive Opinion Survey of senior business leaders in 127 countries.<sup>16</sup> Table 1 lists all countries included in this year's Business Competitiveness ranking. Compared with 2006, eight new countries were added (Burundi, Libya, Oman, Saudi Arabia, Senegal, and Syria; Montenegro and Serbia are now ranked separately). Malawi was ranked in the 2006 report but was excluded

this year because of insufficient Survey data. To the survey data we added a number of hard data variables from various sources.

The dependent variable used in developing the BCI model is the level of GDP per capita, adjusted for purchasing power parity (PPP). GDP per capita is the broadest measure of national productivity and is strongly linked over time to a nation's standard of living. It is the best single, summary measure of competitiveness performance available across all countries.<sup>17</sup> GDP per employee or GDP per hour worked are useful indicators of productivity in specific activities, but they may fail to capture the ability of an economy to mobilize its overall potential.

GDP per capita will reflect a country's structural fundamentals over the medium and long term, the focus of our analysis. However, prosperity in the near term can also be influenced by a wide array of short-term and idiosyncratic factors such as natural disasters, macroeconomic shocks, and price movements in particular export industries. The proportion of the variation in GDP per capita across all countries that can be explained by microeconomic fundamentals is an interesting finding in its own right.

As we have noted, a wide variety of company, business environment, and cluster conditions affect microeconomic competitiveness. Last year we introduced a new methodology that utilizes a pooled panel of 74 countries in which there are data covering the years 2001 to 2005, to create a stable model for aggregating the individual measures of business environment quality, cluster development, and company sophistication into a meaningful overall indicator of microeconomic competitiveness. For the calculation of the 2007 BCI rankings and other analysis, we utilize 2007 data in the fixed model structure derived from the pooled 2001–2006 data.

In order to take account of shifts in the determinants of competitiveness as countries become more advanced, for some analyses we divide countries into three groups based on income. There is no accepted division among low-, middle-, and high-income countries, and efforts to define income cutoffs statistically face data limitations. Instead, we proceed pragmatically, grouping countries using income cutoffs that yield logical divisions of countries in terms of aspirations and competitive position, and that ensure that there are enough countries in each group to allow meaningful statistical tests. We also attempt to preserve income-group stability from year to year.

For this year's analysis we use cutoffs of \$4,000 in 2005 GDP per capita (PPP) to delineate low versus middle income, and of \$17,000 in 2005 GDP per capita (PPP) to delineate middle versus high income (the same cutoffs used in recent years). In the 2007 sample, there are 38 low-income countries (up two from last year: Burundi, Senegal, and Syria were added while Malawi

was dropped); 53 middle-income countries (up four: Libya, Oman, and Saudi-Arabia are added, while Serbia and Montenegro are included individually in place of Serbia-Montenegro); and 36 high-income countries (unchanged.) As will be reported, the influence of particular variables varied markedly by income group, as would be expected.

### The 2007 Executive Opinion Survey

The use of survey data in economic analysis is increasingly widespread despite skepticism among some researchers. Survey data not only offer many unique measures, but they capture the *informed judgments of the actual participants* in the economies of the countries examined. The Survey responses are important in their own right, because they reflect the attitudes of the decision makers that ultimately determine economic activity.

Survey data this year were collected for 131 countries. This year three countries—Puerto Rico, Timor-Leste, and Uzbekistan—have been excluded because of a lack of corroborating hard data. We also exclude Luxembourg, because of its size and the fact that its GDP is generated to a large extent by employees not resident in the country. The final sample is 127 countries, with an average of 88 respondents per country, which is similar to last year's sample.

To increase the robustness of our results to year-to-year variations in the sample of respondents participating in the Survey, we calculate averages per year for each Survey question in eight different cells defined by company size and degree of foreign ownership. Company size and degree of foreign ownership have a significant statistical influence on company responses—for example, smaller companies tend to rank country conditions lower across all countries. The actual Survey averages per cell for each country are then aggregated to a national average using fixed weights that represent the shares of each cell in the country's Surveys over the last five years. By fixing the cell weights, we can avoid year-to-year changes in country averages that are merely a reflection of different samples along these two dimensions.

This year, we took an additional step to further increase the robustness of the data. For each country, we create for each competitiveness indicator a weighted average of the average response in the current year and the previous year. The weights are given by combined criteria: the relative number of responses in each year and a weight of 60 percent (40 percent) for the current year (previous year). The 2007 data are thus a weighted average of 2006 and 2007 responses. This procedure increases the stability of responses and reduces the impact of random variations in the sample in dimensions other than company size and foreign ownership. In coming years, we intend to further refine the process of stabilizing the Survey data against such sampling problems. (For additional details on the Survey and the moving average methodology, see Chapter 2.1 of this volume.)

In Korea, the Gambia, Honduras, and Sri Lanka, there were marked differences in the response patterns between 2006 and 2007 that are unrelated to company size or internationalization, and seem at odds with other observed data on these economies. We report the rankings for these countries but suggest caution in interpreting them.

As in previous years, we examined the consistency of the data to ensure that the sample used for statistical purposes was as valid as possible and to identify particular countries whose rankings may be less reliable. For each Survey question we compared the standard deviation of answers within a country to the standard deviation of answers across all countries. In those countries with high within-country variance of responses on many Survey questions, it becomes problematic to interpret the country averages independently of the possible reasons for the variances.<sup>18</sup>

The degree of within-country consensus in the responses is notable. For all Survey indicators, the proportion of variation due to country differences is highly statistically significant. As expected, the within-country consensus is higher for cross-cutting business environment indicators, such as overall infrastructure quality, and lower for measures where there would be natural variation within the country across companies and clusters, such as state of cluster development. The great preponderance of country averages, then, capture meaningful differences across countries in competitive circumstances. Of the 127 total countries, 116 passed our data consistency test. Eleven countries register high within country variation on 20 or more questions; we note countries that do not meet the consistency test either in 2006 or 2007 with an asterisk in the ranking tables. The data from Saudi Arabia, a new entrant to the GCR, exhibits the highest within-country variation, and does not pass our consistency test for 32 out of 53 Survey indicators. Azerbaijan, the Gambia, Kenya, Lesotho, Mali, Nigeria, Senegal, Sri Lanka, Tajikistan, and Uganda are the other countries that do not pass our consistency test. Their rankings should be interpreted with caution. A country in which we continue to improve the Survey process is the United States, where there was a change of Survey partner. Endnote 19 below describes in detail the procedures we have used to ensure that the US Survey data generated this year are consistent with previous years and provides a reliable indication of US competitiveness relative to global peers.<sup>19</sup>

### Other data sources

We also use a number of other data sources to capture additional aspects of the business environment, where data are available in a timely fashion for all the countries in our sample. We use the Heritage Foundation's indicators on property rights and freedom from corruption.<sup>20</sup> Relative to last year, we dropped the Heritage Foundation's measure on freedom to trade. This measure has been

**Table 1: The Business Competitiveness Index (BCI) ranking**

Country/Economy	BCI ranking							Quality of the national business environment ranking							Company operations and strategy ranking							GDP per capita (PPP, US\$) 2006
	2007	2006	2005	2004	2003	2002	2001	2007	2006	2005	2004	2003	2002	2001	2007	2006	2005	2004	2003	2002	2001	
United States	1	1	1	2	2	1	2	1	1	1	2	2	1	2	1	1	2	1	1	1	1	44,244
Germany	2	2	3	3	3	3	5	2	3	3	4	5	3	5	2	2	1	2	2	2	4	29,910
Finland	3	3	2	1	1	2	1	3	2	2	1	1	2	1	9	9	8	5	3	3	3	34,330
Sweden	4	9	9	5	5	4	6	4	10	10	5	4	4	6	3	4	4	3	4	5	7	33,326
Denmark	5	4	4	4	4	8	8	5	4	4	3	3	7	8	5	6	9	9	7	9	10	35,323
Switzerland	6	5	8	8	7	5	4	6	6	8	10	8	5	4	4	5	6	8	9	7	5	35,920
Netherlands	7	6	6	7	8	7	3	7	5	6	8	10	8	3	7	8	7	7	8	6	2	46,981
Austria	8	11	13	17	16	12	12	9	12	14	18	16	12	12	8	10	12	16	16	12	13	34,002
Singapore	9	10	10	9	9	9	10	8	9	7	9	7	9	10	14	14	14	11	11	13	12	37,040
Japan	10	8	7	11	13	15	16	12	8	9	11	20	16	17	6	3	3	4	6	8	9	31,105
United Kingdom	11	7	5	6	6	6	9	11	7	5	6	6	6	9	11	7	5	6	5	4	8	34,590
Hong Kong SAR	12	12	15	13	20	19	18	10	11	13	12	18	19	18	16	15	15	17	23	21	19	37,230
Norway	13	17	19	20	21	18	17	13	17	19	20	21	17	16	15	20	22	23	21	22	24	46,981
Canada	14	15	16	15	11	11	11	14	15	16	14	11	11	11	17	18	16	15	15	14	14	34,227
Belgium	15	18	18	16	14	14	13	16	18	20	19	15	13	13	13	13	13	12	12	11	11	34,190
Iceland	16	14	17	18	15	16	15	17	14	17	17	12	14	15	19	16	17	18	18	17	15	37,270
France	17	13	11	12	12	13	7	18	16	12	13	17	15	7	12	11	10	10	10	10	6	32,760
Australia	18	16	12	10	10	10	14	15	13	11	7	9	10	14	24	23	20	14	13	15	17	35,600
Korea*	19	24	24	24	23	25	27	19	25	25	25	22	24	27	10	21	18	20	19	25	27	22,930
Israel	20	21	22	21	17	20	20	21	21	22	21	13	21	20	21	19	21	22	20	20	21	27,640
Malaysia	21	23	23	23	25	29	37	22	22	23	23	24	29	37	20	22	26	26	26	29	34	11,340
New Zealand	22	20	20	19	19	21	19	20	20	18	16	14	20	19	25	24	23	21	22	23	22	25,640
Taiwan, China	23	19	14	14	18	17	21	23	19	15	15	19	18	21	18	12	11	13	14	16	20	31,440
Ireland	24	22	21	22	22	22	22	24	23	21	22	23	22	22	22	17	19	19	17	18	18	34,931
Tunisia	25	31	34	30	31	n/a	n/a	25	28	34	29	30	n/a	n/a	33	38	46	43	39	n/a	n/a	8,520
Estonia	26	25	26	25	27	26	26	26	24	24	24	26	26	26	35	34	32	33	34	32	32	19,320
Spain	27	26	25	26	24	23	23	27	27	26	26	25	23	23	30	28	24	24	25	24	23	28,140
United Arab Emirates	28	32	27	n/a	n/a	n/a	n/a	28	32	27	n/a	n/a	n/a	n/a	37	37	35	n/a	n/a	n/a	n/a	20,220
Chile	29	30	30	28	29	30	29	30	29	29	28	28	28	30	28	31	33	35	33	31	29	12,435
Portugal	30	28	31	31	35	33	30	29	26	28	30	32	32	28	40	41	38	46	50	41	39	22,370
India	31	27	32	32	36	36	38	33	30	32	32	36	35	35	27	25	27	30	36	37	41	3,910
Czech Republic	32	29	29	34	34	32	31	32	31	30	34	33	33	31	31	27	29	34	35	36	44	20,430
Qatar	33	38	n/a	n/a	n/a	n/a	n/a	31	35	n/a	n/a	n/a	n/a	n/a	43	53	n/a	n/a	n/a	n/a	n/a	42,330
South Africa	34	33	28	27	28	28	28	35	33	31	27	29	30	29	26	26	25	25	28	26	25	12,580
Slovenia	35	34	33	29	30	31	32	34	34	33	31	31	31	33	29	30	28	28	27	28	30	24,670
Indonesia	36	42	53	50	58	57	56	40	45	56	52	57	61	59	23	32	42	37	53	52	47	3,780
Thailand	37	35	35	33	33	35	39	36	36	35	33	35	34	39	36	33	34	31	31	34	37	9,080
Oman	38	n/a	n/a	n/a	n/a	n/a	n/a	41	n/a	n/a	n/a	n/a	n/a	n/a	38	n/a	n/a	n/a	n/a	n/a	n/a	16,040
Lithuania	39	40	39	36	39	43	48	43	42	39	37	40	43	48	39	39	37	38	41	40	53	16,120
Malta	40	44	44	43	n/a	n/a	n/a	38	43	44	42	n/a	n/a	n/a	60	61	61	54	n/a	n/a	n/a	20,590
Barbados	41	n/a	n/a	n/a	n/a	n/a	n/a	37	n/a	n/a	n/a	n/a	n/a	n/a	61	n/a	n/a	n/a	n/a	n/a	n/a	18,857
Italy	42	37	37	35	26	24	24	45	39	40	35	27	25	24	32	29	30	27	24	19	16	30,210
Bahrain*	43	51	40	n/a	n/a	n/a	n/a	42	46	38	n/a	n/a	n/a	n/a	53	65	57	n/a	n/a	n/a	n/a	27,090
Slovak Republic	44	41	43	42	43	38	36	44	41	42	43	42	38	34	45	46	48	44	48	50	56	17,690
Cyprus	45	39	36	n/a	n/a	n/a	n/a	39	38	36	n/a	n/a	n/a	n/a	66	55	55	n/a	n/a	n/a	n/a	22,230
Turkey	46	47	51	54	50	50	49	48	50	52	55	52	50	49	41	40	39	45	47	49	49	9,050
Hungary	47	36	38	40	37	27	25	46	37	37	38	37	27	25	56	42	49	51	37	30	31	18,180
Jordan	48	46	41	39	40	45	40	49	44	41	36	39	40	40	51	62	58	56	55	57	55	5,420
Kuwait	49	43	n/a	n/a	n/a	n/a	n/a	47	40	n/a	n/a	n/a	n/a	n/a	59	57	n/a	n/a	n/a	n/a	n/a	33,820
Costa Rica	50	52	47	45	45	41	46	53	53	50	47	45	45	47	34	35	36	32	30	33	36	10,390
Saudi Arabia*	51	n/a	n/a	n/a	n/a	n/a	n/a	50	n/a	n/a	n/a	n/a	n/a	n/a	47	n/a	n/a	n/a	n/a	n/a	n/a	13,486
Sri Lanka*	52	69	69	60	51	49	55	54	67	68	60	51	48	55	44	69	68	60	54	56	58	4,030
Greece	53	48	42	41	41	40	44	52	47	43	40	41	39	41	57	50	41	40	43	46	48	30,990
Latvia	54	49	46	37	32	42	41	51	48	45	39	34	42	42	62	49	52	36	32	47	43	14,959
Mauritius*	55	45	49	47	47	46	47	55	49	48	48	47	46	46	50	43	44	42	42	48	50	4,319
Poland	56	50	50	51	44	37	33	56	51	49	51	44	37	32	55	45	43	48	45	39	33	14,170
China	57	59	48	44	42	44	50	57	58	47	44	43	44	50	54	59	45	39	40	38	46	7,530
Panama	58	55	57	59	60	51	51	58	56	58	59	61	51	51	58	47	47	59	57	44	40	12,180
Brazil	59	53	45	38	38	34	34	63	54	46	41	38	36	36	42	36	31	29	29	27	28	9,130
Croatia	60	58	66	64	59	n/a	n/a	61	55	65	65	58	n/a	n/a	63	66	69	67	59	n/a	n/a	13,180
Jamaica	61	54	52	53	54	48	43	60	52	53	53	53	49	45	64	51	54	55	60	53	35	4,590
Kenya*	62	67	67	66	n/a	n/a	n/a	62	68	70	69	n/a	n/a	n/a	52	58	62	57	n/a	n/a	n/a	1,510
Morocco*	63	70	56	46	46	n/a	n/a	59	66	54	45	46	n/a	n/a	75	79	64	49	46	n/a	n/a	5,110
Mexico	64	56	54	49	52	52	52	64	57	55	49	54	52	52	48	48	51	41	44	45	45	10,820
Colombia	65	57	58	57	55	54	60	65	59	59	58	56	54	60	67	52	53	52	52	51	54	8,350
Philippines	66	68	70	71	65	56	54	73	74	74	73	68	58	54	46	44	40	50	51	43	42	4,940

