BCG

REPORT

From Wealth to Well-being

Introducing the BCG Sustainable Economic Development Assessment

THE BOSTON CONSULTING GROUP

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FROM WEALTH TO WELL-BEING

INTRODUCING THE BCG SUSTAINABLE ECONOMIC DEVELOPMENT ASSESSMENT

DOUGLAS BEAL

ENRIQUE RUEDA-SABATER

TERESA ESPÍRITO SANTO

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FOREWORD

LEARNING FROM THE BEST

WHO ARE THE BEST at this? A simple question, but one that all leaders today need to ask. Whether you are grappling with a tough decision on economic strategy, coming up with a new environmental policy, or reforming your health-care system, you need to learn from what has worked elsewhere. And in a world where government is becoming increasingly post-ideological, this lesson is more important than ever.

One of the things I found as prime minister is that bureaucracies are good at remembering but bad at learning. I would ask for advice on how we could achieve a radical improvement in a given area and would get back a list of reasons why change was difficult, drawing on all the previous, often disappointing, attempts at reform. What I needed, and what I tried to build during my time in office, was a system that would look around the world, draw out the examples of success in a particular area, and work out how the best bits could be tailored and applied in the U.K. There are three lessons that I drew from that experience.

First, it is increasingly clear what is needed for a country to develop. The old political debates of left versus right are often beside the point. If you look in this report at the countries that have progressed rapidly in the past decade, whether it's Brazil, New Zealand, or Poland, there are clear trends. Start with the basics—security and the rule of law are the foundation. That means establishing secure borders, building a judicial system and courts that can be relied upon, and a police force that can uphold the law. These are things we can easily take for granted, but in their absence it will always be an uphill struggle. Next, create a strong environment for the expansion of your domestic private sector and the attraction of foreign direct investment. Predictable rules that are followed are at the heart of this. And build essential infrastructure. If you've got power, electricity, roads, and railways, everything else becomes achievable. Through my charity, the Africa Governance Initiative, I've seen this in Africa. Getting the lights on in Freetown and the port working in Monrovia have opened up the potential of Sierra Leone and Liberia to make rapid progress. None of this is about ideology; it ultimately comes down to implementation.

Which is my second point—and this is the biggest lesson: learn from how others have implemented a reform as well as what the reform was. Getting the policy right is often the easy bit, it's building a system that can implement it that is really tough. This issue of governance, by which I mean the capacity of a government to implement

its priorities, is the biggest challenge I see for leaders today. For the governments that I look at around the world—and, by the way, I include rich countries in this, too—the problem is how do you get the right skill set, the right capacity to deliver programs of change, whether it be infrastructure or rule of law reform. That's why I set up the Africa Governance Initiative—to help African leaders with precisely this challenge.

But again, I do think the lessons are out there. If you look at leaders who have delivered real transformation, from President Dilma Rousseff in Brazil to Mayor Bloomberg in New York, they have certain things in common. Although their styles and strategies may be totally different, these successful leaders get certain things right. They prioritise ruthlessly. As a leader, if you're trying to deliver more than a handful of big things at any one time, you are going to struggle, so focus is key. They build a system that allows them to ensure implementation is happening and intervene where things are not happening fast enough. And, critically, they get the right people around them to make it happen.

The final lesson is to get beyond the countries that look like your own. There is a natural tendency, when trying to learn from the experience of others, to focus on the countries that are most similar to yours. So as U.K. prime minister, I would hear about examples from the U.S., Canada, New Zealand and, at a push, Scandinavia and Northern Europe. But actually, the most interesting examples are increasingly coming from much further afield. For example, in this report, you notice that along with the usual suspects—Western Europe, North America, and the BRICs—the successes are from elsewhere, including the post-communist Eastern European states that have outperformed their peers on addressing income inequality, health, and education, as well as Vietnam, which leads the way on economic dynamism, and even Rwanda, a country whose government I have worked closely with over recent years and which is making significant progress on anticorruption and property rights.

The challenges political leaders face today are unprecedented in their scale and complexity. But the good news is that we know more and more about how best to tackle them. Leaders everywhere should be scouring the globe for the best examples of what's worked. Reports like *From Wealth to Well-being* will help them do that; I advise them to read it well.

Tony Blair, former prime minister of the U.K.
and founder of the Africa Governance Initiative

INTRODUCTION

"The welfare of a nation can scarcely be inferred from a measurement of national income."
Simon Kuznets, creator of the concept of GDP, 1934

After decades of measuring economic progress in terms of income growth, national leaders are now paying much more attention to the quality of that growth. The shift stems from a growing realization that an impressive rise in gross domestic product per capita in the short term means little if living standards are undermined in the long term by poor health, underinvestment in education, a degraded environment, and a widening gap between rich and poor.[1] What *is* important is for rising national income to translate into greater well-being for the population at large on a sustainable basis.

As a strategic advisor to businesses, The Boston Consulting Group has always recognized that maximizing short-term profits does not always equate to maximizing long-term value. Companies can maximize profits in the short term by milking their assets, but that is frequently value destructive. For governments, it is just as clear that focusing purely on growth in GDP—that is, on wealth—does not necessarily lead to the long-term well-being of their citizens.

To help us advise governments on successful long-term development strategies, BCG created the Sustainable Economic Development Assessment, or SEDA, an approach to systematically assessing and comparing the socioeconomic development, or level of well-being, of 150 nations across a range of dimensions. Using SEDA scores, we can measure how well a country translates its wealth, or income, into the overall well-being of its population. We can also assess a country's progress in converting recent GDP growth into improved well-being, as well as its ability to sustain that growth into the future. The SEDA framework thus provides a basis for countries to benchmark themselves as they try to gain the most well-being out of their growth.

What is important is for rising national income to translate into greater well-being.

There are a number of interesting findings from the first version of SEDA. One is that countries with higher GDPs are not necessarily the best at converting their wealth into well-being for their citizens. A number of Eastern European nations, such as Albania and Romania, and such Southeast Asian countries as Indonesia, the Philippines, and Vietnam, score particularly high in converting wealth into well-being.

Other countries stand out for their success in translating recent GDP growth into gains in well-being for their populations. Brazil's record has been particularly impressive in this regard. While it averaged GDP growth of 5.1 percent over the past five years, Brazil generated gains in living standards that would be expected of an economy expanding by an average of more than 13 percent per year. New Zealand and Poland are among the other countries whose recent progress in improving well-being is greater than their GDP growth rates would suggest.

Looking ahead, we identified key sustainability factors—the drivers that are likely to make current levels of well-being and recent progress sustainable. Again, we found considerable differences among nations, some of which are much better positioned than others to sustain progress.

Our main goal has been to develop a framework for providing strategic advice to governments, development organizations, and other important stakeholders in sustainable economic development. BCG's SEDA is not alone in providing perspective for governments and stakeholders in their development efforts. The United Nations Development Programme, with its Human Development Index, has long focused on a range of indicators of living standards apart from income levels, such as life expectancy and adult literacy. And the World Economic Forum is expanding its influential annual Global Competitiveness Reports to include economic, social, and environmental sustainability.

While the indicators that make up SEDA could be used to produce another index, that was not our objective. Our aim was to create a diagnostic and benchmarking tool that can provide a big-picture perspective and yield insights that governments can act on.

Rather than focusing on one particular area, such as income, the business environment, or human resources, SEDA responds to calls from such eminent economists as Joseph Stiglitz, Amartya Sen, and Jean-Paul Fitoussi for a broad measure of development. SEDA measures ten different dimensions of social and economic development, including such factors as health, education, civil society, and environmental stewardship. These dimensions allow us to capture, in addition to measures of income, the main ingredients of well-being. Good performance on these dimensions is crucial if a country is to sustain improvements in well-being in the decades ahead.

BCG's SEDA covers the 150 countries for which we were able to find sufficient consistent and reliable data. For each nation, we assessed the ten dimensions over three time horizons. The first horizon provides a snapshot of each nation's *current level* of socioeconomic development, or well-being. The second provides a picture of each country's *recent progress* in development. The third horizon, *long-term sustainability,* explores how well a country is equipped to continue to generate improvements in well-being in the future by assessing the key sustainability factors for socioeconomic development.

SEDA responds to calls from economists for a broad measure of development.

A distinctive feature of SEDA is that it allows us to assess the performance of nations in converting income into broad-based socioeconomic development (well-being). We do this by comparing each country's current level of development against the level that would be expected given its per capita GDP level using a *wealth to well-being coefficient.* We also produce a *growth to well-being coefficient* by comparing five-year GDP growth with improvements in well-being during the same period. We calculate coefficients for the overall SEDA scores of countries as well as for each dimension of development. We therefore can identify dimensions on which countries are overperforming or underperforming given their income level and growth. We provide two examples—health in South Africa and education in Malaysia—of how a specific dimension can be analyzed in a given country.

Perhaps the most valuable feature of BCG's SEDA is that it can help policymakers diag-

nose a country's development strengths and weaknesses by benchmarking them against whichever nations they regard as peers. By providing insights into the underlying drivers of these strengths and weaknesses, SEDA can also provide valuable input in the creation of actionable development strategies at the national level.

SEDA can be used not just by governments and nongovernmental organizations, but potentially also by strategists at global companies, in particular those with diverse international investments and operations. SEDA's insights into the potential long-term trajectory and sustainability of development in different countries could provide inputs into decisions related to a company's future global footprint.

This report reflects the outcome of the first version of BCG's SEDA. Constructing such an assessment is a challenging undertaking. A full understanding of the causal impacts and complex interplay of the social and economic factors that ultimately determine a nation's ability to sustain improved well-being over the long term is far from complete. And data limitations are considerable. Still, the potential value for national strategies of a tool such as SEDA justifies the effort. We expect to continually refine the SEDA methodology and to share further results. We welcome input from policy practitioners, scholars, and, in particular, our government clients.

NOTE

1. Although GDP per capita is, strictly speaking, a flow measure closer in meaning to income, in this report we use it as a proxy for wealth.

SEDA

OUR METHODOLOGY

We started with the premise that the purpose of economic development in any country is to improve the overall standard of living—the well-being—of the nation's population. Our definition of development is therefore fairly broad based—and represents a balanced view of economic and noneconomic dimensions that together constitute well-being.

The Ten Dimensions of Social and Economic Development

The key factors behind the well-being of a nation's population revolve around ten dimensions. These dimensions are the organizing principle for SEDA and reflect its goal of developing a broad measure of socioeconomic development; they also provide the basis for disaggregated analysis. The ten dimensions are income, employment, income equality, economic stability, health, education, governance, the environment, infrastructure, and civil society. (See Exhibit 1.) Both in selecting the factors and in gathering data, we drew from related work done by many institutions and individuals, as well as from the expertise and experience of our colleagues in BCG's many practice areas and its economic development topic area.

The first four dimensions are measures of economic well-being. Our approach is comprehensive and therefore focuses both on income-related factors and on factors that go beyond income:

- *Income* is important because it measures the ability of a nation's population to purchase necessities as well as discretionary goods and services.

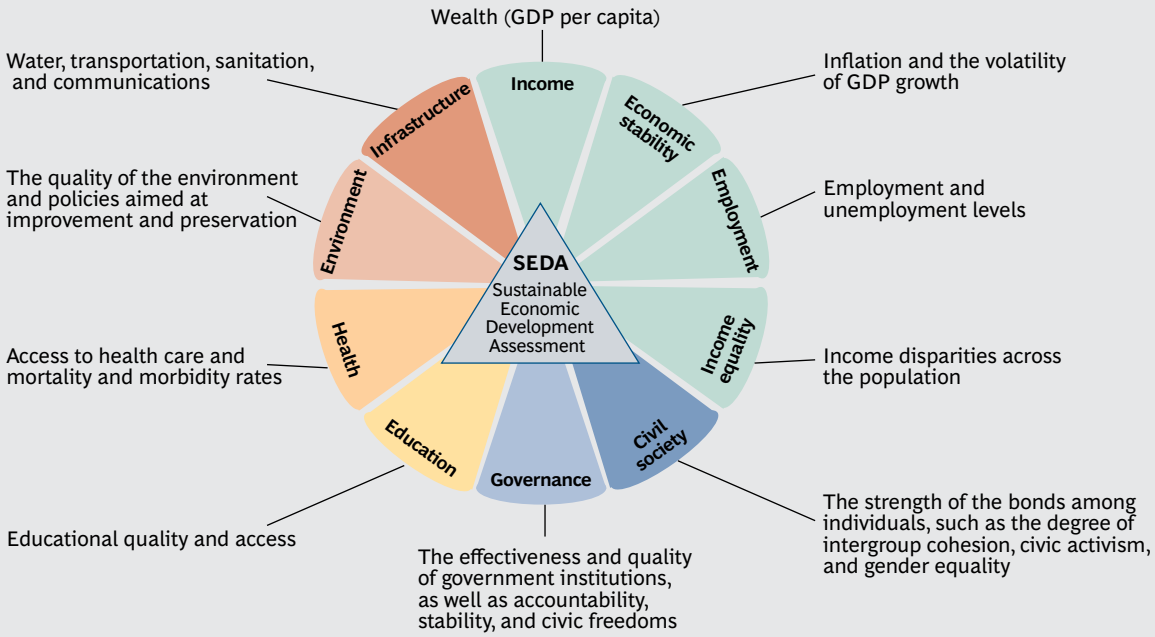
- *Level of employment* is another obvious signal of a nation's economic strength. Having a job in itself influences a person's sense of well-being and ability to generate income. High levels of unemployment, conversely, act as a drag on development.

The key factors behind a population's well-being revolve around ten dimensions.

- *Income equality* is a key dimension because it tells us how widely economic gains and opportunities are spread across the entire population and therefore how likely they are to lead to broad gains in living standards.

- *Economic stability,* which includes such factors as inflation and the volatility of GDP growth rates, provides a sense of how secure economic gains are from one year to the

Exhibit 1 | BCG's SEDA Looks at Socioeconomic Development Across Ten Dimensions



Source: BCG analysis.

next or, conversely, how exposed a country is to cyclical and other disruptions.

Economic strength alone does not determine the quality of a country's standard of living, however, so we include six additional dimensions:

- *The health of the population* includes factors such as mortality and morbidity rates and access to medical care; health is critical because it has a large impact on educational participation and on productivity. Health is also a major driver of a person's sense of well-being.

- *The quality of education* and access to schooling are among the most important values of a modern society. Education enriches quality of life, influences income, and is highly valued by citizens.

- *Governance* includes factors such as low levels of corruption, the rule of law, political stability, civil freedoms, and property rights. Corruption corrodes trust in public institutions and their commitment to the best interests of society. Public accountability increases the likelihood that government will provide needed services. Freedom of expression enhances well-being by allowing citizens to participate in the political process. Property rights can increase an individual's sense of security and provide an incentive to invest for the future.

- *Environmental stewardship* helps ensure that citizens have access to clean water and are not subject to unhealthy pollution levels or the adverse climate effects caused by unchecked carbon emissions. In addition, the preservation of plants and animals and their habitats is increasingly recognized as an important objective.

- *Infrastructure* such as transportation, communications, and power facilities enhances quality of life in many ways. It enables people to easily communicate with one another and the outside world, travel quickly and reliably, and enjoy the modern conveniences of electricity, clean water in the home, and sanitation services. Good infrastructure also reduces transaction costs for individuals and for the economy as a whole.

- *Civil society* is important because it enables citizens to become involved in shaping public policies that affect their lives. Civil

society includes factors such as civic activism, public trust, intergroup cohesion, and gender equality. High levels of trust instill the confidence needed to start businesses and make people feel safe and secure. Strong intergroup cohesion encourages diverse groups to cooperate, while weak cohesion can lead to violence and reduced safety. Gender equality directly affects the well-being of women and their access to opportunities such as education.

To help formulate strategy, it is not enough to produce a snapshot type of analysis.

Having identified the factors behind the well-being of a population, we then selected the indicators by which to measure them. To be selected, an indicator had to be publicly available and updated annually. It also had to cover a very large set of countries and come from a well-recognized source. We used a number of indicators from the World Bank and the International Monetary Fund to measure material wealth, employment, and economic stability. We used indicators from the United Nations, among others, to measure education and health. The World Economic Forum's Global Competitiveness Reports were the source of a number of indicators used to measure governance and infrastructure.