(cont'd.)

Table 1: The Business Competitiveness Index (BCI) ranking (cont'd.)

Country/Economy	BCI ranking							Quality of the national business environment ranking							Company operations and strategy ranking							GDP per capita (PPP, US\$) 2006
	2007	2006	2005	2004	2003	2002	2001	2007	2006	2005	2004	2003	2002	2001	2007	2006	2005	2004	2003	2002	2001	
Guatemala	67	81	88	82	73	68	70	69	84	88	82	73	68	70	49	74	80	75	69	66	70	5,670
Uruguay	68	62	65	65	62	47	45	66	62	63	61	62	47	43	76	73	75	77	66	55	52	11,037
El Salvador	69	60	59	61	63	60	63	68	61	57	63	63	59	63	71	63	65	61	62	61	66	3,800
Egypt	70	n/a	n/a	52	n/a	n/a	42	71	n/a	n/a	54	n/a	n/a	44	69	68	50	47	n/a	n/a	38	4,800
Russia	71	73	61	58	61	55	57	70	71	60	57	59	53	56	77	77	70	65	64	60	62	12,186
Kazakhstan	72	65	n/a	n/a	n/a	n/a	n/a	72	65	n/a	n/a	n/a	n/a	n/a	78	72	n/a	n/a	n/a	n/a	n/a	9,370
Romania	73	71	63	63	67	62	58	74	69	64	62	65	62	57	81	71	66	69	70	65	63	9,678
Trinidad and Tobago	74	63	60	56	48	39	35	75	64	61	56	49	41	38	73	64	59	53	49	35	26	15,200
Botswana	75	61	55	55	53	n/a	n/a	67	60	51	50	50	n/a	n/a	92	80	74	74	63	n/a	n/a	14,880
Vietnam	76	80	75	62	57	59	62	78	79	75	64	55	56	64	79	76	76	68	61	64	64	3,310
Peru	77	74	76	77	69	64	65	82	78	76	76	69	64	65	70	60	71	78	71	62	65	6,730
Azerbaijan*	78	72	n/a	n/a	n/a	n/a	n/a	81	73	n/a	n/a	n/a	n/a	n/a	72	67	n/a	n/a	n/a	n/a	n/a	7,990
Pakistan	79	64	72	74	n/a	n/a	69	76	63	72	75	n/a	n/a	67	88	70	63	66	n/a	n/a	68	2,580
Tanzania	80	75	74	67	n/a	n/a	n/a	79	72	71	67	n/a	n/a	n/a	86	84	82	70	n/a	n/a	n/a	1,240
Ukraine	81	77	68	68	68	61	59	83	77	67	68	67	63	58	82	75	67	72	68	59	60	7,680
Gambia, The*	82	90	79	73	n/a	n/a	n/a	85	88	81	71	n/a	n/a	n/a	85	89	83	79	n/a	n/a	n/a	2,200
Bulgaria	83	79	71	69	66	63	64	77	76	66	66	64	57	61	95	86	78	80	73	68	72	10,140
Nigeria*	84	76	73	75	70	65	66	88	80	73	77	70	65	68	65	56	60	64	65	58	59	1,230
Montenegro	85	n/a	n/a	n/a	n/a	n/a	n/a	80	n/a	n/a	n/a	n/a	n/a	n/a	89	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Syria	86	n/a	n/a	n/a	n/a	n/a	n/a	89	n/a	n/a	n/a	n/a	n/a	n/a	74	n/a	n/a	n/a	n/a	n/a	n/a	4,010
Namibia	87	78	62	48	49	n/a	n/a	84	75	62	46	48	n/a	n/a	96	81	73	62	58	n/a	n/a	7,590
Honduras*	88	103	94	90	77	74	76	87	103	95	92	78	74	76	80	94	89	85	77	73	74	3,100
Senegal*	89	n/a	n/a	n/a	n/a	n/a	n/a	86	n/a	n/a	n/a	n/a	n/a	n/a	87	n/a	n/a	n/a	n/a	n/a	n/a	2,270
Argentina	90	66	64	70	64	58	53	92	70	69	70	66	60	53	68	54	56	58	56	54	51	16,440
Serbia	91	n/a	n/a	n/a	n/a	n/a	n/a	90	n/a	n/a	n/a	n/a	n/a	n/a	102	n/a	n/a	n/a	n/a	n/a	n/a	7,000
Dominican Republic	92	85	83	72	56	53	61	97	87	84	72	60	55	62	84	83	77	63	38	42	61	8,400
Benin	93	93	n/a	n/a	n/a	n/a	n/a	94	93	n/a	n/a	n/a	n/a	n/a	91	96	n/a	n/a	n/a	n/a	n/a	1,170
Mali*	94	86	85	84	n/a	n/a	n/a	93	83	83	83	n/a	n/a	n/a	100	103	93	92	n/a	n/a	n/a	n/a
Macedonia, FYR	95	82	80	81	n/a	n/a	n/a	96	82	82	80	n/a	n/a	n/a	98	88	84	82	n/a	n/a	n/a	7,460
Uganda*	96	84	77	76	n/a	n/a	n/a	98	85	77	74	n/a	n/a	n/a	90	85	81	81	n/a	n/a	n/a	1,520
Algeria	97	83	82	80	n/a	n/a	n/a	91	81	78	78	n/a	n/a	n/a	120	109	94	87	n/a	n/a	n/a	6,160
Burkina Faso*	98	n/a	n/a	n/a	n/a	n/a	n/a	95	n/a	n/a	n/a	n/a	n/a	n/a	108	n/a	n/a	n/a	n/a	n/a	n/a	1,310
Moldova	99	87	n/a	n/a	n/a	n/a	n/a	99	86	n/a	n/a	n/a	n/a	n/a	101	87	n/a	n/a	n/a	n/a	n/a	2,740
Georgia	100	92	86	n/a	n/a	n/a	n/a	100	92	86	n/a	n/a	n/a	n/a	93	93	85	n/a	n/a	n/a	n/a	4,060
Venezuela	101	89	84	79	72	67	67	102	90	85	81	72	67	66	83	82	79	76	72	67	67	7,580
Madagascar	102	94	87	83	n/a	n/a	n/a	101	94	87	84	n/a	n/a	n/a	105	101	90	84	n/a	n/a	n/a	946
Mauritania	103	n/a	n/a	n/a	n/a	n/a	n/a	104	n/a	n/a	n/a	n/a	n/a	n/a	97	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Tajikistan*	104	97	n/a	n/a	n/a	n/a	n/a	107	96	n/a	n/a	n/a	n/a	n/a	103	104	n/a	n/a	n/a	n/a	n/a	1,360
Zimbabwe	105	88	78	78	71	66	68	110	91	79	79	71	66	69	94	78	72	73	67	63	57	1,620
Zambia	106	n/a	n/a	n/a	n/a	n/a	n/a	103	n/a	n/a	n/a	n/a	n/a	n/a	123	n/a	n/a	71	n/a	n/a	n/a	1,210
Bosnia and Herzegovina	107	95	90	n/a	n/a	n/a	n/a	105	95	89	n/a	n/a	n/a	n/a	119	102	92	n/a	n/a	n/a	n/a	6,620
Armenia	108	91	n/a	n/a	n/a	n/a	n/a	106	89	n/a	n/a	n/a	n/a	n/a	115	92	n/a	n/a	n/a	n/a	n/a	5,650
Libya	109	n/a	n/a	n/a	n/a	n/a	n/a	109	n/a	n/a	n/a	n/a	n/a	n/a	109	n/a	n/a	n/a	n/a	n/a	n/a	14,550
Suriname	110	n/a	n/a	n/a	n/a	n/a	n/a	108	n/a	n/a	n/a	n/a	n/a	n/a	116	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Ecuador	111	102	92	85	74	72	73	115	102	93	85	74	72	73	99	90	87	83	74	70	71	4,460
Mongolia	112	96	n/a	n/a	n/a	n/a	n/a	111	97	n/a	n/a	n/a	n/a	n/a	111	97	n/a	n/a	n/a	n/a	n/a	n/a
Nicaragua	113	100	93	89	76	70	72	112	98	92	87	76	70	72	112	108	96	90	76	72	75	2,840
Cambodia	114	104	n/a	n/a	n/a	n/a	n/a	114	104	n/a	n/a	n/a	n/a	n/a	106	100	n/a	n/a	n/a	n/a	n/a	3,000
Cameroon	115	98	n/a	n/a	n/a	n/a	n/a	117	100	n/a	n/a	n/a	n/a	n/a	104	91	n/a	n/a	n/a	n/a	n/a	2,950
Kyrgyz Republic	116	105	n/a	n/a	n/a	n/a	n/a	116	105	n/a	n/a	n/a	n/a	n/a	110	98	n/a	n/a	n/a	n/a	n/a	2,130
Ethiopia	117	107	95	86	n/a	n/a	n/a	113	107	94	86	n/a	n/a	n/a	122	112	98	93	n/a	n/a	n/a	862
Bangladesh	118	99	91	88	75	71	74	118	99	91	88	75	71	74	117	99	91	89	75	71	73	2,000
Guyana	119	106	n/a	n/a	n/a	n/a	n/a	120	106	n/a	n/a	n/a	n/a	n/a	107	107	n/a	n/a	n/a	n/a	n/a	4,860
Nepal	120	n/a	n/a	n/a	n/a	n/a	n/a	119	n/a	n/a	n/a	n/a	n/a	n/a	118	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Mozambique	121	101	89	87	n/a	n/a	n/a	121	101	90	89	n/a	n/a	n/a	114	95	86	86	n/a	n/a	n/a	1,470
Albania	122	109	n/a	n/a	n/a	n/a	n/a	122	109	n/a	n/a	n/a	n/a	n/a	113	105	n/a	n/a	n/a	n/a	n/a	5,830
Bolivia	123	108	96	91	78	73	75	123	108	96	90	77	73	75	125	111	97	91	79	74	76	4,180
Paraguay	124	110	97	92	79	69	71	125	110	97	91	79	69	71	121	110	95	88	78	69	69	3,980
Lesotho*	125	n/a	n/a	n/a	n/a	n/a	n/a	124	n/a	n/a	n/a	n/a	n/a	n/a	124	n/a	n/a	n/a	n/a	n/a	n/a	2,880
Burundi	126	n/a	n/a	n/a	n/a	n/a	n/a	126	n/a	n/a	n/a	n/a	n/a	n/a	126	n/a	n/a	n/a	n/a	n/a	n/a	739
Chad*	127	111	98	93	n/a	n/a	n/a	127	111	98	93	n/a	n/a	n/a	127	113	99	94	n/a	n/a	n/a	2,280

Note: \* Countries lacking data consistency in either 2006 or 2007; n/a, not available.

Seventy-four countries with ranks in all years 2001–2007 are part of the pooled dataset used to compute the weights of the COS and NBE subindexes.



significantly restructured and the principal-components factor analysis indicates that it exhibits very high uniqueness—that is, it behaves very differently across countries than the other national business environment indicators. We also use quantitative measures for measuring patenting rates, Internet penetration, and cellular phone penetration. As discussed in detail last year, all of these indicators are significantly correlated to GDP per capita, and add unique information beyond our Survey questions.

### Competitiveness indicators

Table 2 shows that the 58 indicators that we use to capture different dimensions of microeconomic competitiveness have a strong relation to GDP per capita. The relative importance of these dimensions changes systematically as countries reach higher levels of prosperity, consistent with the notion of stages in economic development.<sup>21</sup>

#### *Company indicators*

Production process sophistication stands out as the company indicator most correlated with prosperity: variation in this measure is associated with more than 80 percent of the variation in GDP. Another important indicator is the nature of competitive advantage (i.e., competing on unique products and processes rather than low input cost), which alone is associated with close to 70 percent of variation in prosperity. The prevalence of foreign technology licensing ranks lowest, because its influence is important in developing economies but recedes in advanced economies.

#### *Business environment indicators*

Measures of regulatory stringency and of communication technology infrastructure are most strongly associated with changes in GDP per capita. Causality might run both ways for these indicators: regulatory stringency, for example, provides an environment in which companies are pressured to upgrade, but the desire of citizens for such regulations may be greater in more prosperous economies. The other indicators with the highest bilateral correlation with GDP per capita include measures of supplier quality, the size of gray economy (negative), property rights, and infrastructure quality.

The list of business environment indicators includes measures that are related to the state of cluster development. Local supplier quality, for example, indicates the presence of specialized suppliers and services providers, a key feature of vibrant clusters.

The available indicators of cluster development are relatively few and we find that they are statistically correlated to a number of indicators measuring general business environment quality. For purposes of this year's model, we subsume indicators of cluster development into the overall business environment category. Our

hope is to improve our cluster development measure in future years.

#### *Influence on competitiveness by stage of development*

The impact of company operating practices and the influence of particular elements of the business environment should differ for countries at different levels of development. The influence of individual indicators varies as expected. Some indicators are not yet important for low-income countries, but are crucial in advanced economies. Others seem to act via a threshold that a country must reach, but are no longer correlated with income beyond this threshold.

For low-income countries at the factor-driven stage, the ability to move beyond competing solely on cheap labor/natural resources is the essential challenge as reflected in the regressions. Company attributes such as production process sophistication, extent of marketing, and broad presence in the value chain have the strongest relationship to GDP per capita for lower-income countries. With huge challenges in companies' surrounding business environment, in low-income countries most other dimensions of company operations have no significant relationship to GDP per capita.

Priorities for improving the business environment in low-income countries revealed in the regressions include the quality of infrastructure (including electricity, communications, and transportation networks), followed by basic financial market conditions and the quality of local suppliers.

For middle-income countries at the investment-driven stage, continuing to improve production process sophistication and increasing the professionalism of management are the most important corporate factors that distinguish more from less successful middle-income economies, followed by broadening export locations and introducing performance-based compensation. In the business environment, the data reveal that the prosperity of middle-income countries is most associated with improvements in public schools, higher regulatory standards, higher rates of patenting, falling trade barriers, improvements in the telecommunication infrastructure, and wider usage of the Internet.

Our results show that company challenges for a high-income economy, whose hurdle is to move to the innovation-driven stage, is less a matter of company spending on R&D than of the diffusion of flexible management concepts, investments in staff training companies to improve production processes, and improvements in marketing. High-income countries typically have strengths in many aspects of the business environment. Those aspects of the business environment most associated with prosperity for high-income countries include the extent of intellectual property protection and the efficiency of the legal framework.

**Table 2: Bilateral regression results for all countries and by income group. Dependent variable is the 2001–2006 GDP per capita (PPP adjusted). Balanced country-level panel datasets.**

	74 unique countries, 2001–2006			Low income: 22 unique countries, 2004–2006			Middle income: 33 unique countries, 2001–2006			High income: 29 unique countries, 2001–2006		
	Standardized coefficient	t-stat	Adj. R <sup>2</sup> (%)	Standardized coefficient	t-stat	Adj. R <sup>2</sup> (%)	Standardized coefficient	t-stat	Adj. R <sup>2</sup> (%)	Standardized coefficient	t-stat	Adj. R <sup>2</sup> (%)
<b>I. COMPANY OPERATIONS AND STRATEGY</b>												
Production process sophistication	0.908	44.0	81.6	0.451	3.97	18.1	0.562	9	34.9	0.593	10.62	47.7
Nature of competitive advantage	0.834	32.3	70.5	<i>Insignificant</i>			<i>Insignificant</i>			0.473	7.71	35.4
Capacity for innovation	0.828	31.5	69.4	0.309	2.53	6.7	0.307	4.69	16.8	0.373	5.71	26.7
Extent of staff training	0.827	31.3	69.2	<i>Insignificant</i>			0.305	4.68	16.8	0.590	10.76	48.3
Willingness to delegate authority	0.820	30.4	67.9	<i>Insignificant</i>			0.322	4.92	17.7	0.634	12.26	53.9
Extent of marketing	0.816	29.6	66.8	0.407	3.43	13.6	0.335	5.09	18.3	0.586	10.54	47.4
Degree of customer orientation	0.801	28.2	64.6	<i>Insignificant</i>			0.236	3.51	12.9	0.560	9.84	44.6
Breadth of international markets	0.790	27.3	63.1	0.327	2.72	8.1	0.340	5.24	18.9	0.360	5.47	25.7
Company spending on research and development	0.786	26.9	62.3	<i>Insignificant</i>			0.320	4.9	17.6	0.381	5.8	27.1
Value chain breadth	0.784	26.7	62.1	0.371	3.14	11.3	0.184	2.71	10.6	0.268	3.91	19.7
Control of international distribution	0.774	25.4	59.7	<i>Insignificant</i>			<i>Insignificant</i>			0.465	7.5	34.5
Extent of performance-based compensation	0.758	24.3	57.6	0.330	2.74	8.2	0.388	6.04	22.1	0.455	7.29	33.5
Reliance on professional management	0.741	23.4	55.6	<i>Insignificant</i>			0.455	7.53	28.5	0.508	8.53	39.0
Extent of regional sales	0.691	20.2	48.3	0.329	2.74	8.2	0.411	6.61	24.5	0.313	4.66	22.5
Prevalence of foreign technology licensing	0.529	13.0	27.9	<i>Insignificant</i>			0.236	3.49	12.8	<i>Insignificant</i>		
<b>II. NATIONAL BUSINESS ENVIRONMENT</b>												
Intellectual property protection	0.874	38.8	77.5	<i>Insignificant</i>			0.349	5.47	19.8	0.628	11.98	52.9
Presence of demanding regulatory standards	0.875	38.6	77.4	0.242	1.92	2.8	0.573	10.42	40.9	0.542	9.29	42.2
Internet users per 10,000 inhabitants	0.899	37.1	75.9	0.502	4.36	21.4	0.614	9.41	36.6	0.420	5.63	26.3
Stringency of environmental regulations	0.865	36.9	75.7	<i>Insignificant</i>			0.532	9.23	35.9	0.499	8.32	38.1
Local supplier quality	0.855	34.9	73.6	0.345	2.86	9.2	0.447	7.24	27.2	0.505	8.39	38.4
Freedom from corruption	0.850	34.2	72.8	<i>Insignificant</i>			0.358	5.49	19.9	0.565	9.91	44.8
Mobile telephones per 100 inhabitants	0.899	33.1	71.5	0.742	7.71	47.8	0.785	11.04	43.4	<i>Insignificant</i>		
Business costs of corruption	0.847	33.0	71.4	0.221	1.75	1.9	0.412	6.44	23.8	0.552	9.34	42.5
Property rights	0.835	31.8	69.8	<i>Insignificant</i>			0.396	6.1	22.3	0.554	9.63	43.7
Overall infrastructure quality	0.828	31.7	69.7	0.240	1.94	3.0	0.324	5.02	18.1	0.495	8.25	37.8
Quality of electricity supply	0.828	31.6	69.6	0.621	6.27	37.3	0.455	7.54	28.5	0.499	8.34	38.2
Buyer sophistication	0.829	31.1	68.8	0.328	2.71	8.0	0.303	4.53	16.2	0.578	10.14	45.8
Local availability of research and training services	0.820	30.4	67.9	<i>Insignificant</i>			0.489	8.13	31.1	0.444	7.08	32.6
Quality of primary education	0.817	30.2	67.6	0.314	2.59	7.1	0.561	10.1	39.5	0.337	4.98	23.7
Venture capital availability	0.817	29.9	67.2	0.283	2.32	5.3	0.503	8.29	31.8	0.530	8.97	40.9
Effectiveness of antitrust policy	0.816	29.9	67.1	<i>Insignificant</i>			0.349	5.43	19.6	0.439	6.94	32.0
University-industry research collaboration	0.813	28.9	65.7	<i>Insignificant</i>			0.304	4.55	16.3	0.430	6.58	30.4
Reliability of police services	0.798	28.3	64.7	<i>Insignificant</i>			<i>Insignificant</i>			0.602	11.04	49.4
Laws relating to ICT	0.792	27.3	63.1	<i>Insignificant</i>			0.294	4.4	15.8	0.448	6.91	31.9
Ease of access to loans	0.792	26.8	62.2	0.389	3.3	12.6	0.465	7.34	27.6	0.550	9.41	42.8
Efficiency of legal framework	0.789	26.8	62.2	<i>Insignificant</i>			0.284	4.26	15.3	0.625	11.51	51.2
Financial market sophistication	0.788	26.7	62.1	0.368	3.12	11.1	0.330	4.99	17.9	0.601	10.94	49.0
Quality of scientific research institutions	0.784	26.2	61.1	<i>Insignificant</i>			0.438	6.95	25.9	0.428	6.54	30.2
Quality of port infrastructure	0.767	25.4	59.7	0.262	2.12	4.0	0.223	3.32	12.3	0.462	7.5	34.5
Judicial independence	0.762	24.8	58.5	<i>Insignificant</i>			0.276	4.19	15.0	0.506	8.34	38.2
Favoritism in decisions of government officials	0.752	24.3	57.4	<i>Insignificant</i>			0.221	3.31	12.2	0.422	6.65	30.7
Prevalence of trade barriers	0.835	24.1	57.1	0.398	2.68	7.8	0.626	9.41	36.6	<i>Insignificant</i>		
Absence of market dominance by business groups	0.749	23.9	56.6	<i>Insignificant</i>			0.359	5.61	20.4	0.513	8.63	39.4
Quality of management schools	0.741	23.4	55.7	0.265	2.16	4.3	0.367	5.79	21.1	0.546	9.52	43.2
Air transport infrastructure quality	0.726	22.4	53.5	<i>Insignificant</i>			<i>Insignificant</i>			0.481	7.89	36.2
Local supplier quantity	0.731	22.4	53.4	<i>Insignificant</i>			0.343	5.23	18.8	0.339	5.07	24.1
Railroad infrastructure	0.697	20.6	49.3	<i>Insignificant</i>			0.469	7.85	29.8	0.148	2.11	14.7
Patents per capita	0.683	19.8	47.3	0.340	2.84	9.0	0.555	9.91	38.7	0.331	4.97	23.7
Efficacy of corporate boards	0.724	19.4	46.2	<i>Insignificant</i>			0.478	6.73	25.0	0.543	8.62	39.3
Quality of telephone/fax infrastructure	0.669	18.9	45.1	0.424	3.63	15.3	0.280	4.23	15.2	0.434	6.91	31.9
Intensity of local competition	0.667	18.7	44.4	0.263	2.14	4.1	0.306	4.67	16.7	0.331	4.73	22.8
Availability of scientists and engineers	0.650	17.8	42.1	<i>Insignificant</i>			0.437	6.89	25.7	0.325	4.81	23.0
Gov't procurement of advanced tech products	0.638	17.3	40.6	<i>Insignificant</i>			0.248	3.68	13.4	0.184	2.55	15.7
Quality of math and science education	0.630	16.8	39.2	<i>Insignificant</i>			0.451	7.28	27.4	<i>Insignificant</i>		
Local availability of process machinery	0.600	15.8	36.4	0.284	2.32	5.3	0.163	2.41	10.0	0.158	2.21	14.9
Local equity market access	0.567	14.4	32.3	<i>Insignificant</i>			0.152	2.21	9.5	0.532	8.62	39.4
Cooperation in labor-employer relations	0.556	14.1	31.2	<i>Insignificant</i>			0.117	1.72	8.6	0.424	6.71	31.0
Centralization of economic policymaking	0.544	13.7	30.0	<i>Insignificant</i>			0.435	7.11	26.7	0.286	4.22	20.8