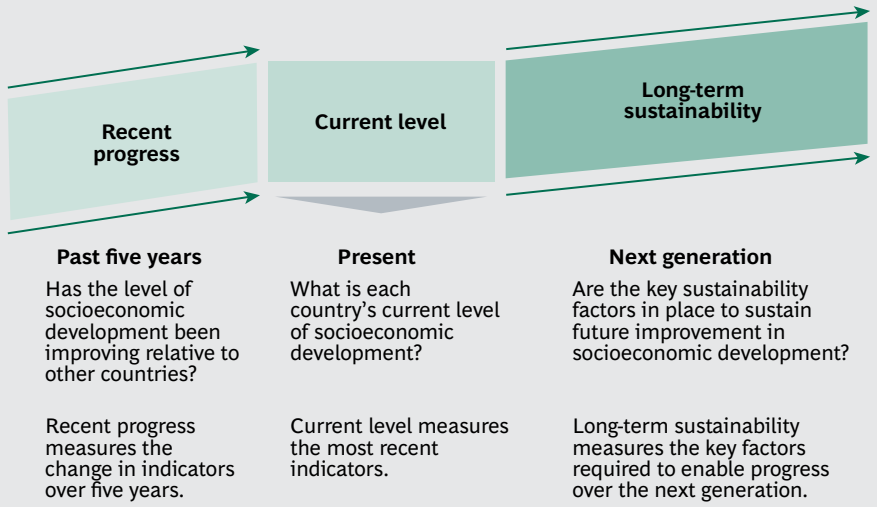
There were some additional factors that we would have liked to include, but a lack of reliable data sources precluded us from doing so. For the factors we did include, we often had to adjust for and overcome gaps in data. We opted for comprehensiveness but also recognize the limitations: data cannot keep up with rapidly unfolding events in the world. For example, much of the data were gathered before the Arab Spring profoundly affected the current state and future of several countries.

Assessing Development Along Three Time Horizons

To help governments formulate strategy, it is not enough to produce a snapshot type of analysis—even when it can be updated regularly. SEDA looks at three time horizons. (See Exhibit 2.)

- The *current level* of socioeconomic development is a static measure of well-being that shows how well a country is performing on all ten dimensions of development based on the most recent available data. Of course, this reflects the cumulative effect of past policies, national priorities, investments, and events.

Exhibit 2 | SEDA Assesses Development Across Three Time Horizons



Source: BCG analysis.

- *Recent progress* is a measure of how much a country has achieved over the most recent five-year period for which data are available. Here we compared the scores of the ten dimensions of development both individually and in the aggregate for 2006 and 2011 (or in the most recent five-year period for which data were available). There are limitations to measuring progress on the basis of two-point estimates. But we chose this approach for our first version of SEDA because five-year horizons, while arbitrary, are useful in statistical analysis and policy development. Future iterations may include alternatives to these reference years.

- *Long-term sustainability* involved the construction of a new measure using some indicators different from those used for the two other time horizons. These indicators were drawn from a review of extensive research in the development field, as well as from BCG's experience working with governments worldwide on economic development. The aim was to identify the enablers that help foster or sustain gains over the long term on each of the ten dimensions of development measured in the current-level assessment. The resulting long-term sustainability score is meant to be indicative of a country's ability to start improvements or to sustain them through the next generation.

At the core of SEDA is the relationship between wealth and well-being.

We grouped these indicators into the following ten key sustainability factors roughly organized around the functional responsibilities of the ministries and departments through which many governments address their people's economic and social needs: education and skills development, health care, investment capacity, public finances, economic institutions, infrastructure development, economic dynamism, social development, demographics and employment, and macroeconomic management. (See the sidebar, "Key Sustainability Factors.")

Together, current level of development, recent progress, and long-term sustainability provide complementary perspectives more valuable than any one of these measures taken in isolation. But the 150 countries included in this first SEDA reflect a wide range of income and wealth—both of which inevitably affect the well-being of these nations' populations. Therefore, it is important also to understand relative performance—the strengths and weaknesses of a country's development—by taking into account current income levels as well as growth rates. This allows for a more meaningful, peer-to-peer perspective across countries.

The Wealth to Well-being and Growth to Well-being Coefficients

At the core of SEDA is an exploration of the relationship between wealth and well-being. On the basis of our measures of current level of development and recent progress, we can analyze a country's relative performance using two measures:

- The *wealth to well-being coefficient* compares a country's current-level SEDA score with the score that would be expected given its per capita GDP and given the average worldwide relationship between current-level score and per capita GDP, as measured in terms of purchasing power parity. This coefficient thus provides a relative indicator of how well a country has converted its wealth into the well-being of its population. (See Exhibit 3.)

- The *growth to well-being coefficient* compares a country's recent-progress SEDA score over the most recent five years for which data are available with the score that would be expected given its per capita GDP growth rate and given the average worldwide relationship between recent-progress score and per capita GDP growth rate during the same period. This coefficient therefore shows how well a country has translated income growth into improved well-being.

KEY SUSTAINABILITY FACTORS

Education and skills development have the broadest impact on long-term social and economic development. Access to education from primary school through university, as well as high graduation rates, have pervasive effects and a strong impact on many of the ten dimensions, including income equality, health, governance, and social cohesion. High education levels are especially important for economies making the transition from labor-intensive to high-value, knowledge-intensive industries.

The quality of *health care* is one of the most important drivers of higher living standards in poor nations, and as populations age, it is a factor that increasingly distinguishes quality of life in high-income economies. Health care's impact is reflected in long-term improvements in income, income equality, education, and social cohesion.

Investment capacity gauges the ability of an economy to invest in its future. It includes per capita income, the depth of capital markets, the ability to attract foreign investment, existing capital stock, and natural resources. High income levels put nations in an advantaged position to make the investments needed for future progress. The ability to mobilize capital enables a country to build infrastructure and productive capacity. Natural resources, meanwhile, generate funds that can be used to advance development if they are invested wisely.

Public finances are critical to development because public-sector investment helps fund infrastructure and health and education services that markets cannot efficiently or effectively provide. High levels of public debt, on the other hand, limit a government's spending capacity.

Efficient, transparent, and responsive *economic institutions,* such as a legal system that protects property rights, the political system, and a free press, are key differentiators among nations at all development levels. They are important to all ten dimensions of social and economic development.

Infrastructure development is a vital enabler because modern and efficient transportation systems, telecommunications networks, and electrical power grids facilitate everything from globally competitive manufacturing industries to high-quality health care and education.

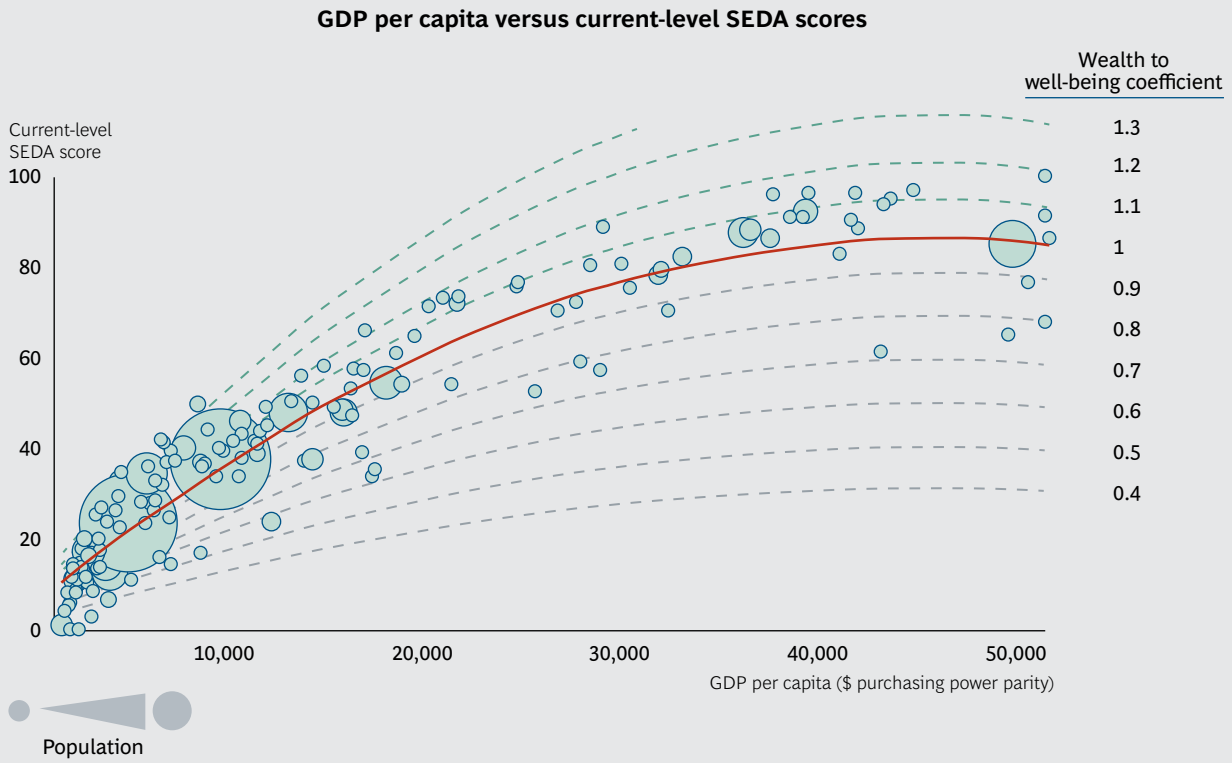
Economic dynamism concerns free trade, the ease of doing business, and whether the country's institutional context favors entrepreneurship and innovation. It also addresses economic diversity—the presence of a wide range of economic sectors—which sustains development by reducing the volatility that frequently destabilizes nations that rely on only a few industries.

Social development reflects the degree to which citizens participate in public policy and have trust in public safety. It is an important enabler of governance and income equality, among other dimensions of socioeconomic development. Divided societies place severe political constraints on attempts to implement policy reform.

Demographics and employment includes employment levels, measures of income equality, and the makeup of the population. High levels of employment enable families to consume, accumulate capital, have good health care, and enjoy a high standard of living. Joblessness, by contrast, affects social stability and contributes to crime, violence, and a breakdown of family life. Demographics heavily influences the future size of the labor force, income growth, demand, and a nation's ability to pay for social services.

Macroeconomic management promotes stability and is important for sustaining development over the long term because high inflation and economic volatility make it difficult for companies to set prices and invest for the future.

Exhibit 3 | Comparing GDP with Socioeconomic Development: The Wealth to Well-being Coefficient



Source: BCG analysis.
Note: Data based on SEDA scores. The solid line is the second-order polynomial regression; the dotted lines are based on the regression line. The bubbles represent the 150 countries assessed.

A wealth to well-being coefficient of 1 indicates that a country has performed in line with the worldwide average in translating its wealth into the well-being of its population. A coefficient greater than 1 indicates that a nation's living standard is higher than what would be expected given its per capita GDP. A coefficient of less than 1 indicates that its living standard is below what would be expected given its per capita GDP.

Likewise, a growth to well-being coefficient greater than 1 indicates that a country has improved the well-being of its population more than would be expected given its GDP growth rate, and a coefficient of less than 1 means that it has failed to improve well-being to the extent expected given its GDP growth rate.

The same analysis can be performed for any of the individual dimensions of social and economic development. (See the case studies in "Tying It Together: Identifying Development Opportunities," below.) Such an analysis can provide a valuable perspective on how well a country is converting its income or income growth into specific aspects of its population's well-being.

It is important to note that SEDA does not attempt to generate an absolute measure of well-being. Rather, it provides *relative* measures, in line with our objective of providing peer comparisons for government leaders. (See the Appendix for a more detailed explanation of our methodology.)

A PICTURE OF CURRENT WELL-BEING AND RECENT PROGRESS

BCG's SEDA provides a variety of angles from which to tell a rich, instructive story about the dynamics of socioeconomic development. A nation's development scores can be compared with those of the remaining 149 nations included in our assessment. They can also be used to make numerous other useful comparisons—for example, with countries in the same region or those with similar income levels, or, in some cases, with fast-growing emerging-market or oil-producer peers.

For the purposes of this report, we used SEDA outputs to show which countries have the highest current levels of development and which have achieved the most progress recently. We also assessed which countries are better at converting their current level of development and their recent progress into well-being for their populations. Finally, we looked at which dimensions of socioeconomic development stand out as the most significant in differentiating leading countries in terms of both current levels of development and recent progress.

Current Well-being

Not surprisingly, many of the wealthiest countries have the highest current-level development scores. Western European nations such as Switzerland and Norway dominate the top 20, which also include Australia, New Zealand, Canada, the U.S., and Singapore. (See the Appendix for complete scores.)

What distinguishes the top performers, other than that they enjoy the advantages of already-high income levels? By far, governance is the dimension of socioeconomic development on which the countries with the highest current-level SEDA scores most outperform the rest, on average. These nations enjoy solid political stability, freedom of expression, and low levels of corruption—issues with which many less developed nations still struggle. Civil society and infrastructure are other important differentiators. And while there are also differences in terms of the quality of health care and education, what really distinguishes the highest performers are such factors as the power of citizens to participate in the political process, express themselves freely, and trust in public safety and the legal system. SEDA cannot tell us, of course, whether good governance is the cause or the result of a high level of socioeconomic development. It may well be both. But clearly, governance matters.

Converting Wealth into Well-being

As mentioned above, by looking at a nation's current-level development score in the context of its per capita GDP, SEDA offers a way of assessing how successfully a country has converted its wealth into broad-based socioeconomic development—or well-being—for its population. To visualize the pronounced differences among the 150 countries assessed,

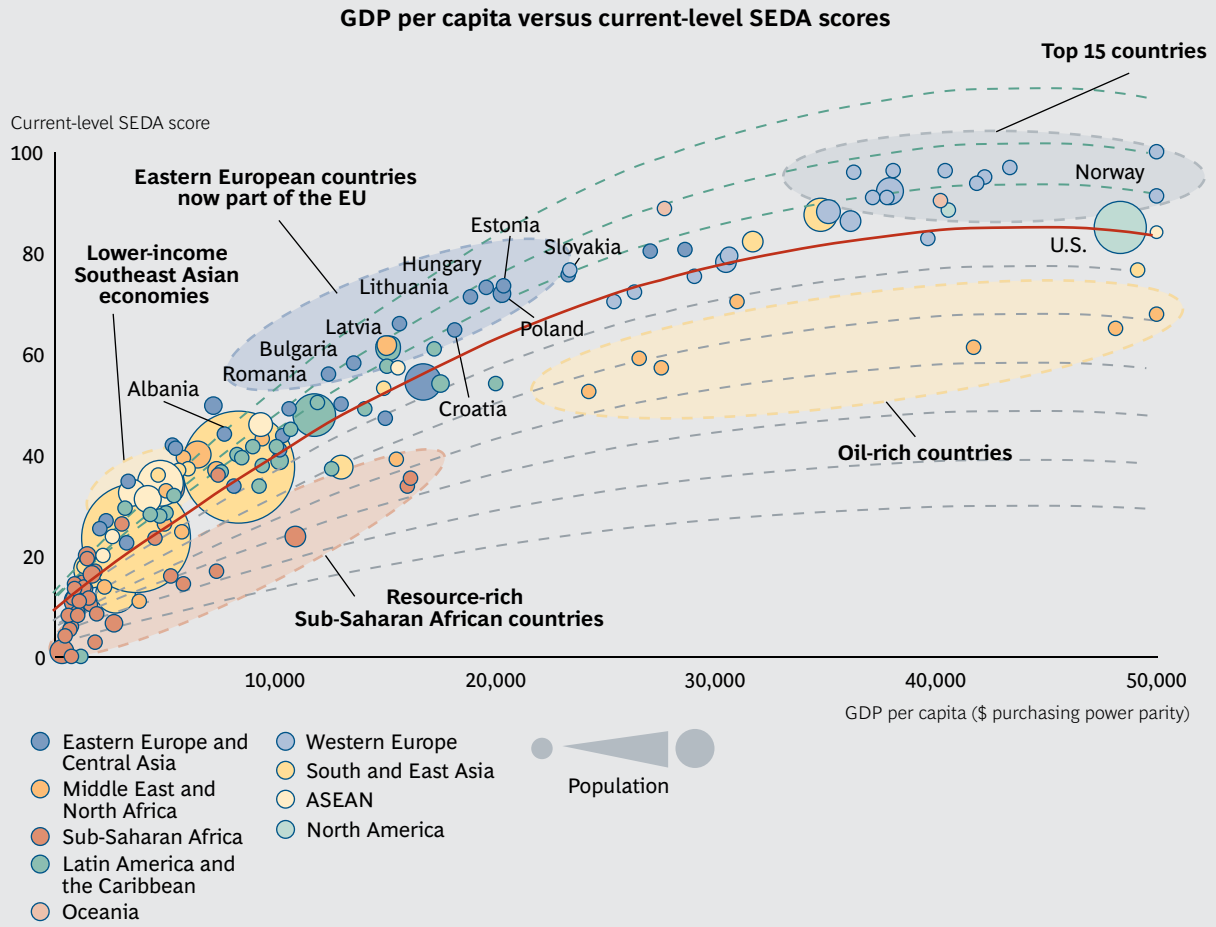
we plotted the per capita GDP and current-level SEDA score of each one. We quantified the results by calculating the wealth to well-being coefficient for each nation.