## Calculating the Business Competitiveness Index

The BCI integrates two subindexes: the *company operations and strategy (COS) subindex* and the *national business environment (NBE) subindex*. To derive the BCI we utilize the same method as last year, but instead of using the Survey indicators annual data, we use weighted averages of the 2007 and 2006 data on all indicators for 127 countries. For the first-stage estimation, we use a balanced country panel from 2001 to 2006 to conduct two principal factor analyses, one covering the set of indicators of sophistication company operations and strategy and the other for the indicators covering the quality of the national business environment and the state of cluster development. This procedure generates factor loadings for each indicator that are used to calculate the COS and NBE subindexes. We then determine the weights of these two subindexes in the overall BCI from the coefficients of the regression of GDP per capita (PPP adjusted) on the subindex values across all available years. This procedure results in a weight of 0.825 for the national business environment subindex and 0.175 for the company operations and strategy subindex.<sup>22</sup> We finally calculate the BCI score for each country by combining these two subindexes using the calculated weights.

We recalculated all weights and factor loadings using weighted averages of the two most recent years, with the weights given by the relative number of responses in each year and a 60 percent (40 percent) weight for each individual response in the current year (previous year). The use of weighted averages improves the stability of the sample against year-to-year changes in the sampling process (see the discussion above on the Executive Opinion Survey for more detail). Most country rankings are within a maximum of three ranks under this new weighted-average approach. (Table A1 in the appendix compares the rankings for previous years as published last year with the recalculated rankings based on weighted averages.)

Figure 8 plots 2007 BCI scores against 2006 GDP per capita (PPP adjusted). The regression line is shown in the figure, together with bands above and below the regression line that delineate the 95 percent confidence forecast region.<sup>23</sup> *Differences in BCI account for a remarkable 82 percent of the variation in GDP per capita across a widely disparate group of countries.* Six countries fall outside the upper bound of the confidence interval and five countries fall below its lower bound.

In the regression we allow for a nonlinear relationship between the BCI and GDP per capita. The best fit proves to be the quadratic form, indicating a greater impact on GDP per capita of a given improvement in BCI for higher-income than for lower-income countries. This finding has two possible interpretations. First, lower-income countries may reap fewer productivity benefits from a given amount of microeconomic improvement because of weaknesses in macroeconomic, political, legal, and social conditions. Second, we would

expect improvements in microeconomic conditions to have positive spillovers—that is, an improvement in one part of the business environment has more impact if other parts of the business environment are stronger. This interpretation is consistent with the positive and significant interaction between company sophistication and the business environment reported above.

The overall BCI rankings for 2007 are shown in Table 1, along with rankings for previous years. Also included are the separate subindex rankings for the NBE and COS subindexes. Note that the number of countries is changing, so that changes in rank over time are a combination of a country's changing position and of changes in the sample of countries. Figure A1 in the appendix plots countries' BCI rank versus their BCI score, identifying the few cases in which there are larger gaps in terms of BCI score between countries ranked close to each other. Table A2 in the appendix reports the 2007 ranks for the constant sample of countries covered last year.

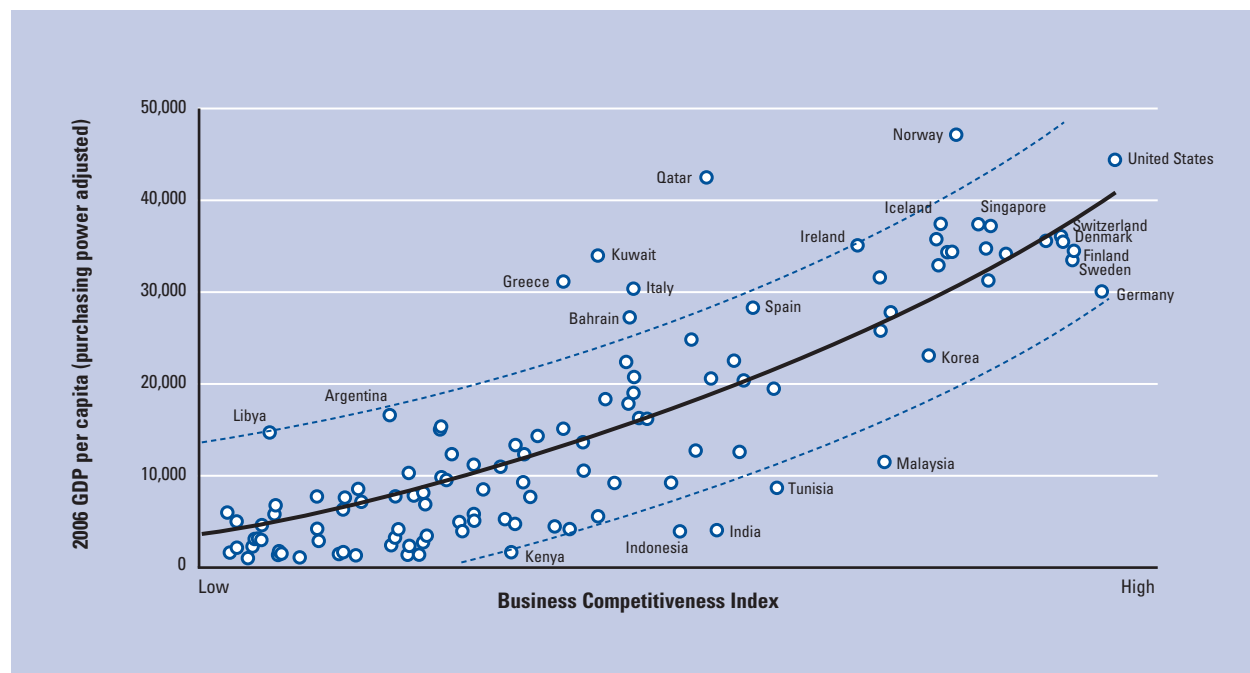
### Commentary on country rankings

The United States remains in the leading position in competitiveness, ahead of Germany, Finland, and Sweden.<sup>24</sup> The United States' strength is greatest in Survey indicators related to innovative capacity (it ranks 1st on university-industry research collaboration, local availability of specialized research and training services, and the quality of scientific research institutions; and 2nd on company R&D spending), and financial markets (1st on venture capital availability and financial market sophistication, and 3rd on local equity market access).

Germany continues to draw strength from the export orientation of companies (it ranks 1st on the extent of regional sales and the breadth of international markets), unique company positioning (1st on the nature of competitive advantage, the capacity for innovation, and production process sophistication), clusters (1st on local supplier quality and local supplier quantity, 2nd on local availability of process machinery and of specialized research and training services), and the quality of the regulatory and legal framework (1st on intellectual property [IP] protection, the effectiveness of antitrust policy, the presence of demanding regulatory standards, and the stringency of environmental regulations).

Finland remains strong in its government administrative infrastructure (it ranks 1st on the reliability of police services, business costs of corruption, and freedom from corruption); competitive environment (2nd on IP protection and the effectiveness of antitrust policy), and the educational system (1st on the quality of primary education and the quality of math and science education). It also has strengths in the telecommunication infrastructure (1st) and access to debt (1st) and venture capital (2nd).

Figure 8: Business competitiveness and prosperity



Source: GCR, 2007; Economist Intelligence Unit, 2007.

Sweden draws its strength from modern management structures (ranking 1st on the efficacy of corporate boards, willingness to delegate authority, value chain breadth, and reliance on professional management), a focus of businesses toward innovation (2nd on university-industry research collaboration, the local availability of specialized research and training services, and companies' capacity for innovation), and a regulatory and policy environment oriented toward open and innovation-based competition (1st on property rights and 2nd on government procurement of advanced technology products, laws relating to ICT, the stringency of environmental regulation, and the absence of trade barriers).

Please refer to the Country Profiles section of the *Report* for detailed descriptions of the specific competitive advantages and disadvantages by country that underpin the rankings.

High-income nations improving their rankings the most include Sweden (up five ranks after a decline last year; all rank changes refer to a constant sample of countries), registering strong improvements in regulatory effectiveness (laws relating to ICT, judicial independence, demanding regulatory standards, and government procurement of advanced technology products) but also improving intensity of local competition, access to the equity market, and the quality of management schools. Korea (up five ranks) registered strong improvements in several aspects of company sophistication, capital markets, and human resources. However, we are concerned that the Korean data are not representative and reflect

the nature of this year's sample. Qatar (up five ranks) benefited from improvements in company sophistication, particularly higher R&D spending and value chain breadth. Bahrain's improvement (up ten ranks) is likely a reflection of higher-quality data relative to last year, when we noted significant concerns about the lack of within-country consensus for the Survey response from Bahrain. The sample is more stable this year and thus the Bahrain 2007 ranking provides a more reliable indicator of the country's true competitiveness.

Advanced economies falling in the rankings include Cyprus (down four ranks), Kuwait (down four ranks), Taiwan (down four ranks), the United Kingdom (down four ranks), and France (down four ranks). Cyprus fell in areas related to modern management practices and training. Kuwait suffered the most serious drops in indicators related to education and administrative capacity. Taiwan registered declines in the strength of its capital markets and the efficiency of government. The United Kingdom slipped especially in areas related to supporting and related industries, while France fell in capital market efficiency and labor relations.

Middle-income nations improving their competitiveness ranking include Russia (up six ranks), Tunisia (up six ranks), China (up five ranks), Costa Rica (up four ranks), Ecuador (up four ranks), and Turkey (up three ranks). Russia has been able to regain some of the ground lost in the last two years, though improvements were narrow, in areas such as performance-based compensation, availability of scientists and engineers,



and less market dominance by business groups. Tunisia benefited from improving market-orientation in companies (customer orientation, sophistication of marketing) and improvements in domestic capital markets. China's ranking improved for the first time since 2003.

Improvements were most notable in buyer sophistication, performance-based compensation, and the quality of primary education.

Middle-income countries falling in competitiveness rank include Argentina (down 17 ranks), Botswana (down 10 ranks), Hungary (down 10 ranks), Mauritius (down 7 ranks), and Trinidad & Tobago (down 7 ranks). Argentina dropped dramatically, after its slight improvements in recent years. Deterioration is most evident in areas related to administrative infrastructure, such as police services. Botswana continues last year's downward trend, especially driven by lower rankings on multiple aspects of human resources and company sophistication. Hungary reversed the small improvements made since 2004, eroding dramatically in corruption, staff training, and indicators related to modern management and company governance.

Among low-income countries, Honduras, Sri Lanka, the Gambia, Kenya, Vietnam, and Benin registered the strongest improvements. The first three involve concerns about the validity of the data. Honduras (up 21 ranks) registers significant improvements in capital market conditions, corruption, and some aspects of infrastructure. Sri Lanka reports a dramatic improvement in company sophistication. The Gambia's improvements are more broad-based. Kenya improved most markedly in capital market conditions. Vietnam registered more intense local competition, better equity market access, and better IT laws.

Pakistan (down 11 ranks) and Zimbabwe (down 9 ranks) experienced the largest drops among low-income countries. Pakistan reversed all of the gains it made in recent years. It suffered especially in company sophistication, while business environment indicators were flat. Zimbabwe continues on its sad downward spiral, with large drops in many indicators related to administrative infrastructure, related and supporting industries, and demand conditions.

The comparison of subindex scores provides additional insights into the competitive environment for individual countries. We regress the subindex scores for the national business environment (NBE) on the subindex score for company operations and strategy (COS). Using the estimated coefficients, we calculate an expected NBE score for each country given its actual COS score. The gap between the expected and the actual NBE score gives an impression of the imbalances of strengths and weaknesses across these two dimensions of microeconomic competitiveness.

Indonesia, Philippines, Argentina, Brazil, Nigeria, Venezuela, Korea, Italy, and Japan are among the countries where the gap between the expected and the actual

NBE is highest; their business environments are significantly worse than expected given the sophistication of their companies. Algeria, Australia, Botswana, Estonia, Portugal, and Qatar are among the countries that show the opposite type of gap: the quality of their business environments is significantly ahead of their company sophistication. Both groups of countries suffer from these imbalances: weaker business environments can erode the ability of companies to sustain high levels of sophistication, and stronger business environments remain underutilized if companies do not upgrade their operations and strategies as well.

### Wages versus competitiveness

Competitiveness depends not on costs, but on productivity. Low wages can be a sign of low competitiveness, not a competitive advantage. High wages in a country, if they are justified by high productivity, can be an excellent value.

Last year, we initiated a new analysis of the relationship between the productivity of a country's economy—measured by its BCI score—and the prevailing wage levels. The correlation between wage levels and BCI values is quite high, as would be expected, with BCI explaining more than 80 percent of the variation of wages across countries. Competitiveness has a major impact on sustainable wage levels.

However, some countries have wages that were significantly above or below the expected wage level given the country's BCI value. This can occur for a wide variety of reasons, from strong unions and inflexible labor markets to rapid competitiveness improvements that run ahead of wage increases. The prevailing wages relative to competitiveness will make a country more or less attractive as an investment location.

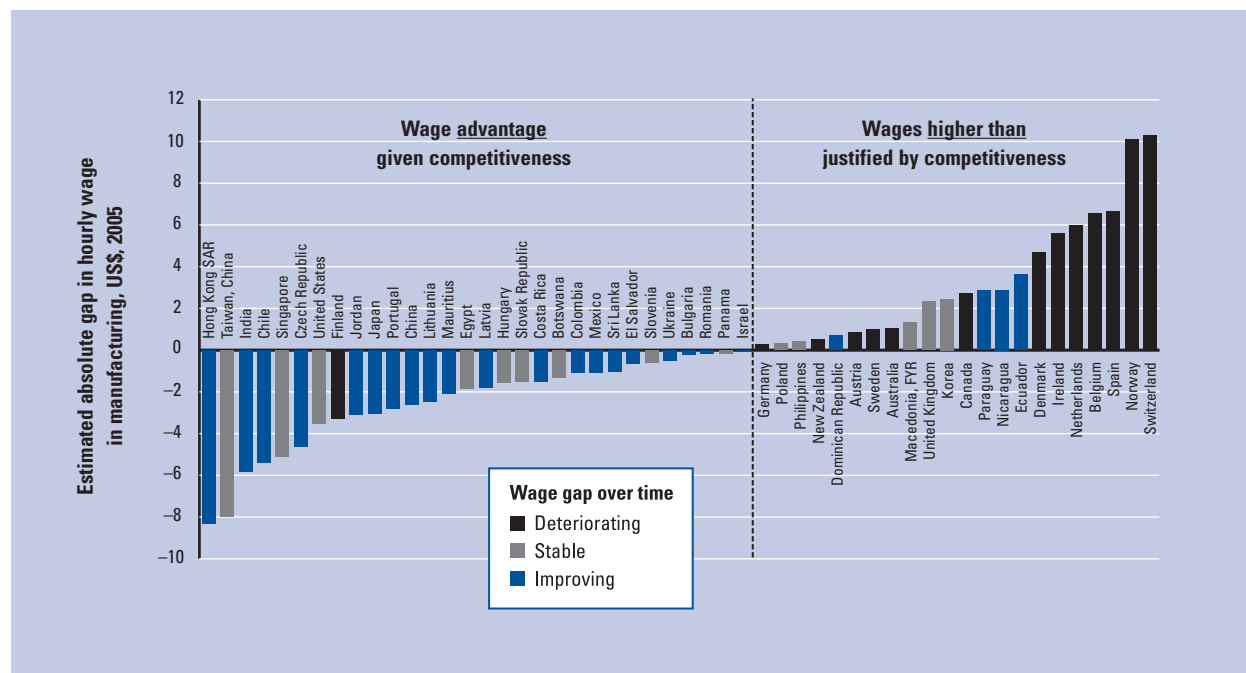
This year, we have access to a slightly broader and more consistent wage dataset, covering 47 countries for the period 2000 to 2005. Wages remain significantly correlated to BCI. Figure 9 plots the relationship between the 2005 actual wage and expected wage given a country's 2005 BCI score. Comparable wage data across countries are available only until 2005; for consistency we also use the 2005 BCI data. Figure 9 also shows whether the wage gap has deteriorated (wages have grown faster than competitiveness) or improved (competitiveness has grown faster than wages).

We find that, on average, the differences between countries with high wages relative to their competitiveness versus those with low wages relative to their competitiveness have increased over time. A significant factor in this shift has been the depreciation of the US dollar, which has made already costly European locations even costlier.

The countries with the highest 2005 wages relative to their competitiveness in 2005 were Switzerland, Norway, Spain, and Belgium. In particular, Belgium, Switzerland, and the Netherlands have seen their wages



Figure 9: Wages vs. competitiveness



Source: US Department of Commerce International Trade Administration; EUROSTAT; authors' analysis.

rise much more quickly than their competitiveness. These countries are vulnerable as locations for investments where labor costs are a meaningful part of total costs.

The economies with the lowest wages relative to competitiveness in 2005 were Taiwan, Hong Kong, and India, followed by Chile, Singapore, the Czech Republic, and the United States. These economies represent good values as investment locations. El Salvador, Mexico, Lithuania, India, and Japan have seen their competitiveness rise faster than their wages, improving their value proposition.

### Country dynamism

Competitiveness is a dynamic concept. Countries can increase their absolute and relative prosperity levels if they can improve their business environment and company sophistication faster than other nations. Last year, we introduced a measure of country dynamism, or the rate at which a country is upgrading its competitiveness over time. The measure is based on countries' improvements in those indicators most important within their respective income group. Table A3 in the appendix identifies the 10 business environment and 5 company sophistication indicators per income group that we have used. This year, we extend the analysis to cover an additional year of data and track countries' dynamism over the medium term (2002 to 2007).

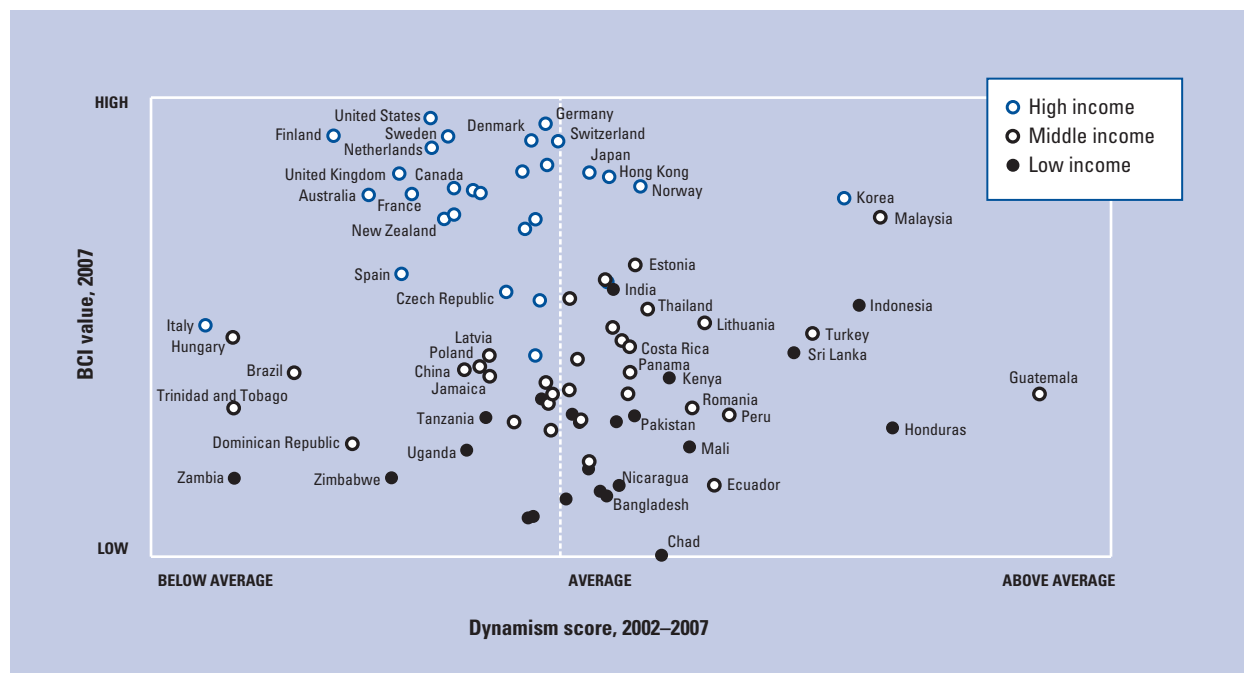
We calculate dynamism for 86 countries where sufficient time-series data are available. First, we calculate separate factor analyses by country income group to

identify the 10 indicators of business environment quality and 5 indicators of company sophistication that have the greatest influence. The most significant indicators for improving competitiveness will vary by income group. Second, for each country we calculate the change of standardized average responses for the 15 most significant indicators over the time period for its income group. Third, we multiply the responses by their factor score in the BCI model, separately calculate the sums for business environment and company sophistication, and weight the subindexes for business environment and company sophistication using the coefficients used in the BCI model.

Figure 10 plots each country's dynamism score (2002 to 2007) versus its 2007 BCI value. The data reveal that there is no systematic relationship between current business competitiveness and dynamism. Every country, whatever its current level of competitiveness, has the opportunity to improve its competitiveness if it can address the most important issues for competitiveness for its stage of economic development. The data also reveal that the high-income countries are improving competitiveness less than low-income countries, and that middle-income countries have made the greatest strides. In 2007, a large number of high-income countries registered negative rates of dynamism, while most middle-income countries reported gains.

Among the low-income countries, Honduras registers the highest medium-term dynamism, followed by Indonesia and Sri Lanka. Indonesia has been able to

Figure 10: Rate of Competitiveness Improvement, 2002–2007



Source: GCR, 2007.

make headway in the difficult transition after the end of the Suharto regime. For Honduras and Sri Lanka we have some concerns about the quality of the 2007 Survey data. Zimbabwe has the worst record in terms of dynamism.

Among middle-income countries, Guatemala registered the highest rate of medium-term dynamism, followed by Malaysia, Peru, Turkey, Ecuador, and Lithuania. Hungary, Trinidad and Tobago, Brazil, and the Dominican Republic have registered the lowest medium-term dynamism among the middle-income countries.

Among high-income economies, Korea registered the strongest dynamism, but we have serious concerns about the 2007 data, as noted earlier. Norway, Hong Kong, and Portugal registered high medium-term dynamism. Italy has registered the weakest medium-term dynamism of all high-income countries, though recent performance has changed the trend. Finland follows with the second lowest medium-term dynamism. As for Italy, Finland's worst years are in the past. Australia and the United Kingdom have slipped more recently. Taiwan, New Zealand, France, and Japan show recent deterioration.

#### Other influences on competitiveness

We can gain further insight into economic development by exploring the role of other influences on country's current level of per capita income compared to the BCI.

We discussed earlier how competitiveness depends on natural resources, geographic location, and context.<sup>25</sup>

We specify a comprehensive regression of GDP per capita as a function of BCI and measures of natural resource exports per capita, access to coastlines, the prosperity of neighbors measured by average GDP, and a common factor for political stability and government accountability.<sup>26</sup> In a joint regression with BCI, all these variables are statistically significant in explaining GDP per capita. Together, the model explains 87.7 percent in the variation of GDP per capita across countries.<sup>27</sup>

Table 3 reports countries' ranks in terms of the overall influence of context and endowments, and indicates areas in which their benefits or costs are particularly strong. The ranks for context and endowments and for competitiveness are significantly correlated, but individual countries deviate from this pattern.<sup>28</sup>

Overall, Norway, Denmark, and the Netherlands benefit most from their context and endowments. The Kyrgyz Republic, Pakistan, Bolivia, Armenia, and Azerbaijan suffer the most.

In terms of political stability and government accountability, Switzerland, Finland, New Zealand, Norway, Sweden, Austria, Ireland, Denmark, the Netherlands, and Canada benefit most from their position. Pakistan, China, Colombia, Venezuela, Russia, and Thailand are among the countries that suffer most from their weakness in this dimension. Political stability and government accountability is high for high-income countries, while especially middle-income countries are facing challenges in this dimension.

In terms of location, Denmark, the Netherlands, Singapore, the United Kingdom, Hong Kong, Costa Rica, Panama, Croatia, and the Philippines benefit most from their access to global waterways. Kazakhstan, Azerbaijan, Armenia, Bolivia, Namibia, and Russia are among the countries in which the lowest share of the population is in areas at or close to coastal waters. Most high-income countries have significant connections to waterways. Among middle- and low-income countries there is greater variation in terms of accessibility.

Canada, Korea, Mexico, Hong Kong, Switzerland, the Netherlands, Belgium, France, and Ireland are among the countries that benefit most from their neighborhood. South Africa, Tanzania, the Gambia, Costa Rica, Nicaragua, and Honduras suffer most from economically weak neighbors. Neighborhood effects tend to reinforce high or low prosperity in groups of neighboring countries.