Norway's current-level score exceeds the top-15 average on nearly every dimension.

Several of the wealthiest nations—and all the top 15 countries by current-level SEDA score—are relatively strong performers in translating wealth into well-being. Clusters of Eastern European countries, including Albania and Romania, and such lower-GDP Southeast Asian nations as Indonesia, the Philippines, and Vietnam, also stand out as having translated income into higher living standards. (See Exhibit 4.) It is notable that a number of petroleum- and mineral-producing states in the Middle East and Africa show relatively low performance in converting wealth into well-being.

Norway, which scores highest on current level of development and has a wealth to well-being coefficient of 1.19, illustrates the general excellence required to convert high per capita GDP into high living standards for a population. Norway exceeds the average current-level score of the top 15 nations on nearly every dimension. It is among the best in the world in terms of civil society, income equality, and governance. In education, Nor-

Exhibit 4 | Eastern European and Southeast Asian Nations Stand Out with High Wealth to Well-being Coefficients



Source: BCG analysis.
Note: Per capita GDPs of Qatar ($102,943), Luxembourg ($80,119), Singapore ($59,711), and Norway ($53,470) were adjusted to the maximum value of the matrix ($50,000). Data based on SEDA scores. The solid line is the second-order polynomial regression; the dotted lines are based on the regression line.

way outperforms the remaining 14 economies as a group in pupil-teacher ratio and is one of the best in years of primary to tertiary schooling.

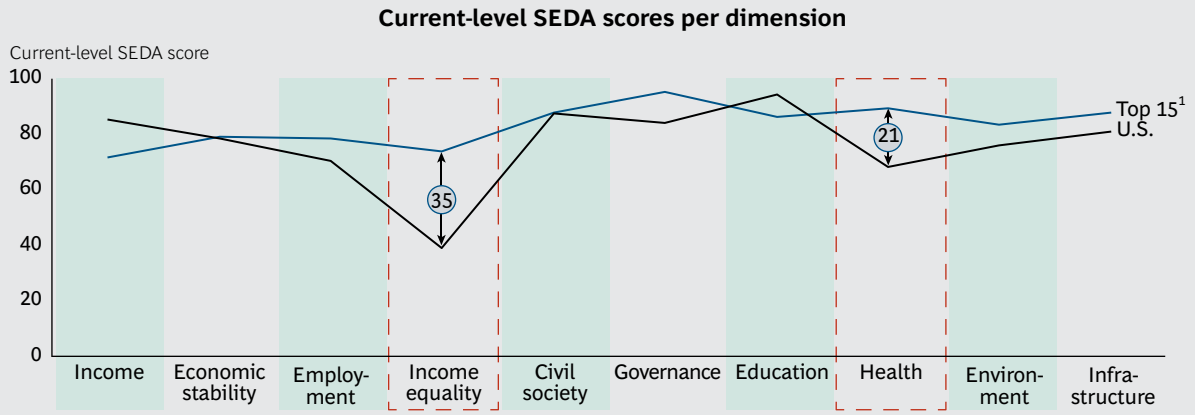
It may seem surprising that the U.S. does not score higher—as it often does in global indices. The U.S. has a wealth to well-being coefficient of slightly less than 1, compared with an average coefficient of 1.1 for the 15 nations with the highest current-level scores. The U.S. outperforms the top 15 as a group in per capita income. It also outperforms in education, thanks largely to very high enrollment in tertiary schools, and is on par in measures of civil society and economic stability. But it is below the average of the leaders on every other dimension. (See Exhibit 5.) The greatest gap is in income equality. The U.S. also ranks relatively low in health for a nation at its income level—in part because of high levels of obesity and the incidence of HIV.

We studied nine Eastern European members of the European Union with high wealth to well-being coefficients to understand what sets them apart from other economies with comparable per capita income. The average coefficient of these nations is 1.2, well above the average of 0.9 for the 23 other economies we studied that have annual per capita incomes in the same range ($12,000 to $27,000). On average, the nine countries outperform the 23 comparable nations on every dimension except employment, where the difference is negligible. (See Exhibit 6.) They are most ahead in terms of income equality, governance, health, and education (Eastern European students test well in math and science); they also perform well on measures of property rights and safety.

Nine Eastern European EU members have high wealth to well-being coefficients.

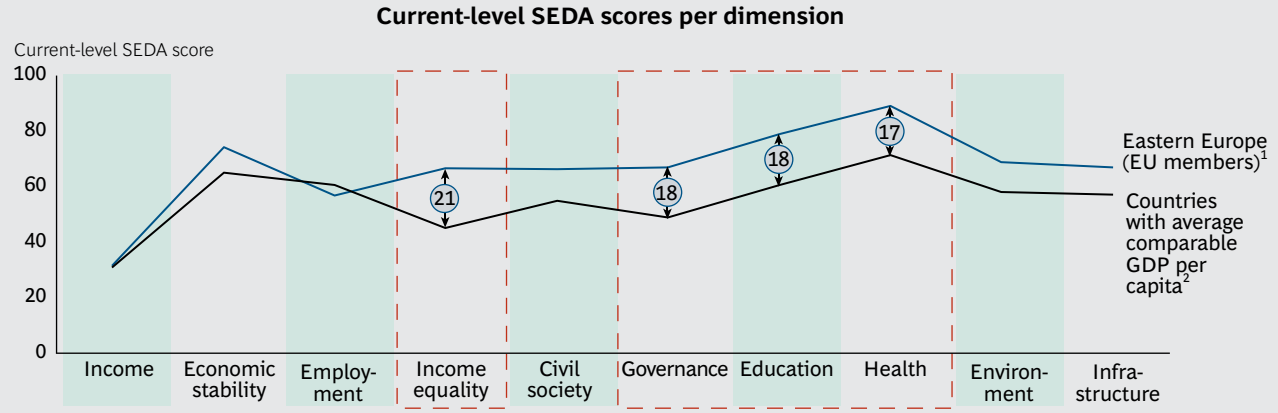
By contrast, the petroleum-rich Gulf Cooperation Council states (Saudi Arabia, Bahrain, Kuwait, Oman, Qatar, and the United Arab Emirates) have wealth to well-being coefficients of less than 1. The average for the group is 0.8. This suggests that these nations have not yet translated their wealth into widespread living standards comparable to those of nations with similar per capita incomes. The biggest gap is in education. Many Gulf states have low tertiary-enrollment rates, and their students perform relatively poorly in math and science. Low scores on press freedom in several Gulf nations pull down rankings on governance, while lack of gender equity harms rankings on civil society.

Exhibit 5 | The U.S. Lags the Top 15 Countries in Current-Level Development Owing to Lower Scores in Income Equality and Health



Source: BCG analysis.
Note: Scores based on SEDA model.
[1]Norway, Switzerland, Sweden, Iceland, Finland, Netherlands, Austria, Germany, Belgium, Denmark, Australia, Luxembourg, New Zealand, France, and Canada.

EXHIBIT 6 | Some Eastern European Nations Outperform Other Countries with Comparable Income Levels



Source: BCG analysis.
Note: Scores based on SEDA model.
[1]Slovakia, Romania, Lithuania, Poland, Croatia, Bulgaria, Latvia, Hungary, and Estonia.
[2]Venezuela, Kazakhstan, Iran, Panama, Turkey, Mexico, Mauritius, Belarus, Uruguay, Lebanon, Malaysia, Botswana, Gabon, Russia, Chile, Argentina, Trinidad and Tobago, Portugal, Saudi Arabia, Malta, Greece, and Oman (countries with per capita GDP between $12,000 and $27,000).

This does not mean that the Gulf states are failing to take steps to improve living standards. Indeed, one explanation for their low development scores is that oil and gas revenue represents relatively new wealth. Most of the Gulf states are investing to improve K–12 education, build modern universities, and upgrade health care. They are also introducing important reforms. Many are even taking steps to evaluate and plan their overall future. Qatar's National Development Strategy 2011–2016, for example, clearly lays out development priorities across several sectors. But development takes time. The full impact of investments in education, health care, infrastructure, and the institutions needed to manage modern economies will take years to materialize.

Recent Progress

The economies that have achieved the greatest relative improvements in overall living standards over the past five years are scattered across the globe. What's more, nations with the top 20 recent-progress SEDA scores represent a range of per capita incomes, from less than $1,000 per year in some African countries to more than $80,000 per year in Switzerland.

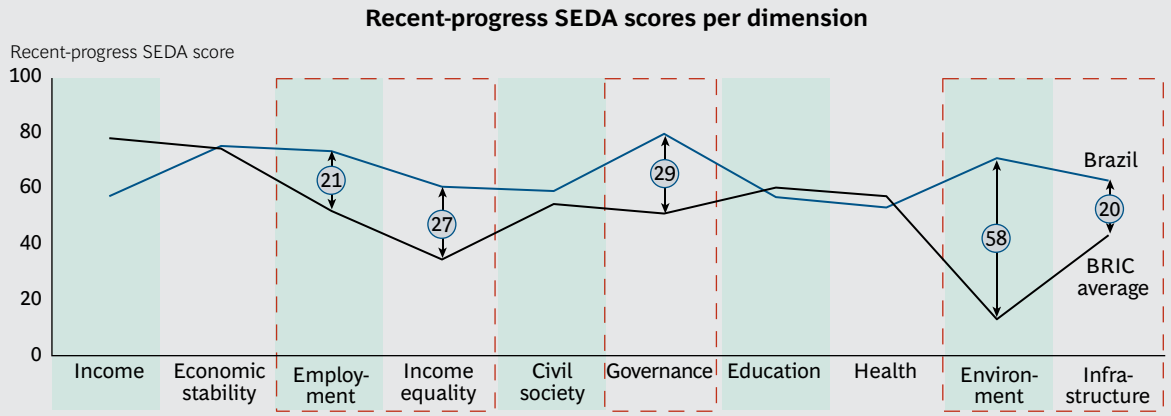
Brazil scores the highest in terms of improved well-being over the past five years. Several other Latin American nations, including Peru and Uruguay, are also in the top 20. Three African nations that in past decades were engulfed in crisis—Angola, Ethiopia, and Rwanda—show some of the strongest recent gains in living standards. Asian countries scoring among the top 20 in recent progress include Cambodia, Indonesia, and Vietnam.

> Nations with the top recent-progress scores represent a range of per capita incomes.

We also compared Brazil's performance with that of its counterparts in the so-called BRIC emerging markets, which comprise Russia, India, and China in addition to Brazil. (See Exhibit 7.) While it lagged the others in income growth between 2006 and 2011, Brazil significantly outperformed the BRIC average in recent progress in the environment, governance, income equality, employment, and infrastructure.

Improving income equality has been a particular policy focus of the Brazilian government in recent years. Brazil has narrowed the income gap between rich and poor considerably over the past decade, reducing extreme poverty by half. The share of Brazilian children attending school, meanwhile, has risen

Exhibit 7 | Brazil's Recent Progress Surpasses That of Its BRIC Peers on Most Dimensions Apart from Income Growth



Source: BCG analysis.
Note: Scores based on SEDA model.

from 90 percent to 97 percent since the 1990s. Programs such as *Bolsa Familia* (or "family allowance") illustrate the government's commitment to raising the incomes of the poor. Launched in 2001, the program distributes stipends of around $12 per month to 13 million impoverished families for each child in the household, so long as he or she continues to attend school.

Other BRIC countries are also beginning to focus more on equality. India, for example, while enjoying relatively high GDP growth, has thus far underperformed in translating that growth into improvements for its citizens in employment, governance, civil society, and environment. To encourage progress in these areas, the Indian government has made "inclusive growth" a high priority in its most recent five-year plan.

Converting Growth into Well-being

Which countries are best at translating their economic growth into broad-based social and economic development? Similar to what we did when measuring the conversion of wealth into well-being, we calculated growth to well-being coefficients by comparing—for the 150 countries assessed—per capita GDP growth over the past five years against recent-progress SEDA scores.

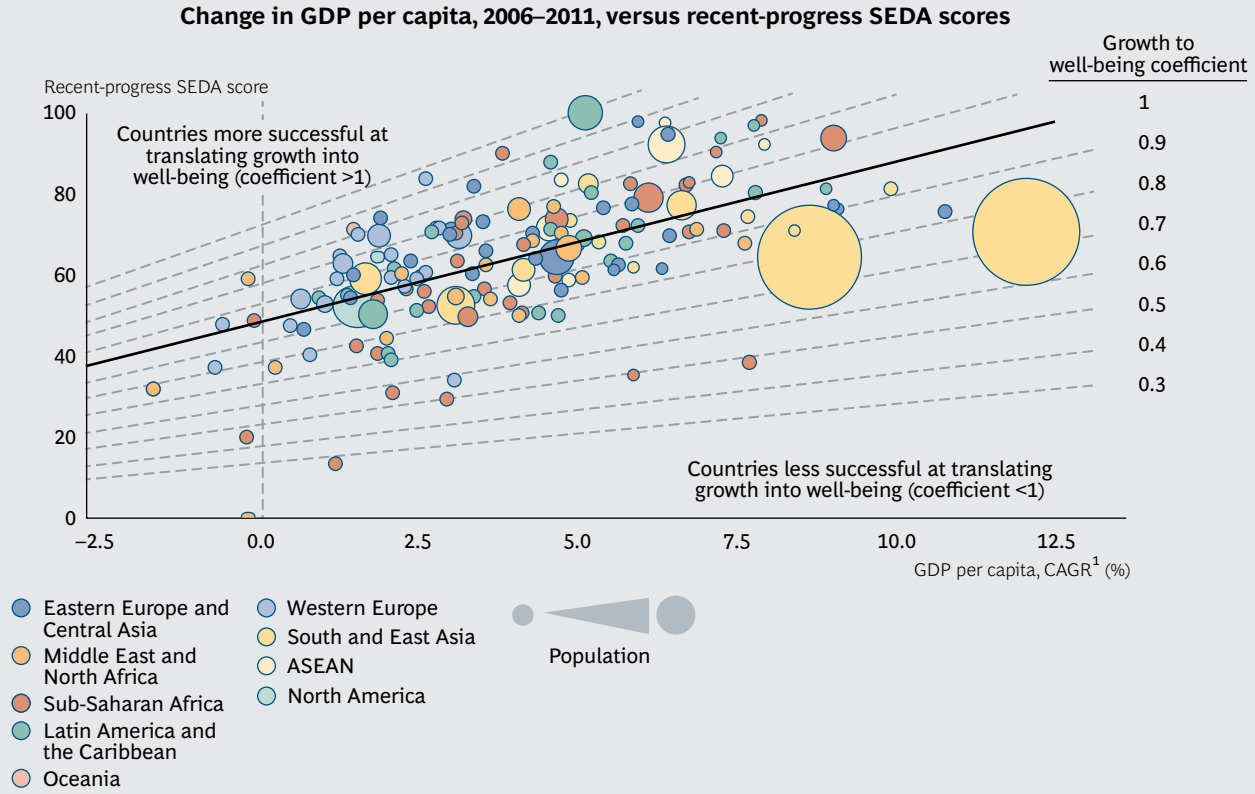
Interestingly, performance in translating growth into well-being appears to be much more varied than performance in translating wealth into well-being. (See Exhibit 8.) This could just indicate that five years is too small a timeframe in which to measure the impact of increases in income on socioeconomic development. But the wide variance could also provide clues to differences in performance from which policy insights can be gained.