Natural resource exports make the largest contribution to prosperity in countries such as Norway, Trinidad and Tobago, Australia, Canada, Venezuela, New Zealand, and Kazakhstan. Nicaragua, Mozambique, Turkey, the Ukraine, Thailand, and Switzerland rank lowest on this measure. Natural resources are randomly distributed across countries of all incomes.

We also study the relationship between GDP and context and endowment conditional on income group and competitiveness. We find that for all income groups, natural resource endowments is a meaningful factor in explaining a country's GDP, especially for low-income countries. Interestingly, we find that context and endowment variables are more important for low- to middle-income countries than for high-income countries. The prosperity of middle-income countries is most associated with the policy context, while the prosperity of low-income countries is quite influenced by the prosperity of their neighbors.

We use the coefficients derived in the joint regression to predict GDP per capita levels for all countries based on all these factors. Countries whose level of actual GDP per capita is above the expected level are termed *overperformers*; countries below the expected level are termed *underperformers*.

Overperformance can be a danger sign, because it indicates that the level of prosperity enjoyed in a country is not sustainable given its microeconomic and other fundamentals. For example, current prosperity can be based on speculative inflows of foreign capital or foreign aid. Underperformance can be a positive sign, by indicating the potential for rapid improvements in prosperity. Figure A2 in the appendix shows the level of over- and underperformance by country.

Among high-income countries, Greece and Italy register the highest overperformance. Both countries are most likely benefiting from their position in the European Union (EU), which provides market access and financial transfers. The position of both countries

still looks precarious for the medium-term future.

Germany registers the highest underperformance among high-income countries. Germany still seems to suffer from structural problems related to inflexible labor markets that have been exacerbated through the integration of the East German economy.

Among middle-income countries, Argentina and Russia register the highest overperformance. Argentina still seems to benefit from a better past that has left the country with a capital stock and other legacy assets sustaining prosperity beyond what the country could expect given today's performance. But that legacy will inevitably erode. Russia has also been able to draw on its legacy in terms of production capacity, basic skills, and other assets. But if there is no improvement in underlying competitiveness, its dependence on increasing oil and gas revenues will only increase over time. Malaysia, Chile, and Costa Rica are among the middle-income countries that register the highest level of underperformance. Malaysia has not been sufficiently able to translate improvements in competitiveness into higher prosperity. Chile and Costa Rica have for years upgraded their competitiveness and should be able to expect this to translate into further prosperity gains in the years to come.

Among low-income countries, only Bolivia registers overperformance. This could be a sign of current prosperity driven by the expectation of future oil and gas revenues that is unsustainable even at the current low level, given the country's fundamentals. India and Indonesia register the highest underperformance among low-income countries. India suffers from huge heterogeneity among its regions: for a large part of the Indian population, the opportunities of the country's competitiveness are far away. Indonesia is still paying the price for the turbulences surrounding the end of the Suharto era.

## Conclusions

National prosperity is ultimately determined by competitiveness, which is manifested by the productivity with which a nation utilizes its human, capital, and natural resources. Competitiveness is rooted most importantly in a nation's microeconomic fundamentals, contained in the sophistication of company operations, the quality of the microeconomic business environment, and the strength of clusters.

In many parts of the world there is an increasing understanding that the microeconomic fundamentals are a critical driver of sustainable prosperity. Stable institutions, sound macroeconomic policies, market opening, and privatization are necessary but not sufficient. More than 80 percent of the variation of GDP per capita across countries is accounted for by microeconomic factors. Context, such as political stability, and endowments, such as natural resource, physical location, and neighborhood, also play a role. However, the impact of

Table 3: Context and endowments

Country/Economy	BCI rank	Context and endowment rank	Effect of . . .			
			Political system	Logistical location	Neighboring countries	Natural resources
United States	1	8				
Germany	2	4				
Finland	3	6	+++			
Sweden	4	7	++			
Denmark	5	2	+	++		+
Switzerland	6	9	+++		++	
Netherlands	7	3	+	++	+	++
Austria	8	10	+			
Singapore	9	17		++		
Japan	10	14				
United Kingdom	11	13		++		
Hong Kong SAR	12	15		++	++	-
Norway	13	1	++			+++
Canada	14	5	+		+++	++
Belgium	15	11			+	+
France	16	18			+	
Australia	17	12				++
Korea	18	19			+++	
Israel	19	22				
Malaysia	20	21				
New Zealand	21	16	++			+
Ireland	22	20	+		+	
Tunisia	23	32				
Estonia	24	23				
Spain	25	26				
Chile	26	24				
Portugal	27	25				
India	28	37				--
Czech Republic	29	28				
South Africa	30	35			---	
Slovenia	31	27				
Indonesia	32	42				
Thailand	33	45	-		-	
Lithuania	34	29				
Italy	35	33				
Slovak Republic	36	30				
Turkey	37	46				
Hungary	38	31				
Jordan	39	50				
Costa Rica	40	34		++	--	
Sri Lanka	41	52	--			-
Greece	42	36				
Latvia	43	38				

(cont'd.)

Country/Economy	BCI rank	Context and endowment rank	Effect of . . .			
			Political system	Logistical location	Neighboring countries	Natural resources
Poland	44	40				
China	45	64	---			-
Panama	46	44		++		
Brazil	47	47				
Croatia	48	43		++	-	
Morocco	49	53				
Mexico	50	48			++	
Colombia	51	67	-			
Philippines	52	58	-	++		-
Guatemala	53	57				
Uruguay	54	41				
Russia	55	68	-	-		
Kazakhstan	56	55		--		+
Trinidad and Tobago	57	39		++		+++
Peru	58	60				
Azerbaijan	59	76	---	--		
Pakistan	60	79	---	-	+	---
Tanzania	61	63			---	--
Ukraine	62	56				
Gambia, The	63	59		++	--	---
Bulgaria	64	49				
Namibia	65	51		-		
Honduras	66	62			-	
Argentina	67	54				
Macedonia, FYR	68	71		-		
Moldova	69	69		+++		
Georgia	70	74				
Venezuela	71	61	-			+
Bosnia and Herzegovina	72	66			-	
Armenia	73	77		--		--
Ecuador	74	73				
Nicaragua	75	72			--	
Kyrgyz Republic	76	80	--	--		-
Mozambique	77	65			-	
Albania	78	70				
Bolivia	79	78		-		
Paraguay	80	75				

Source: GCR, 2007; Economist Intelligence Unit; World Bank Governance Indicators; Gallup et al., 1999; UN Comtrade; authors' calculations.

Note: \* BCI rank across the 80 countries for which data on context and endowments are available.

This table indicates for each context and endowment variable the countries that have the best (+++, ++, +) and the worse positioning (---, --, -).

Blank cells represent countries that are not in the top/bottom of the distribution in terms of the context or endowments indicators.

context and endowments is far less significant than underlying competitiveness, especially for middle- and high-income countries.

There is a need today for countries to refocus their economic policies on microeconomic competitiveness. In moving from macroeconomic to microeconomic policies, governments need to find better ways to coordinate policies across a multitude of ministries and agencies. They also need to find better ways to mobilize the involvement of companies, educational and research institutions, and others through persuasion, incentives, and leadership. Competitiveness will increasingly depend on countries' ability to build effective collaborative

structures for delivering sustained upgrading of microeconomic fundamentals.

National strategies to enhance competitiveness are a reflection of a clear understanding of the underpinnings of competitiveness and country-specific conditions. The Business Competitiveness Index sheds light on each country's strengths and weaknesses. The wage gap (which we can calculate for just a subset of countries) illustrates the balance between a country's competitiveness and its wages, which will affect its attractiveness as an investment location. Countries need to manage this carefully. The dynamism score provides an indication of the rate of progress countries are making toward

improving competitiveness given their current stage of development.

Competitiveness is a marathon, not a sprint. Our ultimate aim in this chapter is to inform and motivate the long-term policy changes that can make any country prosperous, no matter what its starting position.

## Notes

- 1 We would like to thank Rich Bryden for his major role in the analyses reported here. Lyn Pohl provided able supervision of the final production of the chapter.
- 2 The proportion of the variation in GDP per capita explained by the BCI has grown modestly over the last several years as the model has been improved.
- 3 Porter 1985.
- 4 Porter 1990, 1998b; Porter with Ketels and Delgado 2006.
- 5 This notion is very similar to the “bottlenecks” to economic development identified by Hausman (2006).
- 6 See the *Clusters of Innovation* report (Porter, Council on Competitiveness, and Monitor Group 2001); further reports on five US regions are available at [www.compete.org](http://www.compete.org).
- 7 See the report by Harvard students Jean Hayden, Chai McConnell, Peter Tynan, and Alexandra West.
- 8 See Porter 2003 and the Institute for Strategy and Competitiveness’ Cluster Mapping Project data on US regions available at <http://data.isc.hbs.edu/isc/index.jsp>. Porter 2003 offers a detailed analysis of the cluster framework and its implications for regional performance. Using the Cluster Mapping Project data, Delgado, Porter, and Stern 2006 separate the influence of convergence and agglomeration on the employment (and patenting) growth of industries, regional clusters, and regional economic areas. They find that, after controlling for convergence forces, there are systematic evidences for cluster-driven agglomeration forces. See also Ketels and Sölvell 2006 for data on regions in the 10 new EU member countries.
- 9 See findings reported by the European Cluster Observatory 2007.
- 10 See reports by student teams at Harvard in 2003.
- 11 The stages were first introduced in Porter 1990.
- 12 For a political science perspective, see Bremmer 2006.
- 13 See as an example of a private sector-led initiative the “Wirtschaftsinitiative für Mitteldeutschland” in eastern Germany (Fear and Ketels 2006).
- 14 The notion of institutions for collaboration has been developed further in joint work with Willis Emmons, Georgetown University. See Porter and Emmons 2003.
- 15 For a survey of cluster initiatives, a specific type of IFC with the explicit purpose to mobilize and upgrade a cluster, see Sölvell et al. 2003.
- 16 One surveyed economy, Luxembourg, was not included in the calculations because—given its small size, functional concentration on a few sectors, and almost complete integration into its neighboring economies—it is better understood as regional economy.
- 17 In the case of Ireland, we used GNP instead of GDP because of the size of dividend outflows to foreign investors. Ireland’s GDP is about 20 percent higher than its GNP.
- 18 These reasons could include larger actual heterogeneity within the country as well as greater uncertainty by respondents about appropriate international benchmarks.
- 19 Prior to 2005, the respondents for the Executive Opinion Survey in the United States were largely World Economic Forum (Forum) members. In the last two years the sampling for the Executive Opinion Survey in the United States changed, increasing the number of respondents but creating poor comparability to past US

data and to the samples of other countries. To reduce these problems, we have used the following procedure:

The 2007 US sample has 609 respondents, of which we have selected 159 observations (77 Forum and 82 are executives surveyed by the US Chamber of Commerce.). We have kept all Forum Survey respondents to keep continuity and comparability with previous years. Of the non-Forum respondents, we have decided to make some drops because the distribution of non-Forum is dramatically different from the Forum responses, reducing the consistency of responses across the sample. We focus on responses by companies that are most likely to be able to give an informed opinion on the quality of the overall (rather than their local) business environment. In order to maintain comparability and obtain a sample representative of the US economy, we have followed the following criteria to select among the non-Forum Surveys: first, we drop companies that report low exposure to international competition. Second, we drop companies with less than 1 million in revenues. Third, we drop companies with less than 50 employees. Fourth, we drop those Surveys that operate in locally oriented activities (versus traded sectors), such as health and retail services. Finally, we drop 15 Surveys with clearly incorrect responses for selected questions. In particular, we throw out the entire survey when a response in the four highest gap (to Forum) questions has the value 1. These questions are (1) Business costs of corruption, (2) Willingness to delegate authority; (3) Intellectual property protection; and (4) Favoritism in decisions of government officials (the gap between Forum and Non-Forum in these questions was around 20 percent). For future years, we will be gathering more information about the respondents to improve the stratification of the data and use as many of the responses as possible. The BCI index relies heavily on Survey indicators and is therefore sensitive to discontinuities in the sampling process.

- 20 We prefer their ranking to the other available rankings of economic freedom because of their coverage and the additional data it introduces.
- 21 The business competitiveness chapter in last year’s *Global Competitiveness Report* unfortunately included a mislabeling of indicators in Table 3. Please refer to this year’s Table 2 for the corrected bilateral regression results.
- 22 The panel regression results using the two-year weighted averages are the following:

Dependent variable: GDP per capita (PPP adjusted), 2001–2005			
	Adj. $R^2$		
Observations	.808		
	370		
	Coefficients	t-stat	P-value
NBE factor	8,461.448	7.99	.000
COS factor	1,791.806	1.69	.091
Intercept	13,436.400	23.18	.000

Note: The regression includes year dummies for 2002 to 2005.

Note that the subindexes’ weights using the two-year weighted averages (versus the annual data) change only trivially. See Porter et al. 2006 (p.65) for more details on the BCI method.

- 23 The forecast region has wider bands than a 95 percent mean confidence region. The mean confidence region provides a confidence interval for a given level of competitiveness over repeated observations. The forecast region method, in contrast, reflects a higher degree of inherent uncertainty in predicting a single observation. As a result, interpretation of the proximity of data points to the regression line should be undertaken with appropriate caveats. Note that the forecast region widens slightly as it moves away from the “center” of the graph. The center is the point located at the intersection of the mean GDP per capita level and mean factor score.
- 24 Note that for purposes of computing the BCI for the United States, we have utilized only a portion of the responses that was comparable with the sampling approach used in previous years and in the other countries.
- 25 See Hall and Jones 1999 for a careful analysis of the role of the social infrastructure on country performance.
- 26 We use the data provided by Kaufman et al. 2007.



27 The specific econometric model is as follows:

Dependent variable: GDP per capita (PPP adjusted), 2001–2006			
Adj. $R^2$	.877		
Observations	405		
	Coefficients	t-stat	P-value
BCI	7,257.300	10.180	.000
BCI-squared	1,783.447	3.920	.000
Natural resources	1,425.816	7.910	.000
Political stability and gov't accountability	2,703.127	3.570	.001
Logistical location	17.269	0.910	.367
Prosperity of neighbors in 2000	.375	2.010	.049
Intercept	9,740.110	6.210	.000

Note: Standard errors are robust and clustered by country. The regression includes year dummies for 2002 to 2006.

28 When we decompose a country's predicted GDP in the part explained by the BCI and the part explained by the context variables, the correlation between these two components is above 0.65.

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Appendix Table A1: Ranking comparison: New moving averages vs. annual averages

Country/Economy	2007		2006		2005		2004		2003		2002	
	New	Old	New	Old	New	Old	New	Old	New	Old	New	Old
United States	1	1	1	1	1	1	2	1	2	2	1	1
Germany	2	2	2	3	2	3	3	3	3	5	3	4
Finland	3	3	3	2	3	1	2	1	1	1	2	2
Sweden	4	9	7	9	11	5	5	5	3	4	5	5
Denmark	5	4	5	4	4	4	4	4	4	4	8	6
Switzerland	6	5	4	8	8	8	9	7	8	5	7	7
Netherlands	7	6	6	6	7	7	8	8	9	7	8	8
Austria	8	11	12	13	12	17	16	16	19	12	14	14
Singapore	9	10	11	10	6	9	12	9	6	9	10	10
Japan	10	8	9	7	9	11	7	13	13	15	11	11
United Kingdom	11	7	8	5	5	6	6	6	7	6	3	3
Hong Kong SAR	12	12	10	15	17	13	11	20	16	19	21	21
Norway	13	17	14	19	19	20	17	21	21	18	20	20
Canada	14	15	15	16	14	15	15	11	12	11	12	12
Belgium	15	18	17	18	18	16	18	14	15	14	13	13
Iceland	16	14	13	17	16	18	20	15	14	16	16	16
France	17	13	16	11	10	12	14	12	11	13	17	17
Australia	18	16	18	12	13	10	10	10	10	10	9	9
Korea	19	24	25	24	24	24	26	23	23	25	22	22
Israel	20	21	19	22	22	21	22	17	18	20	18	18
Malaysia	21	23	20	23	23	23	23	25	24	29	25	25
New Zealand	22	20	23	20	20	19	19	19	17	21	19	19
Taiwan, China	23	19	21	14	15	14	13	18	20	17	15	15
Ireland	24	22	22	21	21	22	21	22	22	22	23	23
Tunisia	25	31	26	34	36	30	36	31	31	n/a	34	34
Estonia	26	25	24	26	27	25	24	27	27	26	27	27
Spain	27	26	30	25	25	26	27	24	25	23	24	24
United Arab Emirates	28	32	31	27	32	n/a	25	n/a	n/a	n/a	n/a	n/a
Chile	29	30	29	30	29	28	29	29	30	30	29	29
Portugal	30	28	28	31	28	31	30	35	34	33	36	36
India	31	27	27	32	31	32	31	36	37	36	37	37
Czech Republic	32	29	32	29	26	34	33	34	35	32	32	32
Qatar	33	38	34	n/a	41	n/a	n/a	n/a	n/a	n/a	n/a	n/a
South Africa	34	33	33	28	30	27	28	28	28	28	30	30
Slovenia	35	34	36	33	33	29	32	30	32	31	28	28
Indonesia	36	42	35	53	59	50	53	58	50	57	66	66
Thailand	37	35	37	35	35	33	35	33	33	35	33	33
Oman	38	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Lithuania	39	40	43	39	39	36	37	39	38	43	38	38
Malta	40	44	41	44	46	43	46	n/a	41	n/a	n/a	n/a
Barbados	41	n/a	42	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Italy	42	37	38	37	37	35	42	26	26	24	26	26
Bahrain	43	51	51	40	47	n/a	34	n/a	n/a	n/a	n/a	n/a
Slovak Republic	44	41	40	43	43	42	43	43	43	38	40	40
Cyprus	45	39	45	36	34	n/a	41	n/a	n/a	n/a	n/a	n/a
Turkey	46	47	46	51	49	54	55	50	52	50	51	51
Hungary	47	36	39	38	38	40	40	37	39	27	31	31
Jordan	48	46	52	41	42	39	44	40	36	45	48	48
Kuwait	49	43	44	n/a	40	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Costa Rica	50	52	50	47	52	45	47	45	47	41	41	41
Saudi Arabia	51	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Sri Lanka	52	69	65	69	69	60	65	51	59	49	47	47
Greece	53	48	49	42	45	41	38	41	42	40	42	42
Latvia	54	49	47	46	48	37	50	32	29	42	44	44
Mauritius	55	45	48	49	50	47	51	47	45	46	49	49
Poland	56	50	53	50	44	51	63	44	44	37	43	43
China	57	59	64	48	54	44	48	42	46	44	39	39
Panama	58	55	58	57	56	59	60	60	67	51	54	54
Brazil	59	53	55	45	51	38	39	38	40	34	35	35
Croatia	60	58	56	66	65	64	70	59	60	n/a	55	55
Jamaica	61	54	54	52	53	53	56	54	54	48	58	58
Kenya	62	67	68	67	73	66	67	n/a	69	n/a	n/a	n/a
Morocco	63	70	66	56	76	46	45	46	49	n/a	45	45
Mexico	64	56	57	54	58	49	52	52	48	52	59	59
Colombia	65	57	59	58	60	57	62	55	58	54	56	56
Philippines	66	68	72	70	66	71	71	65	72	56	64	64
Guatemala	67	81	61	88	102	82	85	73	85	68	72	72
Uruguay	68	62	62	65	63	65	69	62	66	47	57	57

(cont'd.)

Appendix Table A1: Ranking comparison: New moving averages vs. annual averages (cont'd.)

Country/Economy	2007		2006		2005		2004		2003		2002	
	New	Old	New	Old	New	Old	New	Old	New	Old	New	Old
El Salvador	69		60	60	59	57	61	64	63	65	60	62
Egypt	70		n/a	76	n/a	n/a	52	54	n/a	57	n/a	n/a
Russia	71		73	79	61	70	58	58	61	61	55	60
Kazakhstan	72		65	70	n/a	64	n/a	n/a	n/a	n/a	n/a	n/a
Romania	73		71	74	63	71	63	61	67	70	62	67
Trinidad and Tobago	74		63	63	60	62	56	59	48	51	39	46
Botswana	75		61	69	55	55	55	57	53	55	n/a	53
Vietnam	76		80	82	75	77	62	78	57	56	59	61
Peru	77		74	71	76	79	77	80	69	78	64	68
Azerbaijan	78		72	77	n/a	72	n/a	n/a	n/a	n/a	n/a	n/a
Pakistan	79		64	67	72	67	74	77	n/a	75	n/a	20
Tanzania	80		75	73	74	78	67	74	n/a	62	n/a	n/a
Ukraine	81		77	81	68	68	68	66	68	73	61	69
Gambia, The	82		90	92	79	93	73	76	n/a	74	n/a	n/a
Bulgaria	83		79	83	71	74	69	68	66	71	63	63
Nigeria	84		76	80	73	75	75	73	70	80	65	70
Montenegro	85		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Syria	86		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Namibia	87		78	75	62	80	48	49	49	53	n/a	50
Honduras	88		103	106	94	104	90	98	77	91	74	79
Senegal	89		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Argentina	90		66	78	64	61	70	72	64	68	58	65
Serbia	91		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Dominican Republic	92		85	84	83	98	72	79	56	64	53	52
Benin	93		93	95	n/a	99	n/a	n/a	n/a	n/a	n/a	n/a
Mali	94		86	91	85	85	84	89	n/a	89	n/a	n/a
Macedonia, FYR	95		82	87	80	83	81	87	n/a	82	n/a	n/a
Uganda	96		84	88	77	84	76	75	n/a	79	n/a	n/a
Algeria	97		83	85	82	89	80	84	n/a	86	n/a	n/a
Burkina Faso	98		n/a	89	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Moldova	99		87	90	n/a	88	n/a	n/a	n/a	n/a	n/a	n/a
Georgia	100		92	100	86	90	n/a	90	n/a	n/a	n/a	n/a
Venezuela	101		89	93	84	91	79	86	72	83	67	73
Madagascar	102		94	97	87	96	83	88	n/a	87	n/a	n/a
Mauritania	103		n/a	101	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Tajikistan	104		97	98	n/a	100	n/a	n/a	n/a	n/a	n/a	n/a
Zimbabwe	105		88	103	78	81	78	82	71	84	66	71
Zambia	106		n/a	116	n/a	n/a	n/a	n/a	n/a	77	n/a	n/a
Bosnia and Herzegovina	107		95	96	90	101	n/a	91	n/a	n/a	n/a	n/a
Armenia	108		91	94	n/a	87	n/a	n/a	n/a	n/a	n/a	n/a
Libya	109		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Suriname	110		n/a	109	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Ecuador	111		102	105	92	106	85	92	74	88	72	77
Mongolia	112		96	99	n/a	94	n/a	n/a	n/a	n/a	n/a	n/a
Nicaragua	113		100	102	93	103	89	97	76	92	70	76
Cambodia	114		104	107	n/a	107	n/a	n/a	n/a	n/a	n/a	n/a
Cameroon	115		98	113	n/a	92	n/a	n/a	n/a	n/a	n/a	n/a
Kyrgyz Republic	116		105	112	n/a	105	n/a	n/a	n/a	n/a	n/a	n/a
Ethiopia	117		107	118	95	109	86	95	n/a	93	n/a	n/a
Bangladesh	118		99	108	91	97	88	99	75	90	71	74
Guyana	119		106	114	n/a	108	n/a	n/a	n/a	n/a	n/a	n/a
Nepal	120		n/a	111	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Mozambique	121		101	110	89	95	87	93	n/a	95	n/a	n/a
Albania	122		109	119	n/a	111	n/a	n/a	n/a	n/a	n/a	n/a
Bolivia	123		108	117	96	110	91	96	78	94	73	78
Paraguay	124		110	120	97	112	92	94	79	96	69	75
Lesotho	125		n/a	115	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Burundi	126		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Chad	127		111	121	98	113	93	100	n/a	97	n/a	n/a

Note: n/a, not available.