Brazil scored highest in converting economic growth into well-being.

With a growth to well-being coefficient of 1.5, Brazil scored highest on this measure. The Eastern European nations of Albania and Poland and the Southeast Asian nations of Indonesia and Cambodia also scored in the top 20. So did some high-income nations, such as Switzerland, New Zealand, France, and Australia, and such African nations as Kenya and the Republic of Congo (that is, Congo-Brazzaville, as distinct from the Democratic Republic of the Congo).

To put the performance of different countries into perspective, it is helpful to calculate the GDP growth equivalent of gains in well-being achieved over the past five years. Brazil, for example, averaged annual GDP growth of only 5.1 percent from 2006 through 2011, yet

Exhibit 8 | Some Nations Are Much Better Than Others in Converting GDP Growth into Improved Well-being



Source: BCG analysis.
Note: Data based on SEDA scores. The solid line is the linear regression; the dotted lines are based on the regression line.
[1]Outliers above 2.5 times standard deviation were limited to these maximum values; reflects countries' last five-year average in real GDP purchasing power parity (current international $).

managed to generate gains in well-being that would be expected of an economy expanding by an average of more than 13 percent per year. (See Exhibit 9.) Similarly, New Zealand's economy grew by around 1.5 percent per year over that period but delivered improvements in well-being that would be expected of an economy growing by 6 percent per year. Poland and Indonesia produced gains in well-being that would be expected of economies growing by around 11 percent, even though their per capita GDPs grew by around 6.5 percent per year.

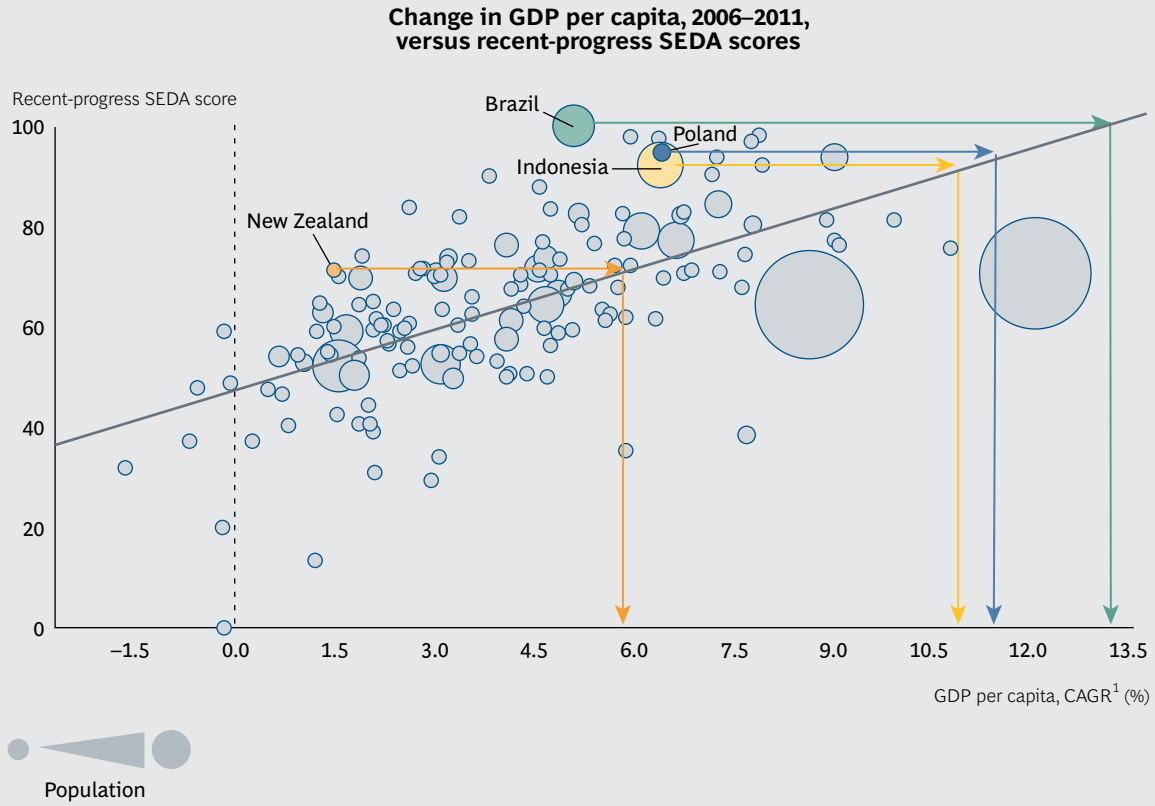
Analysis of the SEDA scores of New Zealand and Brazil shows that these countries' recent progress exceeded their GDP growth from 2006 through 2011 on virtually every dimension. In the case of Poland, recent progress in employment and governance significantly exceeded the country's rate of GDP growth, while Indonesia outperformed on improved economic stability, employment, and governance.

Sub-Saharan Africa provides a case study of what differentiates countries that are the most successful at converting income growth into improved living standards from countries at comparable levels of development that perform poorly. We compared the 8 African nations in the top quintile of recent-progress SEDA scores, whose average growth to well-being coefficient is 1.2, with the 12 in the bottom quintile of recent-progress scores, whose average coefficient is 0.6. The African nations in the upper quintile outperformed those at the bottom on every dimension. (See Exhibit 10.)

However, the dimension that most differentiates the overperformers is governance. Rwanda, for example, has achieved strong improvements in terms of corruption, violence, and property rights. Rwanda also rates high among its peers in measures of political stability.

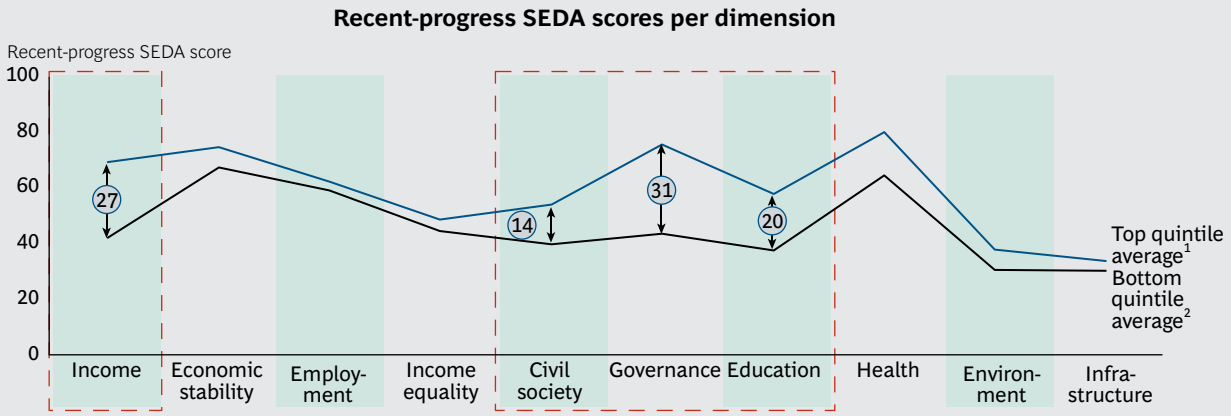
The next-biggest differentiator is income growth. Ethiopia achieved the sixth-highest

Exhibit 9 | Brazil, Poland, Indonesia, and New Zealand Are Improving Faster Than Their GDP Growth Would Suggest



Source: BCG analysis.
Note: Data based on SEDA scores.
[1]Outliers above 2.5 times standard deviation were limited to these maximum values; reflects countries' last five-year average in real GDP purchasing power parity (current international $).

Exhibit 10 | The African Countries Most Successful at Converting Growth into Well-being Differentiate Themselves Especially in Governance and Income

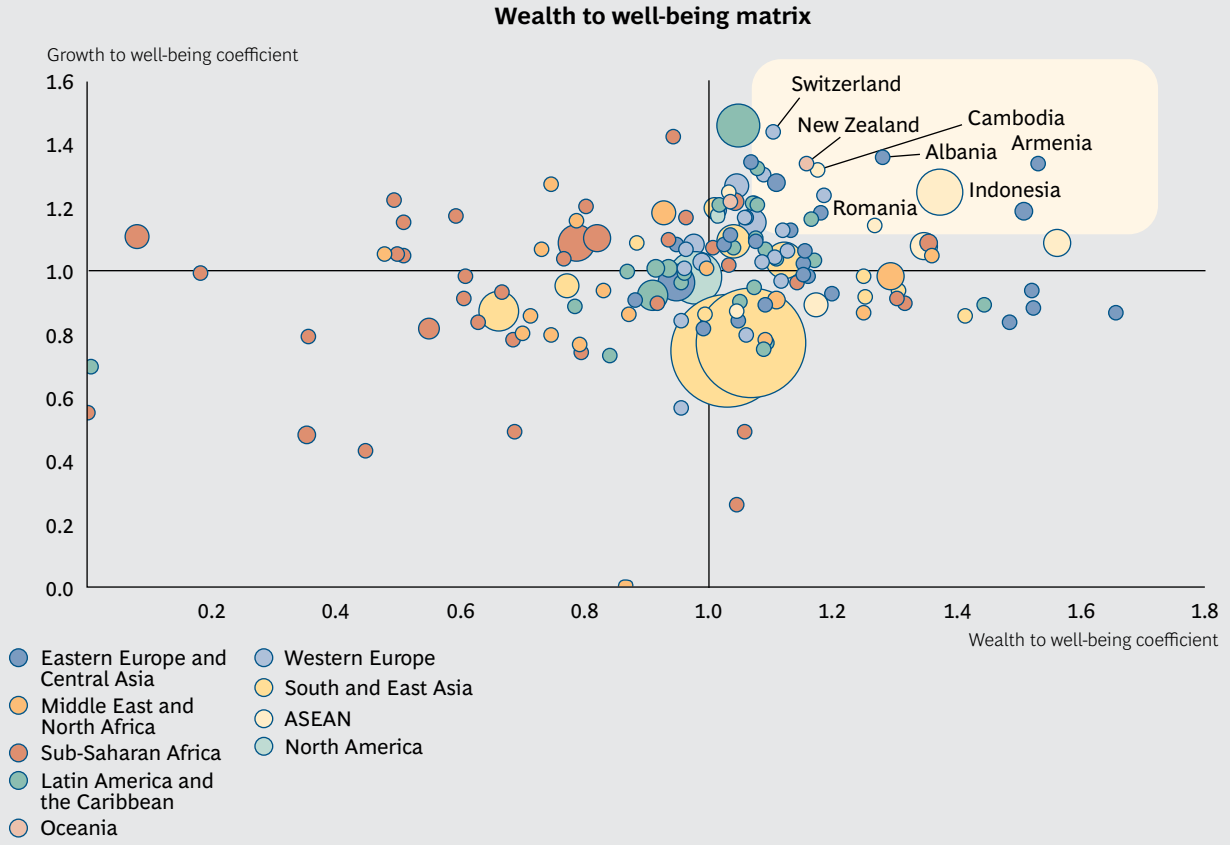


Source: BCG analysis.
Note: Scores based on SEDA model.
[1]Angola, Ethiopia, Republic of the Congo, Rwanda, Malawi, Lesotho, Tanzania, and Nigeria.
[2]Benin, Burundi, South Africa, Cote d'Ivoire, Zimbabwe, Mauritania, Sudan, Zambia, Central African Republic, Senegal, Eritrea, and Madagascar.

percentage growth in GDP among the 150 nations between 2006 and 2011, and Angola—which benefited from rising oil prices—was eleventh; both countries are in the top quintile of scores for recent progress. Also important is these nations' relative performance in improving education and civil society. The Republic of Congo (Brazzaville) achieved the largest gains in education in the world over the past five years, albeit from a low base. These were reflected in sharp increases in the number of teachers and the number of years of school attendance. The African nations in the bottom quintile registered the least improvement, on average, in environmental stewardship, education, infrastructure, and income. They also scored low as a group in governance and civil society. Countries with the very worst performance in converting growth into well-being experienced considerable political and social strife.

It is interesting to look at the wealth to well-being and growth to well-being coefficients together. Only a handful of countries outperform on both measures, and they represent all levels of GDP. New Zealand, Romania, Armenia, Indonesia, and Cambodia are among the nations that have been successful at converting both wealth and growth into high levels of well-being for their populations. (See Exhibit 11.)

EXHIBIT 11 | Only a Few Countries Excel at Converting Both Wealth and GDP Growth into Well-being



Source: BCG analysis.

ASSESSING LONG-TERM SUSTAINABILITY

To assess how well nations are positioned for the future, we added the element of sustainability to our analysis. Assessing sustainability is difficult but important because of its potential value in creating development strategies.

As we developed our methodology, we found that five of our ten key sustainability factors have an especially large impact on the ten dimensions of socioeconomic development: education and skills development, health care, investment capacity, public finances, and economic institutions. (See Exhibit 12.)

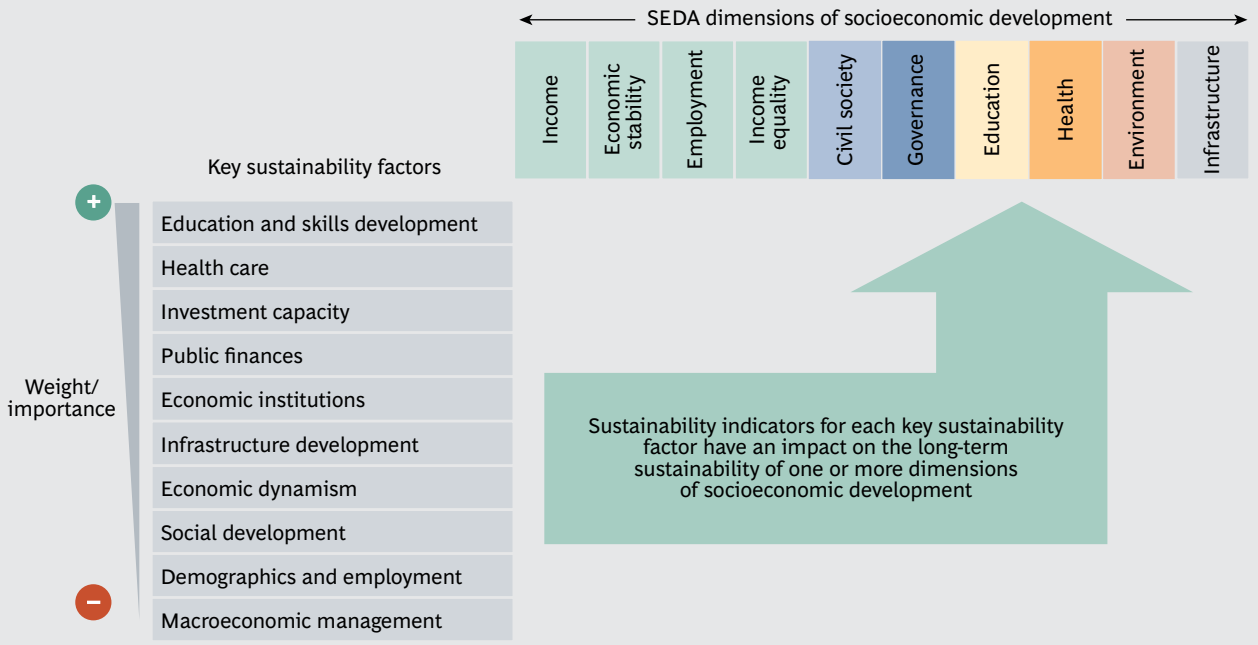
Education and skills development illustrate the way in which a sustainability factor can influence multiple dimensions of development. This factor comprises five indicators: female primary enrollment, tertiary gross enrollment, years of primary through tertiary schooling, the ratio of public-school teachers to students, and average test scores in math and science. Any one or a combination of these indicators will have an impact on the long-term sustainability of improvements in income, economic stability, income equality, civil society, governance, education, health, and environmental stewardship.

As with the indicators used to measure current-level development and recent progress on each dimension of social and economic development, we identified the best available measurements and data sources for each indicator of sustainability. We then scored each country's ability to sustain development along each of the ten dimensions, as well as overall.

Assessing sustainability has potential value in creating development strategies.

To confirm that the framing and mix of our indicators correspond to the impact of the key sustainability factors on future changes in a country's social and economic development, we performed two basic back-testing exercises. (For details, see the Appendix.) First, we compared each country's improvements in the key sustainability factors with its 2011 recent-progress SEDA score. Second, we compared each country's improvement in the key sustainability factors with improvements in its current-level score. Both tests had positive results, suggesting that countries that improved the most over the past decade in terms of sustainability factors register higher recent-progress scores as well as greater improvement in current-level scores. This persuaded us that SEDA is using the right indicators to analyze levels of well-being and their sustainability, though additional testing is necessary.

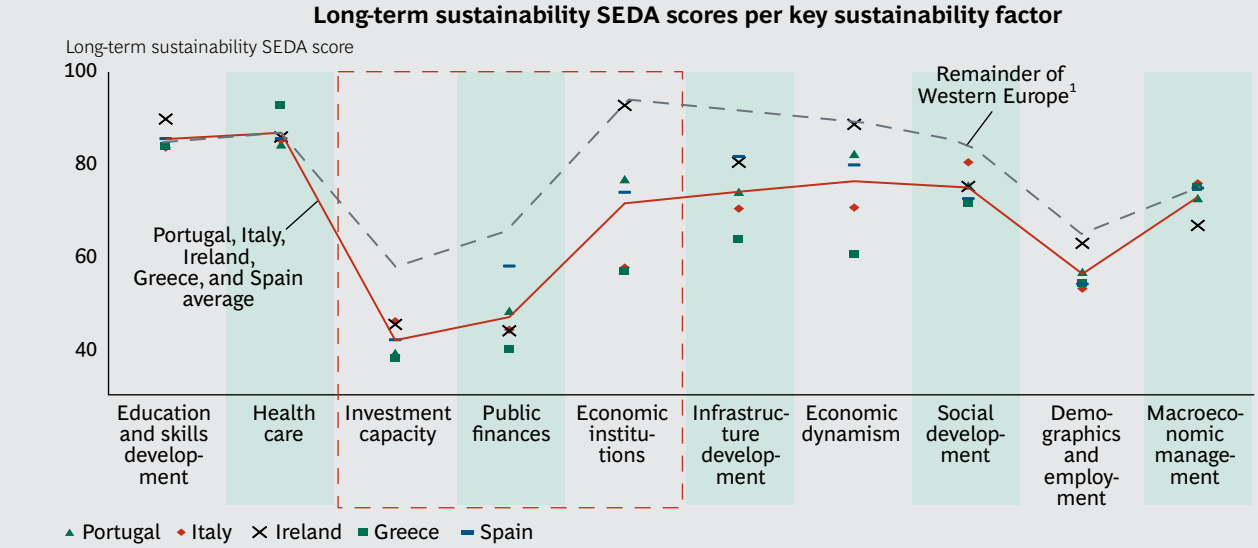
EXHIBIT 12 | Ten Key Sustainability Factors Enable Continuing Improvement on Each Dimension of Socioeconomic Development



Source: BCG analysis.

To get a clearer picture of which sustainability factors distinguish countries with high scores from those with low scores, we again compared groups of countries at similar levels of economic development. One interesting contrast is between the underperforming economies of Portugal, Italy, Ireland, Greece, and Spain and the rest of Western Europe. All five nations lag behind their European peers in investment capacity and public finances, and all but Ireland lag in economic institutions. (See Exhibit 13.)

EXHIBIT 13 | Portugal, Italy, Ireland, Greece, and Spain Are Weaker in Key Sustainability Factors Than the Rest of Western Europe

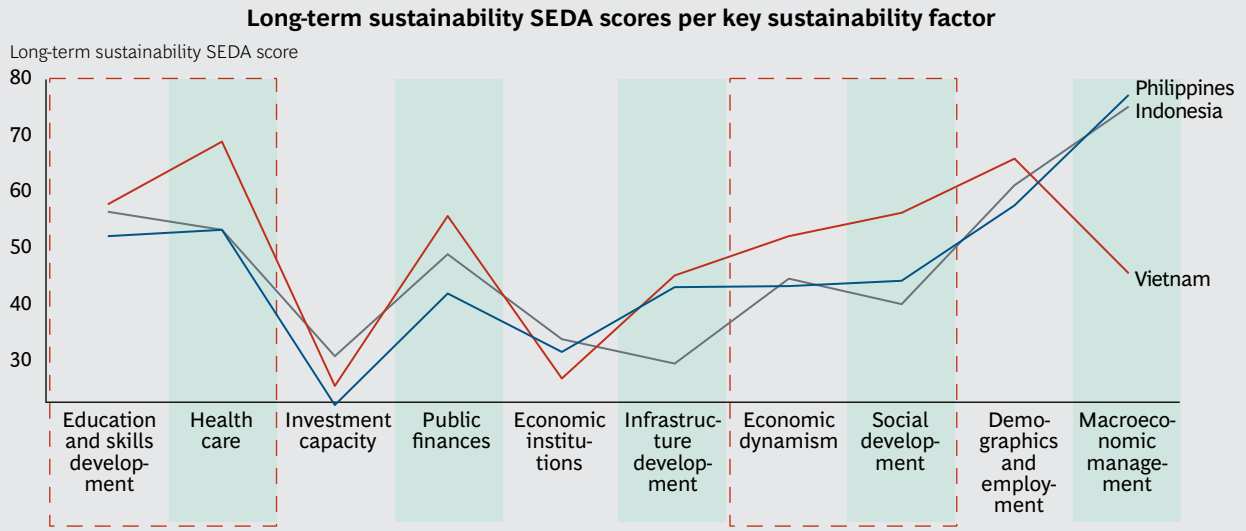


Source: BCG analysis.
Note: Scores based on SEDA model.
[1]Switzerland, Austria, France, Belgium, United Kingdom, Sweden, Netherlands, Luxembourg, Finland, Norway, Germany, and Denmark.

We also compared the potential for improvement in three low-income emerging markets in Southeast Asia—Vietnam, Indonesia, and the Philippines. As factory wages rise in China, each of these countries is vying to attract manufacturing investment from foreign companies. Their ability to continue their socioeconomic development is therefore important.

Vietnam, Indonesia, and the Philippines show common weaknesses in long-term sustainability, scoring poorly in investment capacity, economic institutions, and infrastructure development. Interestingly, while Indonesia's current-level and recent-progress SEDA scores are the highest of the three, Vietnam has the strongest key sustainability factors, scoring far higher in health care, for example. (See Exhibit 14.) Vietnam scores better in social development as well, largely because of high levels of public safety and trust and stronger intergroup cohesion, and it leads in economic dynamism. Vietnam also leads the Philippines and Indonesia in indices measuring innovation capacity and the ability to do business, suggesting greater potential to increase its pace of improvement.

EXHIBIT 14 | Several Key Sustainability Factors Put Vietnam in a Better Position Than Some of Its Southeast Asian Peers



Source: BCG analysis.
Note: Scores based on SEDA model.

TYING IT TOGETHER

IDENTIFYING DEVELOPMENT OPPORTUNITIES

The primary aim of BCG's SEDA is to furnish policymakers with actionable insights that they can use to create development strategies to improve the well-being of all citizens over the long term. We believe that by using SEDA as a diagnostic and benchmarking tool, governments can better identify the socioeconomic dimensions that require the most urgent attention and that can have the greatest long-term impact on overall living standards.

So far, we have explored how SEDA can be used to compare the overall performance of countries on the ten dimensions of development and the key sustainability factors needed for continued progress. The methodology can also help in assessing a country's performance on specific dimensions compared with other nations. Below, we provide two illustrative case studies.

Case Study: South Africa and Health

How could South African policymakers use SEDA to help focus their efforts on converting economic growth into as much improvement in well-being as possible? They might start by selecting a peer group, such as the big developing BRIC economies—Brazil, Russia, India, and China. They could then compare South Africa's performance with each of these countries on each dimension of social and economic development.

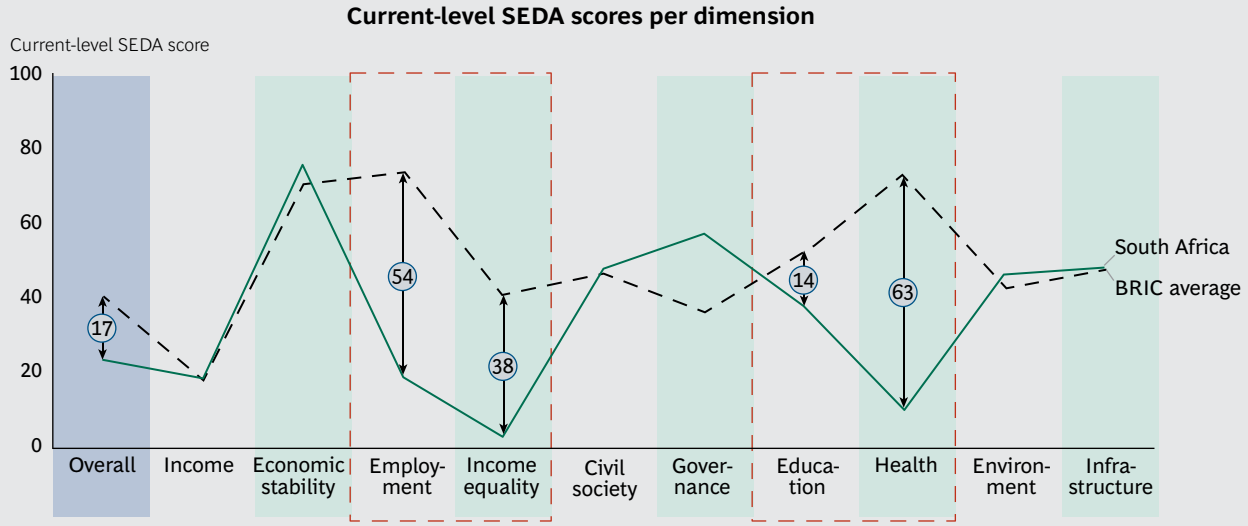
This analysis would reveal that South Africa is performing well relative to the others in this peer group in terms of economic stability, civil society, and governance. But it is lagging in health, employment, income equality, and education. (See Exhibit 15.)

SEDA can help in assessing a country's performance compared with other nations.

SEDA could then be used to delve deeper into South Africa's relative performance in health, for example. While the nation's 2011 per capita GDP of approximately $11,000 is lower than Russia's, it is roughly similar to that of China and Brazil and is much higher than that of India. Yet South Africa's current-level health score is dramatically lower than that of all four BRIC countries. Indeed, South Africa's performance in health lags even many Sub-Saharan African nations with dramatically lower per capita GDP. (See Exhibit 16.) South Africa scores last in almost every indicator of health compared with its BRIC peers. (See Exhibit 17.)

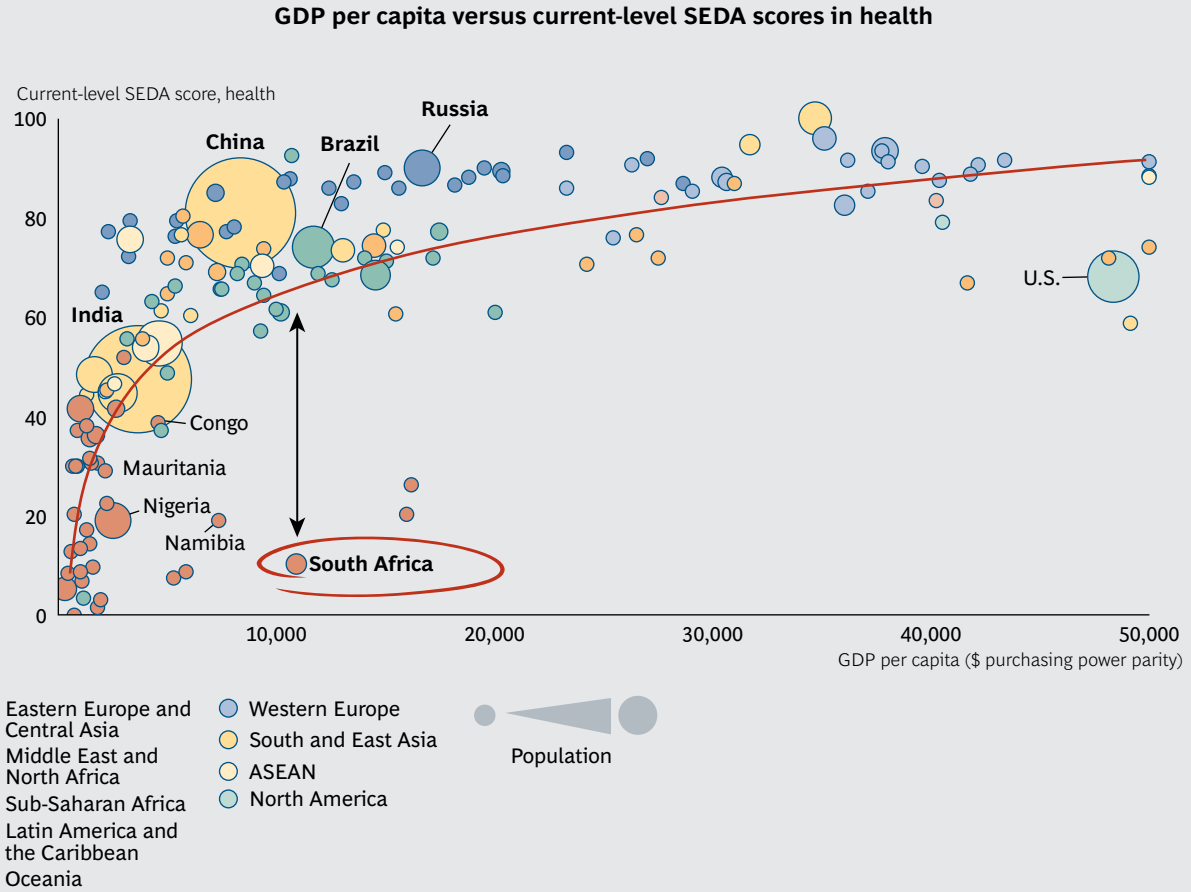
The next question is how much conditions are improving. South Africa's growth to well-being coefficient for health is 1.1, which

Exhibit 15 | South Africa Lags on Some Dimensions of Socioeconomic Development Compared with the BRIC Nations



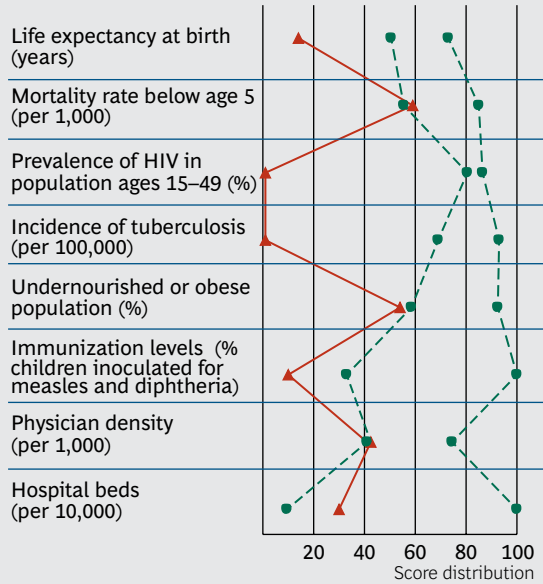
Source: BCG analysis.