Appendix Table A2: Changes in BCI rank with a constant sample of countries in 2006 and 2007

Country/Economy	BCI ranking			Quality of the national business environment ranking			Company operations and strategy ranking		
	2007	2006	Change	2007	2006	Change	2007	2006	Change
United States	1	1	0	1	1	0	1	1	0
Germany	2	2	0	2	3	1	2	2	0
Finland	3	3	0	3	2	-1	9	9	0
Sweden	4	9	5	4	10	6	3	4	1
Denmark	5	4	-1	5	4	-1	5	6	1
Switzerland	6	5	-1	6	6	0	4	5	1
Netherlands	7	6	-1	7	5	-2	7	8	1
Austria	8	11	3	9	12	3	8	10	2
Singapore	9	10	1	8	9	1	14	14	0
Japan	10	8	-2	12	8	-4	6	3	-3
United Kingdom	11	7	-4	11	7	-4	11	7	-4
Hong Kong SAR	12	12	0	10	11	1	16	15	-1
Norway	13	17	4	13	17	4	15	20	5
Canada	14	15	1	14	15	1	17	18	1
Belgium	15	18	3	16	18	2	13	13	0
Iceland	16	14	-2	17	14	-3	19	16	-3
France	17	13	-4	18	16	-2	12	11	-1
Australia	18	16	-2	15	13	-2	24	23	-1
Korea	19	24	5	19	25	6	10	21	11
Israel	20	21	1	21	21	0	21	19	-2
Malaysia	21	23	2	22	22	0	20	22	2
New Zealand	22	20	-2	20	20	0	25	24	-1
Taiwan, China	23	19	-4	23	19	-4	18	12	-6
Ireland	24	22	-2	24	23	-1	22	17	-5
Tunisia	25	31	6	25	28	3	33	38	5
Estonia	26	25	-1	26	24	-2	35	34	-1
Spain	27	26	-1	27	27	0	30	28	-2
United Arab Emirates	28	32	4	28	32	4	37	37	0
Chile	29	30	1	30	29	-1	28	31	3
Portugal	30	28	-2	29	26	-3	39	41	2
India	31	27	-4	33	30	-3	27	25	-2
Czech Republic	32	29	-3	32	31	-1	31	27	-4
Qatar	33	38	5	31	35	4	42	53	11
South Africa	34	33	-1	35	33	-2	26	26	0
Slovenia	35	34	-1	34	34	0	29	30	1
Indonesia	36	42	6	39	45	6	23	32	9
Thailand	37	35	-2	36	36	0	36	33	-3
Lithuania	38	40	2	41	42	1	38	39	1
Malta	39	44	5	37	43	6	58	61	3
Italy	40	37	-3	43	39	-4	32	29	-3
Bahrain	41	51	10	40	46	6	51	65	14
Slovak Republic	42	41	-1	42	41	-1	44	46	2
Cyprus	43	39	-4	38	38	0	63	55	-8
Turkey	44	47	3	46	50	4	40	40	0
Hungary	45	36	-9	44	37	-7	54	42	-12
Jordan	46	46	0	47	44	-3	49	62	13
Kuwait	47	43	-4	45	40	-5	57	57	0
Costa Rica	48	52	4	50	53	3	34	35	1
Sri Lanka	49	69	20	51	67	16	43	68	25
Greece	50	48	-2	49	47	-2	55	50	-5
Latvia	51	49	-2	48	48	0	59	49	-10
Mauritius	52	45	-7	52	49	-3	48	43	-5
Poland	53	50	-3	53	51	-2	53	45	-8
China	54	59	5	54	58	4	52	59	7
Panama	55	55	0	55	56	1	56	47	-9
Brazil	56	53	-3	60	54	-6	41	36	-5
Croatia	57	58	1	58	55	-3	60	66	6
Jamaica	58	54	-4	57	52	-5	61	51	-10
Kenya	59	67	8	59	68	9	50	58	8
Morocco	60	70	10	56	66	10	70	78	8
Mexico	61	56	-5	61	57	-4	46	48	2
Colombia	62	57	-5	62	59	-3	64	52	-12
Philippines	63	68	5	69	74	5	45	44	-1
Guatemala	64	81	17	66	84	18	47	73	26
Uruguay	65	62	-3	63	62	-1	71	72	1
El Salvador	66	60	-6	65	61	-4	67	63	-4

(cont'd.)



Appendix Table A2: Changes in BCI rank with a constant sample of countries in 2006 and 2007 (cont'd.)

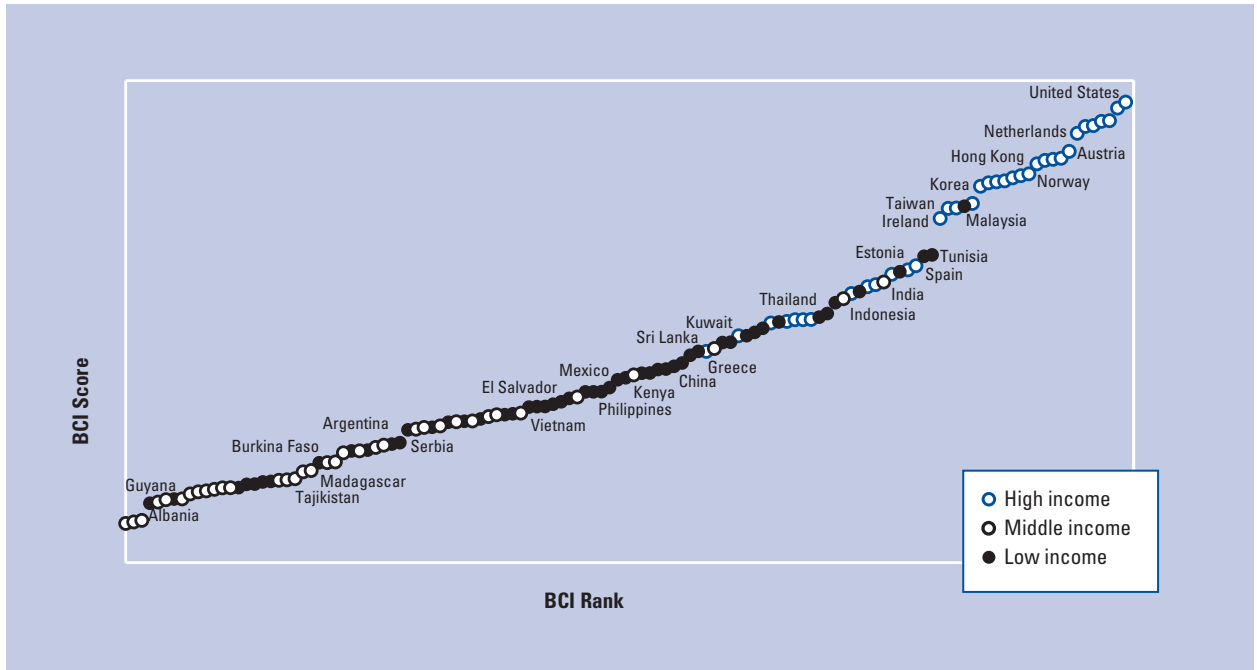
Country/Economy	BCI ranking			Quality of the national business environment ranking			Company operations and strategy ranking		
	2007	2006	Change	2007	2006	Change	2007	2006	Change
Russia	67	73	6	67	71	4	72	76	4
Kazakhstan	68	65	-3	68	65	-3	73	71	-2
Romania	69	71	2	70	69	-1	76	70	-6
Trinidad and Tobago	70	63	-7	71	64	-7	69	64	-5
Botswana	71	61	-10	64	60	-4	85	79	-6
Vietnam	72	80	8	74	79	5	74	75	1
Peru	73	74	1	77	78	1	66	60	-6
Azerbaijan	74	72	-2	76	73	-3	68	67	-1
Pakistan	75	64	-11	72	63	-9	82	69	-13
Tanzania	76	75	-1	75	72	-3	81	83	2
Ukraine	77	77	0	78	77	-1	77	74	-3
Gambia, The	78	90	12	80	88	8	80	88	8
Bulgaria	79	79	0	73	76	3	88	85	-3
Nigeria	80	76	-4	82	80	-2	62	56	-6
Namibia	81	78	-3	79	75	-4	89	80	-9
Honduras	82	103	21	81	103	22	75	93	18
Argentina	83	66	-17	84	70	-14	65	54	-11
Dominican Republic	84	85	1	88	87	-1	79	82	3
Benin	85	93	8	86	93	7	84	95	11
Mali	86	86	0	85	83	-2	92	102	10
Macedonia, FYR	87	82	-5	87	82	-5	90	87	-3
Uganda	88	84	-4	89	85	-4	83	84	1
Algeria	89	83	-6	83	81	-2	107	107	0
Moldova	90	87	-3	90	86	-4	93	86	-7
Georgia	91	92	1	91	92	1	86	92	6
Venezuela	92	89	-3	93	90	-3	78	81	3
Madagascar	93	94	1	92	94	2	96	100	4
Tajikistan	94	97	3	96	96	0	94	103	9
Zimbabwe	95	88	-7	97	91	-6	87	77	-10
Bosnia and Herzegovina	96	95	-1	94	95	1	106	101	-5
Armenia	97	91	-6	95	89	-6	104	91	-13
Ecuador	98	102	4	102	102	0	91	89	-2
Mongolia	99	96	-3	98	97	-1	100	96	-4
Nicaragua	100	100	0	99	98	-1	101	106	5
Cambodia	101	104	3	101	104	3	97	99	2
Cameroon	102	98	-4	104	100	-4	95	90	-5
Kyrgyz Republic	103	105	2	103	105	2	99	97	-2
Ethiopia	104	107	3	100	107	7	109	110	1
Bangladesh	105	99	-6	105	99	-6	105	98	-7
Guyana	106	106	0	106	106	0	98	105	7
Mozambique	107	101	-6	107	101	-6	103	94	-9
Albania	108	109	1	108	109	1	102	104	2
Bolivia	109	108	-1	109	108	-1	110	109	-1
Paraguay	110	110	0	110	110	0	108	108	0
Chad	111	111	0	111	111	0	111	111	0

Note: This table includes all countries with BCI for both 2007 and 2006. In some cases, a country ranked in last year's *Report* may not have a 2006 BCI rank under the new moving average method; see Table A1.

**Appendix Table A3: Dynamism indicators by country income group**

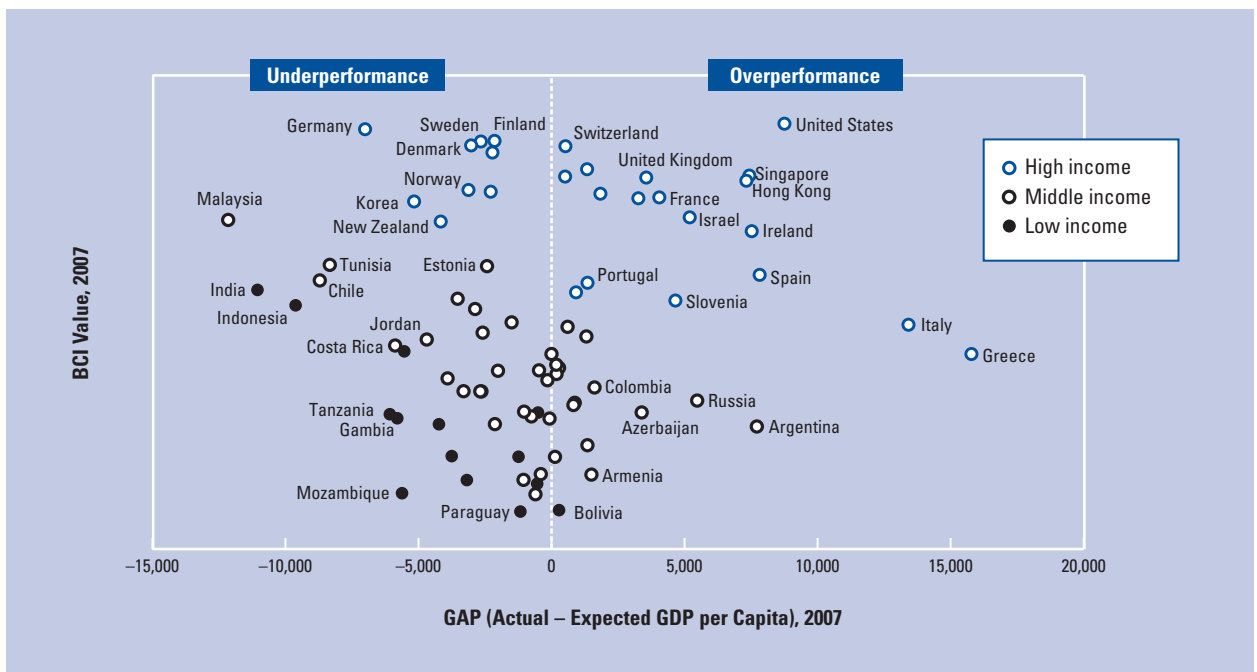
Survey indicator	Low income	Middle income	High income
<b>COMPANY OPERATIONS AND STRATEGY</b>			
Company spending on research and development	X	X	X
Willingness to delegate authority	X	X	
Breadth of international markets	X		X
Extent of marketing	X		
Prevalence of foreign technology licensing	X		
Extent of staff training		X	X
Production process sophistication		X	X
Reliance on professional management		X	
Capacity for innovation			X
<b>NATIONAL BUSINESS ENVIRONMENT</b>			
Buyer sophistication	X	X	X
Presence of demanding regulatory standards	X	X	X
Local supplier quality	X	X	X
Intensity of local competition	X	X	
Laws relating to ICT	X		X
Quality of math and science education	X		
Ease of access to loans	X		
Venture capital availability	X		
Local availability of process machinery	X		
Local availability of research and training services	X		
Efficiency of legal framework		X	X
Intellectual property protection		X	X
Business costs of corruption		X	
Gov't procurement of advanced tech products		X	
Stringency of environmental regulations		X	
Effectiveness of antitrust policy		X	
Overall infrastructure quality			X
Air transport infrastructure quality			X
Quality of scientific research institutions			X
University/industry research collaboration			X

Appendix Figure A1: BCI score and rank



Source: GCR, 2007.

Appendix Figure A2: Performance relative to expected performance (given BCI, endowments and political context)



Source: GCR, 2007; Economist Intelligence Unit; World Bank Governance Indicators; Gallup et al., 1999; UN Comtrade; authors' calculations.