Exhibit 16 | South Africa Scores Far Below the BRICs in Health—and Below Many Poorer African Neighbors



Source: BCG analysis.
Note: Per capita GDPs of Qatar ($102,943), Luxembourg ($80,119), Singapore ($59,711), and Norway ($53,470) were adjusted to the maximum value of the matrix ($50,000). Data based on SEDA scores. The line is the second-order polynomial regression.

EXHIBIT 17 | South Africa's Performance in Health Is Well Below That of Its BRIC Peers on Almost Every Indicator



Indicators	BRIC performance	Best performance	Comments
Life expectancy at birth (years)		China	The average life span of South Africans—52 years—is 21 years less than the average for Brazilians and Chinese
Mortality rate below age 5 (per 1,000)		Russia	South African children are five times more likely than Russian children to die before age 5
Prevalence of HIV in population ages 15–49 (%)		China	South Africans are 13 times more likely to have HIV than people in the BRIC nations (178 times more likely than the Chinese)
Incidence of tuberculosis (per 100,000)		Brazil	South Africans are at least eight times more likely to die of tuberculosis than people in the BRIC nations
Undernourished or obese population (%)		Russia	27% of South Africans are undernourished, compared with 5% undernourished or obese in Russia
Immunization levels (% children inoculated for measles and diphtheria)		China	South Africa and India are the only countries in the peer group that do not inoculate at least 97% of children; the South African inoculation rate is 64%
Physician density (per 1,000)		Russia	Number of doctors per 1,000 people in South Africa and India is less than half that of the rest of the group and five times less than in Russia
Hospital beds (per 10,000)		Russia	South Africa performs well compared with the BRIC nations in number of hospital beds, but still has three times fewer beds per 10,000 people than Russia

● Minimum/maximum, BRICs ▲ South Africa

Source: BCG analysis.

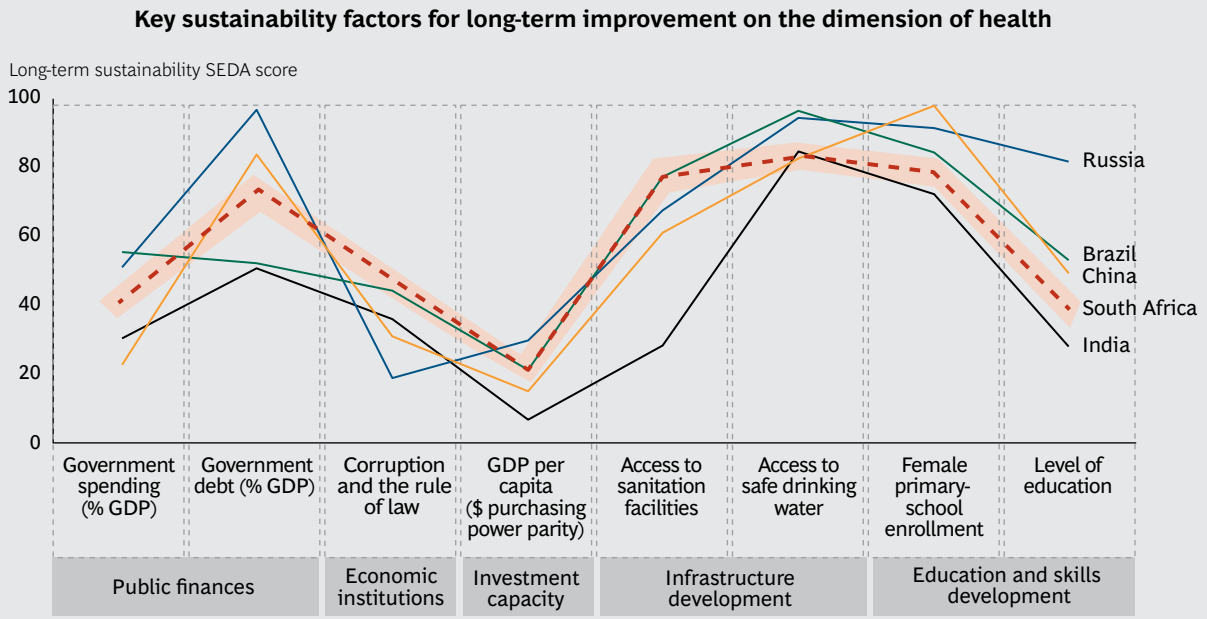
means that improvements in the health of its citizens relative to economic growth are on par with those in India and better than those in Brazil, China, and Russia, which have a coefficient of slightly less than 1. But South Africa's progress starts from an extremely low base. In fact, South Africa's improvements lag far behind those of many poorer Sub-Saharan African countries.

South Africa's health challenges are like those faced by other emerging markets.

Does South Africa have the key sustainability factors in place to sustain or accelerate improvements in health into the future? Here the news is mixed. On the one hand, South Africa scores higher than India and China on several forward-looking indicators for health care. For example, the percentage of South Africans with access to sanitation facilities is higher than in every BRIC nation except for Brazil. South Africa also scores relatively well among these peers in terms of the rule of law and government debt, which also have a large impact on the sustainability of improvements in health care. These indicators suggest that the nation has the basic governance and financial wherewithal to sustain improved performance on the dimension of health.

On the other hand, analysis of the key sustainability factors for health in South Africa highlights areas that warrant greater attention by policymakers. Compared with the BRIC countries, South Africa still has the potential to make considerable improvements through short-term measures, such as devoting more resources to immunization, distributing more food to children, and recruiting more doctors from other countries. Over the long run, however, the most dramatic gains in health are likely to come from greater progress in areas such as education, public spending, and investment capacity, which would provide more resources to invest in health care. (See Exhibit 18.) Thus, the long-term challenges facing South Africa in health are not unlike those faced by other large emerging markets.

EXHIBIT 18 | Gains in Health Care in South Africa Will Likely Come from Progress in Education, Public Spending, and Investment Capacity



Source: BCG analysis.
Note: Data based on SEDA scores.

Case Study: Education in Malaysia

Over the past five years, Malaysia has achieved tremendous progress in education. (See Exhibit 19.) Its growth to well-being coefficient on this dimension is not only the highest in Southeast Asia but also one of the highest in the world. Malaysia has achieved far greater progress than its neighbors Thailand, Indonesia, or the Philippines in increasing the number of years that children attend school and increasing enrollment rates at the tertiary level. Along with Thailand, Malaysia is the only Southeast Asian nation to register improvements in math and science scores.

In fact, Malaysia has one of the best education systems among the developing economies of Southeast Asia. Compared with the low- and middle-income nations of Thailand, Indonesia, the Philippines, Vietnam, Laos, and Cambodia, Malaysia has twice as many teachers per primary-school student, and average math and science scores are 18 percent higher. Rates of tertiary enrollment and the average time spent in school (12.6 years) are also among the highest in this group.

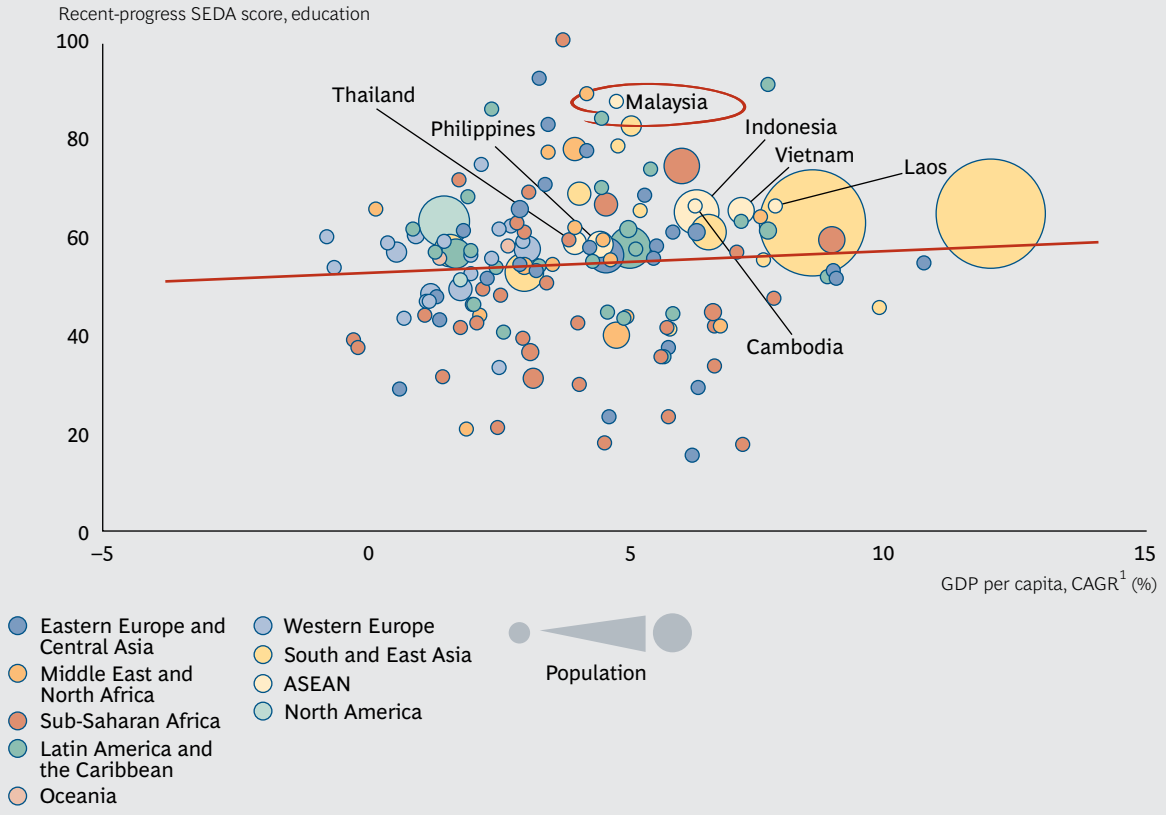
The Malaysian government acknowledges that despite the country's success on several metrics, shortcomings in education remain. This is especially obvious from benchmarking of Malaysia's education system against international standards and from its record in producing graduates that meet employers' needs. The government's draft *Malaysia Education Blueprint, 2013–2025,* calls for improvements in the quality of teaching and school leadership and in student proficiency in English.

Malaysia's recent progress in education is among the highest in the world.

How well is Malaysia positioned for future improvement in education? The answer is one that many high-tech multinational companies considering long-term investments in the country would like to know. According to SEDA, the current reforms—if successfully enacted—could indeed lay the foundation for

Exhibit 19 | Malaysia Is One of the Best in the World at Converting Growth into Improved Education

Change in GDP per capita, 2006–2011, versus recent-progress SEDA scores in education



Source: BCG analysis.
Note: Data based on SEDA scores. The line is the linear regression.
[1]Reflects countries' last five-year average in real GDP purchasing power parity (current international $), excluding the following outliers: Libya, Sudan, United Arab Emirates, Bahrain, and Sri Lanka.

Malaysia to pull ahead of its Southeast Asian neighbors. (See Exhibit 20.)

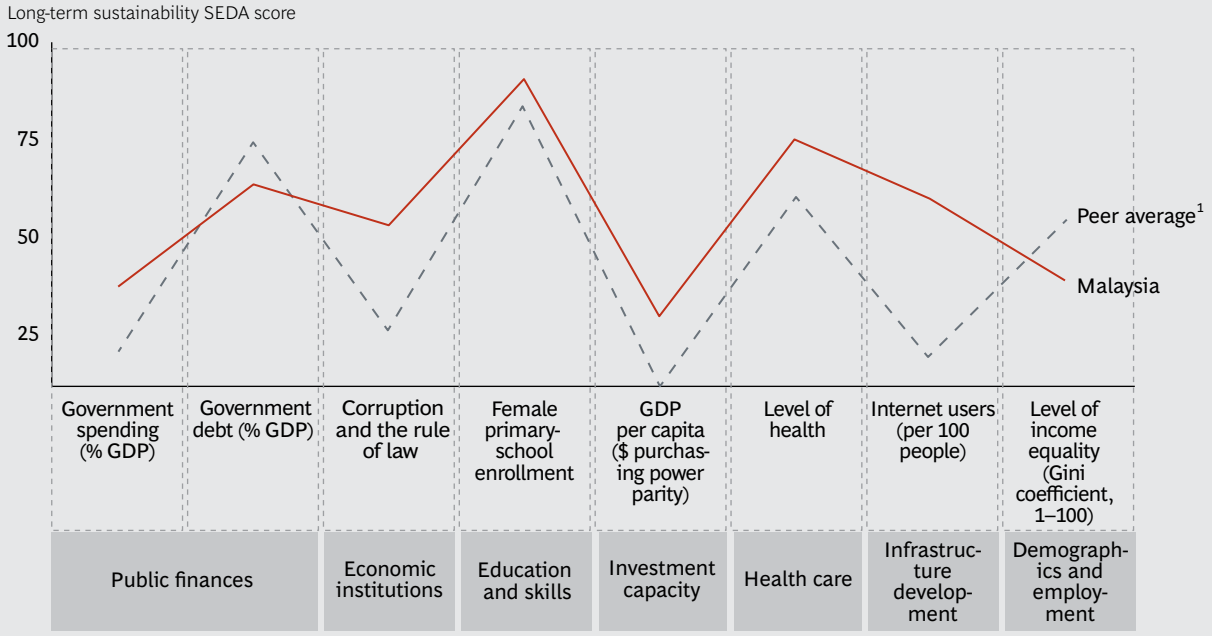
Like Thailand, Indonesia, the Philippines, Vietnam, Laos, and Cambodia, Malaysia has a high rate of primary-school enrollment for girls—one of the most important indicators of future improvement in overall education. It also has by far the most Internet users per capita. Finally, Malaysia scores at or near the top among its regional peers in government spending, health, levels of corruption, and the rule of law.

What are Malaysia's weaknesses compared with its peers? One is income equality, where it scores lowest of the seven. This income divide, and especially the attendant proliferation of private schools, will create further disparities in the quality of education received by children of the rich and poor. Another weakness is a high level of government debt compared with the nation's peers.

While Malaysian education officials appear to be addressing the right issues in the short term, the greatest potential for improving education over the long term lies in tackling the bigger challenges. This is particularly critical if Malaysia is to increase its GDP beyond the middle-income level and achieve its ambitious goal of becoming a "high-income economy" by 2020. It needs to produce millions of skilled workers, not just an elite at the top. The country's larger challenges include improving incomes for the poor and strengthening government finances to ensure long-term investment in education. It is especially important that Malaysia improve in the field of vocational and technical education in order to provide a substantial, steady supply of employable skilled workers.

EXHIBIT 20 | Malaysia Is Well Positioned Compared with Its Southeast Asian Peers to Sustain Improvements in Education

Key sustainability factors for long-term improvement on the dimension of education



Source: BCG analysis.
Note: Data based on SEDA scores.
[1]Peers are Thailand, Indonesia, the Philippines, Vietnam, Laos, and Cambodia.

SEDA can be a useful tool in developing short- and long-term strategies to improve the well-being of a population. Translating its insights into specific policies, however, requires deeper analysis. A country's performance on specific dimensions must be assessed in the context of its overall circumstances. And it is necessary to look in detail at the programs already in place to determine how well they are working and to address shortcomings.

NATIONAL STRATEGIES FOR IMPROVING WELL-BEING

INCREASINGLY, NATIONS ARE FOCUSING not only on economic growth but also on how well wealth and income growth are being converted into well-being. We believe that SEDA can provide valuable guidance in developing national strategies aimed at improving social and economic development. SEDA can also provide a better understanding of the key sustainability factors for development—that is, how countries can sustain and keep improving the well-being of their populations.

The initial findings from our work with SEDA suggest that there is indeed considerable value in this approach. It can put a country's progress into perspective and help identify areas of underperformance. It can also identify countries from which lessons can be learned. Our analysis of the key sustainability factors provide an additional dynamic perspective on the enablers that can play a role in generating and maintaining progress. The three time horizons of current-level development, recent progress, and long-term sustainability together provide a diagnostic and benchmarking basis that can help policymakers and stakeholders develop or refine national strategies for socioeconomic development and improvements in well-being.

In BCG's work with governments, we have always found that creating a solid and common fact base for comparing a country against a set of appropriate peers can help identify strengths as well as areas in need of improvement. Such comparisons can also promote consensus and galvanize a nation's leadership and population toward common goals. In addition, comparisons of the main dimensions of socioeconomic development can facilitate discussion of specific strategies and action plans in particular areas.

Understanding where a country stands today is useful. But better decisions can be made by understanding the pace of development and, crucially, the underlying enablers that drive development in the long term. Identifying countries that do well overall and in specific dimensions is helpful as a potential source of lessons. We offer our work on SEDA as a contribution in that regard. This is a complex endeavor, and far more research is required before we can fully understand the factors that have the greatest impact on converting wealth into well-being and that make it possible to generate and sustain performance.

The use of SEDA should, of course, be accompanied by country-specific analysis, an appreciation for where a country is today, a deep assessment of programs already under way, and extensive stakeholder discussions. Only then is it possible to reach specific conclusions. A BCG Sustainable Economic Development Assessment can be a valuable component of any effort to rethink national development strategies with the aim of improving well-being.

APPENDIX

The Sustainable Economic Development Assessment (SEDA) is an approach to systematically assessing and comparing levels of socioeconomic development, or well-being, of 150 nations across a range of dimensions. We assess these dimensions over three time horizons: current level, recent progress (over a five-year period), and long-term sustainability. Comparing a country's current-level and recent-progress SEDA scores with its per capita GDP and rate of GDP growth allows us to develop *wealth to well-being* and *growth to well-being coefficients.* These coefficients allow us to assess a country's performance in converting income into well-being. (For the current-level, recent-progress, and long-term sustainability scores of the 150 countries assessed, and for their wealth to well-being and growth to well-being coefficients, see Table 1, page 38.)

We developed SEDA on the basis of a rigorous process of selection and aggregation of indicators. We examined publicly available sources and selected 51 different indicators, which we then normalized using minmax methodology and combined according to specific weighting and aggregation methods. In a minority of cases, we used imputation techniques to fill in the data gaps in the original sources.

The results reported in our report are supported by some initial sensitivity analyses. We tested the sensitivity of the results to variations in the dimension and indicator weights. We also performed two back-testing exercises to ascertain how long-term sustainability factors contribute to changes in economic development. We intend to perform further validation and more complex testing as we fine-tune and adjust our methodology, which we plan to do on a regular basis.

The Ten Dimensions of Social and Economic Development

SEDA's insights result from a balanced view of ten economic and noneconomic dimensions that together contribute to the well-being of a country. These dimensions—income, economic stability, employment, income equality, civil society, governance, education, health, the environment, and infrastructure—were chosen on the basis of a review of the extensive research in the development field, as well as BCG's experience working with governments worldwide on economic development topics.

Current Level and Recent Progress

In order to provide a broader and more valuable perspective onto socioeconomic development, we analyzed these ten dimensions across the following time horizons:

- Current level, a static measure using the most recent data available

- Recent progress, a measure of change in current-level data for the most recent five-year period for which data are available

For the current-level assessment, we used 36 different indicators. (See Table 2, page 41.)

We used the same indicators to determine recent progress, measured at two points in time, with two exceptions: HIV prevalence and the incidence of tuberculosis were not considered in recent-progress calculations because of a lack of historical data.

Many other indicators and sources were also considered and reviewed. Because they did not meet the defined standards in terms of availability and quality, however, these indicators were not incorporated into the model.

Wealth to Well-being and Growth to Well-being Coefficients

The wealth to well-being coefficient compares a country's current-level SEDA score with the score that would be expected given its per capita GDP. The "expected" score results from the average worldwide relationship between well-being and per capita GDP (as measured in terms of purchasing power parity) given by the best-fit regression line, in this case a second-order polynomial regression. The wealth to well-being coefficient thus provides a relative indicator of how well a country has translated its wealth into the well-being of its population. (See Exhibit 1.)

The growth to well-being coefficient compares the relationship between a country's recent-progress score with its GDP growth, measured in terms of the compound annual growth rate. The best-fit regression line is in this case a simple linear regression. The growth to well-being coefficient thus shows how well a country has translated its income growth into improved well-being in the last five years. (See Exhibit 1.)

Long-Term Sustainability

In addition, we analyzed long-term sustainability with the aim of identifying the "enablers" that help gains on each of the ten dimensions of socioeconomic development to continue. SEDA uses this third time horizon as an indication of a country's ability to sustain improvements over the next generation.

We assess long-term sustainability on the basis of 36 indicators distributed across the ten dimensions. (See Table 3, page 42.) Fifteen of these indicators are not used in assessing current-level development and recent progress. These additional indicators do not necessarily affect current well-being but can compromise the ability of a country to sustain improvements in development levels over time. The aging of a population, for example, jeopardizes the sustainability of economic growth.

The remaining indicators are the same as those used to assess current-level development and recent progress. Some of the same indicators used to assess the dimension of education, for example, are used as indictors for several long-term sustainability factors. That is because education is an important measure of a country's capacity to make continued improvements in income, health, governance, and the environment. Indeed, most long-term sustainability indicators have an impact on numerous dimensions of socioeconomic development, revealing their interdependent nature.

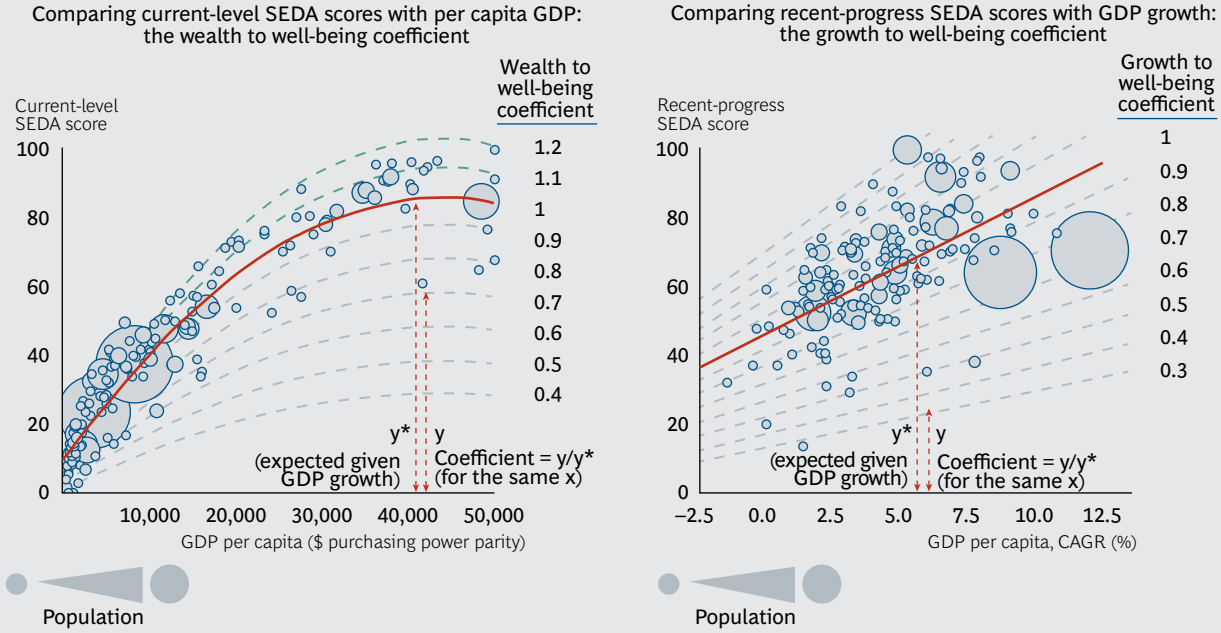
Multivariate regression techniques helped us identify the best enablers of future economic development and well-being on each dimension.

The indicators of sustainability are grouped into ten key sustainability factors. See Table 4, beginning on page 45, for a summary of all the indicators for each key sustainability factor and detailed sources.

Data Gaps and Data Manipulation

The SEDA model was constructed from a large data set. The computation of the SEDA model required 12,750 data points: 36 indicators for current level, 34 for recent progress, and the 15 additional indicators for long-term sustainability multiplied by 150 countries. The majority of these data points (93.4 percent) were obtained directly from primary sources. For the remaining data points, we used secondary sources (0.9 percent) and imputation techniques to fill in the data gaps in the original sources using a

Exhibit 1 | Calculating the Wealth to Well-being and Growth to Well-being Coefficients



Source: BCG analysis.

matching model (3.7 percent) and a simple GDP match (1.9 percent).

The matching model identifies the best data donor for each data gap by looking for high correlations between indicators for different subsets of countries (minimum 0.7 R^2 required to be a data donor). The GDP correlation model is the last resort process to fill in the remaining gaps. The model analyzes which countries have the most similar GDP per capita in purchasing power parity and calculates the countries' average best fit.

Normalization

As a result of differences in the scales used in the original sources, we needed to normalize the data before feeding them into the SEDA model. We applied minmax normalization, which performs a linear transformation of the data while preserving the relative distance among the original data values. Minmax normalization subtracts the minimum value of an indicator's raw data set from each country's value in a particular year. The result of this is then divided by the range of the indicator (maximum value minus minimum value in the data set). The result is then multiplied by 100 in order to obtain a 0–100 scale, where 100 is always the best possible score.

Some of the raw data that we used contained outliers, that is, data whose values lie at an abnormal distance from other values. In order to avoid an outliers bias in overall SEDA scores, we adjusted the model so that none of the values exceeds a limit of +/–2.5 standard deviations to the mean.

As a result, SEDA scores for a particular country are always relative to those of other countries. For example, a zero current-level score does not mean that there is no well-being in the country. Rather, it means that the country is the worst performer compared with the other 149 countries.

Weighting

We believe, from our research and interviews with internal and external experts, that not every dimension in the SEDA model is equally important when it comes to assessing economic development and well-being. The literature we reviewed does not support any specific weighting system, however.

To minimize arbitrariness and still be able to differentiate across dimensions of socioeconomic development, we applied a simple weighting approach based on weighting factors. Among our ten dimensions, we consider four—income, governance, education, and

health—to be the most important. These dimensions are assigned twice the weight of the remaining dimensions. On the other hand, to reflect the more complementary nature of the economic stability and employment dimensions, they were given half the weight. Overall weighting is as follows:

- Income, governance, education, and health are given a factor of 2.
- Income equality, civil society, infrastructure, and environment are given a factor of 1.
- Economic stability and employment are given a factor of 0.5.

We applied a similar approach at the indicator level, but with only two factors: 2 or 1. We gave a weighting factor of 2 to the indicators that we regard as the most critical, whereas the remaining indicators were weighted with a factor of 1. As mentioned above, to fine-tune and support prioritization of the indicators of long-term sustainability for each dimension, a multivariable regression was run to test the significance of indicators.

We performed sensitivity analysis to test the impact of the weights of both dimensions and indicators on the results. We found that the variation in overall SEDA scores is minimal if dimensions are weighted equally. In fact, correlations between original SEDA outcomes and SEDA outcomes if all dimensions are weighted equally are close to 1.

The variation in the overall SEDA scores is also minimal if dimensions and indicators are weighted equally.

Aggregation and Output

A statistical method of data aggregation is applied to combine the normalized data into a composite index. A geometric average is used for the current-level and recent-progress data in order to reflect the interdependent nature of socioeconomic development.

The long-term sustainability indicators, which are considered as an independent and mutually exclusive contribution to "enable" a country's development, are aggregated through an arithmetic average to reflect the additive nature of the factors.

SEDA scores can be classified into two main types:

- *Relative to other countries:* these scores position a country relative to other countries and include scores on the ten dimensions across the three time horizons.
- *Relative to its own mean:* these scores are the result of measuring the distance between a country's data point and the mean of the whole sample or a family of peers and include wealth to well-being coefficients.

Back-testing

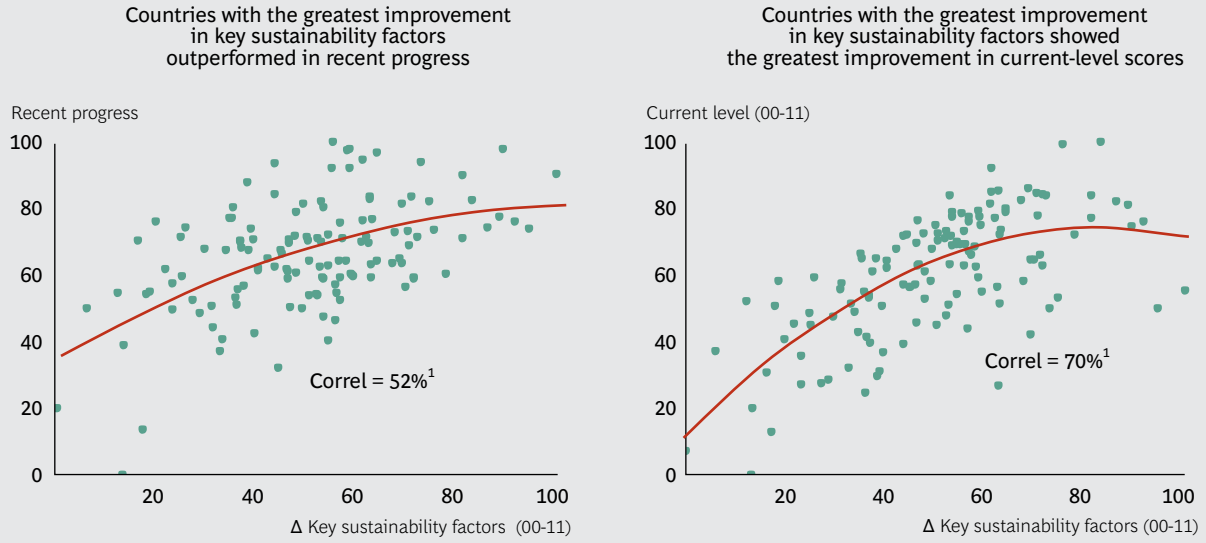
We performed two basic back-testing exercises in order to ascertain the extent to which our indicators relate to future changes in socioeconomic development. (See Exhibit 2.)

First, we compared each country's improvements in the key sustainability factors from 2001 to 2011 with its recent-progress score for 2011. Results confirm that countries that improved the most over the past decade in putting the right sustainability factors in place tend to perform better in recent-progress gains.

Second, we compared each country's improvements in the key sustainability factors with improvements in its current-level score. Results indicate that countries that improved the most over the past decade in putting the right sustainability factors in place register greater improvement in their current-level scores.

We excluded 20 countries from our back-testing exercises because they experienced dramatic exogenous factors, such as wars and severe economic crises, which biased the results. In the future, we plan to perform further validation and more complex testing as we fine-tune and adjust our methodology.

Exhibit 2 | Two Simple Back-testing Exercises Were Performed



Source: BCG analysis.
[1]Second-order polynomial regression.

SEDA Primary Data Sources

Alberto Alesina et al., "Fractionalization," *Journal of Economic Growth,* Vol. 8, 2003; http://www.economics.harvard.edu/faculty/alesina/files/fractionalization.pdf

Doing Business: Measuring Business Regulations (World Bank); www.doingbusiness.org
Data source: Doing Business Economy Rankings; http://www.doingbusiness.org/rankings

Economist Intelligence Unit
www.eiu.com
Data source: Country data

Environmental Performance Index (Yale University)
http://epi.yale.edu
Data source: Environmental Performance Index data files
http://epi.yale.edu/downloads

Eurostat
ec.europa.eu/eurostat
Data source: Statistics database
http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database

Freedom House, www.freedomhouse.org
Data source: Freedom of the press, global and regional rankings
http://www.freedomhouse.org/reports

Global Innovation Index
www.globalinnovationindex.org
Data source: Soumitra Dutta, ed., *The Global Innovation Index 2011: Accelerating Growth and Development,* INSEAD
http://www.globalinnovationindex.org/gii/main/previous/2010-11/FullReport_10-11.pdf

Heritage Foundation
www.heritage.org
Data source: 2012 Index of Economic Freedom
http://www.heritage.org/index/explore

Indices of Social Development
www.indsocdev.org
Data source: Data Access Indices of Social Development
http://www.indsocdev.org/data-access.html

International Monetary Fund
www.imf.org
Data source: World Economic Outlook Database, World Economic and Financial Surveys
http://www.imf.org/external/pubs/ft/weo/2012/01/weodata/index.aspx

KPMG
www.kpmg.com
Data source: *KPMG's Individual Income Tax and Social Security Rate Survey 2011,* "Highest Rates of Personal Income Tax"
http://www.kpmg.com/Global/en/IssuesAnd-

Insights/ArticlesPublications/Documents/individual-income-tax-social-security-rate-survey-September-2011.pdf

OECD, Programme for International Student Assessment
www.oecd.org/pisa
Data source: Results and Analysis: Key findings
http://www.oecd.org/pisa/pisaproducts/

United Nations
www.un.org
Data source: World Population Prospects, 2010 Revision: Annual Population by Five-Year Age Groups 2011–2100—Both Sexes
http://esa.un.org/wpp/Excel-Data/population.htm

United Nations Conference on Trade and Development (UNCTAD)
www.unctad.org
Data source: Concentration and diversification indices of merchandise exports and imports by country, annual, 1995–2011
http://unctadstat.unctad.org/ReportFolders/reportFolders.aspx?sRF_ActivePath=P,15912,15915&sRF_Expanded=,P,15912,15915

United Nations Educational, Scientific and Cultural Organization (UNESCO)
www.unesco.org
Data source: Social indicators
http://unstats.un.org/unsd/demographic/products/socind/

World Bank
www.worldbank.org
Data source: World dataBank
http://databank.worldbank.org/ddp/home.do

World Economic Forum
www.weforum.org
Data source: Global Competitiveness Reports
http://www.weforum.org/reports

World Health Organization
http://www.who.int
Data source: The WHO Global InfoBase
https://apps.who.int/infobase/

Worldwide Governance Indicators
www.govindicators.org
Data source: Full dataset
http://info.worldbank.org/governance/wgi/index.asp

Table 1 | Overall Country-Specific SEDA Scores

Countries	Current-level score	Recent-progress score	Long-term sustainability score	Wealth to well-being coefficient	Growth to well-being coefficient
Albania	44.1	97.9	44.1	1.28	1.35
Algeria	36.9	54.6	51.0	1.11	0.91
Angola	14.3	98.0	19.5	0.49	1.22
Argentina	54.1	80.4	56.7	0.92	1.00
Armenia	41.9	82.0	49.0	1.53	1.33
Australia	90.2	71.7	94.3	1.04	1.22
Austria	93.9	71.6	89.8	1.07	1.21
Azerbaijan	41.0	75.6	45.2	0.99	0.82
Bahrain	57.1	32.0	61.6	0.75	0.79
Bangladesh	17.3	77.3	19.1	1.12	1.03
Belarus	47.3	77.2	53.8	0.88	0.91
Belgium	90.9	65.2	87.2	1.06	1.16
Belize	39.9	55.0	42.4	1.11	1.04
Benin	19.3	52.3	22.8	1.32	0.90
Bhutan	37.1	81.3	39.0	1.25	0.91
Bolivia	27.8	50.1	36.6	1.09	0.75
Bosnia and Herzegovina	33.8	70.5	52.1	0.95	1.08
Botswana	33.8	56.7	42.5	0.61	0.91
Brazil	47.8	100.0	51.6	1.05	1.45

Table 1 | Overall Country-Specific SEDA Scores (continued)

Countries	Current-level score	Recent-progress score	Long-term sustainability score	Wealth to well-being coefficient	Growth to well-being coefficient
Bulgaria	58.1	64.2	61.5	1.16	0.98
Burkina Faso	13.4	59.7	11.8	0.92	0.89
Burundi	8.0	50.6	27.8	0.68	0.78
Cambodia	20.1	97.5	24.4	1.17	1.32
Cameroon	17.4	60.3	21.8	1.01	1.07
Canada	88.4	64.4	87.9	1.02	1.17
Central African Republic	0.0	30.9	0.7	0.00	0.55
Chad	2.9	56.4	6.5	0.18	0.99
Chile	60.9	71.3	68.4	1.04	1.07
China	37.4	70.7	51.1	1.03	0.75
Colombia	38.8	69.0	46.8	0.94	1.00
Congo-Brazzaville	23.5	90.1	27.2	0.94	1.42
Costa Rica	50.2	50.5	50.8	1.09	0.77
Côte d'Ivoire	11.5	48.6	4.2	0.77	1.04
Croatia	64.6	74.2	66.4	1.07	1.34
Cuba	44.9	63.4	54.9	1.05	0.90
Cyprus	75.4	57.1	75.7	0.96	1.00
Czech Republic	80.4	69.9	77.3	1.06	1.17
Denmark	90.9	40.3	96.0	1.06	0.80
Dominican Republic	33.8	72.1	35.0	0.87	1.00
Democratic Republic of the Congo	0.9	73.9	5.5	0.08	1.10
Ecuador	39.5	87.7	48.0	1.08	1.32
Egypt	39.9	66.4	44.1	1.29	0.98
El Salvador	36.5	61.7	39.1	1.08	1.10
Eritrea	5.4	20.0	2.4	0.45	0.43
Estonia	73.5	60.1	78.9	1.13	1.12
Ethiopia	10.9	93.9	14.6	0.82	1.10
Finland	95.8	59.2	97.4	1.13	1.06
France	88.2	69.8	87.2	1.05	1.27
Gabon	35.4	53.2	33.9	0.63	0.83
Georgia	41.1	61.7	50.5	1.49	0.84
Germany	92.3	69.6	87.6	1.07	1.15
Ghana	26.1	71.0	27.6	1.30	0.91
Greece	72.1	47.8	67.9	0.96	1.07
Guatemala	28.4	70.7	33.6	1.08	1.21
Guinea	8.1	53.9	7.1	0.61	0.98
Guyana	36.1	67.7	37.6	1.07	0.95
Haiti	0.1	39.0	5.5	0.01	0.70
Honduras	28.2	59.7	37.3	1.17	1.03
Hong Kong	76.6	73.4	81.8	0.88	1.08
Hungary	73.1	54.4	73.2	1.15	1.02
Iceland	96.2	47.4	88.4	1.12	0.96
India	23.5	64.3	29.8	1.07	0.77
Indonesia	34.5	92.3	38.8	1.37	1.24

Table 1 | Overall Country-Specific SEDA Scores (continued)

Countries	Current-level score	Recent-progress score	Long-term sustainability score	Wealth to well-being coefficient	Growth to well-being coefficient
Iran	37.6	61.4	45.5	0.77	0.95
Iraq	10.8	68.5	23.7	0.48	1.05
Ireland	82.9	37.2	83.2	0.96	0.84
Israel	70.3	53.9	73.4	0.87	0.86
Italy	78.2	54.0	72.6	0.98	1.08
Jamaica	41.7	54.4	33.8	1.09	1.06
Japan	87.4	59.1	81.8	1.04	1.09
Jordan	39.3	70.2	46.5	1.36	1.04
Kazakhstan	49.9	77.5	54.4	1.03	1.08
Kenya	16.2	73.9	24.7	1.04	1.22
Kuwait	61.2	44.4	64.3	0.70	0.80
Kyrgyzstan	26.9	62.5	38.5	1.52	0.88
Laos	23.6	92.0	26.7	1.27	1.14
Latvia	66.0	46.4	68.2	1.20	0.93
Lebanon	39.0	67.8	45.1	0.71	0.85
Lesotho	8.3	82.6	27.8	0.51	1.15
Libya	24.8	0.0	41.0	0.87	0.00
Lithuania	71.4	60.3	70.5	1.15	0.98
Luxembourg	91.4	59.0	93.1	1.12	1.13
Macedonia	43.9	56.3	60.5	1.05	0.84
Madagascar	13.3	13.5	24.3	1.04	0.26
Malawi	11.7	82.7	27.4	0.93	1.09
Malaysia	57.3	58.8	60.5	1.05	0.87
Mali	10.8	72.8	12.0	0.80	1.20
Malta	70.2	34.0	71.5	0.96	0.57
Mauritania	13.5	40.7	16.0	0.80	0.74
Mauritius	53.0	62.0	54.3	0.99	0.86
Mexico	47.8	50.4	53.2	0.91	0.92
Moldova	34.8	61.2	48.2	1.66	0.87
Mongolia	35.9	70.8	51.2	1.41	0.86
Morocco	32.9	59.4	45.4	1.25	0.87
Mozambique	8.9	70.5	23.5	0.67	0.93
Namibia	16.9	67.6	34.1	0.51	1.05
Nepal	17.7	68.1	20.0	1.25	0.98
Netherlands	95.1	59.1	94.7	1.09	1.03
New Zealand	88.7	71.3	91.2	1.16	1.33
Nicaragua	29.5	54.7	34.9	1.45	0.89
Niger	6.1	63.5	10.7	0.50	1.05
Nigeria	14.4	79.1	18.3	0.79	1.08
Norway	100.0	64.8	100.0	1.19	1.23
Oman	59.0	76.9	65.8	0.79	1.15
Pakistan	12.6	52.5	11.4	0.66	0.87
Panama	49.0	81.4	53.0	0.96	0.96
Paraguay	32.0	80.4	35.6	1.17	1.16

TABLE 1 | Overall Country-Specific SEDA Scores (continued)

Countries	Current-level score	Recent-progress score	Long-term sustainability score	Wealth to well-being coefficient	Growth to well-being coefficient
Peru	41.7	93.6	48.4	1.02	1.20
Philippines	31.3	71.4	34.6	1.35	1.08
Poland	71.8	94.8	73.9	1.11	1.28
Portugal	76.4	70.1	75.7	1.09	1.30
Qatar	67.8	71.2	70.1	0.83	0.94
Romania	55.9	73.2	57.0	1.18	1.18
Russia	54.4	64.3	62.0	0.95	0.96
Rwanda	13.7	90.3	34.4	0.96	1.17
Saudi Arabia	52.5	60.3	59.9	0.73	1.06
Senegal	16.9	29.4	22.0	1.06	0.49
Serbia	49.2	65.9	55.1	1.16	1.06
Singapore	84.2	83.6	81.3	1.03	1.24
Slovakia	75.5	76.4	71.8	1.08	1.09
Slovenia	80.7	63.5	80.5	1.04	1.11
South Africa	23.9	49.7	38.7	0.55	0.81
South Korea	82.2	82.4	82.9	1.01	1.19
Spain	79.3	53.0	79.1	0.99	1.03
Sri Lanka	36.9	74.3	42.9	1.31	0.93
Sudan	6.6	38.3	0.0	0.35	0.48
Suriname	37.8	67.6	43.3	0.96	0.99
Swaziland	16.1	70.4	27.6	0.59	1.17
Sweden	96.4	60.7	97.0	1.11	1.04
Switzerland	96.7	83.7	92.6	1.10	1.44
Syria	26.2	62.4	39.2	1.00	1.00
Tajikistan	25.3	69.6	35.3	1.52	0.94
Tanzania	20.0	82.1	32.4	1.35	1.09
Thailand	45.9	57.4	47.7	1.17	0.89
Togo	14.5	55.9	19.2	1.14	0.96
Trinidad and Tobago	54.1	40.8	57.5	0.84	0.73
Tunisia	43.0	50.1	53.2	1.09	0.78
Turkey	48.6	76.1	57.4	0.93	1.18
Uganda	14.6	72.2	25.5	1.03	1.01
Ukraine	49.7	71.0	56.4	1.51	1.19
United Arab Emirates	65.1	59.1	69.0	0.75	1.27
United Kingdom	86.1	62.7	87.2	1.01	1.19
Uruguay	57.6	96.9	64.3	1.07	1.21
United States	85.1	52.3	83.2	0.98	0.97
Uzbekistan	22.6	76.2	38.1	1.09	0.89
Venezuela	37.3	51.1	43.3	0.78	0.89
Vietnam	32.7	84.4	43.7	1.56	1.08
Yemen	13.8	37.0	19.8	0.79	0.77
Zambia	10.4	35.4	24.4	0.69	0.49
Zimbabwe	4.0	42.4	14.4	0.36	0.79

Source: BCG analysis.

Table 2 | Current-Level SEDA Indicators per Dimension

Dimension	Indicators	Primary source
Income	GDP per capita, purchasing power parity (current $)	International Monetary Fund, World Economic Outlook Database
Economic stability	Inflation, average consumer prices (percentage change)	International Monetary Fund, World Economic Outlook Database
	Inflation-rate volatility (variation coefficient)	International Monetary Fund, World Economic Outlook Database; BCG analysis
	GDP growth volatility (variation coefficient)[1]	International Monetary Fund, World Economic Outlook Database; BCG analysis
Employment	Unemployment, total (% total labor force)	World Bank, World dataBank
	Employment rate, population ages 15–64 (%)	World Bank, World dataBank; BCG analysis
Income equality	Gini index (0–100)	World Bank, World dataBank
		Eurostat, Statistics database
Civil society	Level of civic activism (0–1)	Indices of Social Development, Data Access Indices of Social Development
	Interpersonal safety and trust index (0–1)	Indices of Social Development, Data Access Indices of Social Development
	Intergroup cohesion measure (0–1)	Indices of Social Development, Data Access Indices of Social Development
	Level of gender equality (0–1)	Indices of Social Development, Data Access Indices of Social Development
Governance	Control of corruption[2] (–2.5 to 2.5)	Worldwide Governance Indicators dataset
	Rule of law[2] (–2.5 to 2.5)	Worldwide Governance Indicators dataset
	Political stability and absence of violence/terrorism index (–2.5 to 2.5)	Worldwide Governance Indicators dataset
	Voice and accountability[3] (–2.5 to 2.5)	Worldwide Governance Indicators dataset
	Press freedom[3] (0–100)	Freedom House, Freedom of the Press, global and regional rankings
	Property rights index (0–100)	Heritage Foundation, 2012 Index of Economic Freedom
Education	Access to education	
	School enrollment, tertiary (% gross)	World Bank, World dataBank
	Years of schooling, primary to tertiary (years)	UNESCO, Social indicators (Education–school life expectancy)
	Quality of education	
	Pupil-teacher ratio, primary	World Bank, World dataBank
	Average of math and science score	OECD, Programme for International Student Assessment, Results and Analysis
Health	Mortality rates	
	Life expectancy at birth, total (years)	World Bank, World dataBank
	Mortality rate, under age 5 (per 1,000 live births)	World Bank, World dataBank
	Morbidity levels	
	Prevalence of HIV, total (% of population, ages 15–49)	World Bank, World dataBank
	Incidence of tuberculosis (per 100,000 people)	World Bank, World dataBank
	Prevalence of undernourishment (% population)[4]	World Bank, World dataBank
	Population obesity (% BMI ≥ 30, age-standardized estimate)[4]	World Health Organization, The WHO Global InfoBase
	Access to health care	
	Immunization, diphtheria (% of children ages 12–23 months)[5]	World Bank, World dataBank
	Immunization, measles (% of children ages 12–23 months)[5]	World Bank, World dataBank
	Physician density (per 1,000)	World Bank, World dataBank
	Hospital beds (per 1,000)	World Bank, World dataBank

Table 2 | Current-Level SEDA Indicators per Dimension (continued)

Dimension	Indicators	Primary source
Environment	Air pollution, effects on humans (0–100)	Environmental Performance Index (Yale University) data files
	Terrestrial and marine protected areas (% of total territorial area)	World Bank, World dataBank
	Carbon dioxide intensity (kg per kg of oil-equivalent energy use)	World Bank, World dataBank
Infrastructure	Communications infrastructure level	
	Internet users (per 100 people)	World Bank, World dataBank
	Mobile cellular subscriptions (per 100 people)	World Bank, World dataBank
	Transportation infrastructure level	
	Quality of roads network (1–7)	World Economic Forum, Global Competitiveness Reports
	Quality of railroads infrastructure (1–7)	World Economic Forum, Global Competitiveness Reports
	Utilities infrastructure level	
	Improved water source (% of population with access)	World Bank, World dataBank
	Improved sanitation facilities (% of population with access)	World Bank, World dataBank

Source: BCG analysis.
Note: Recent progress tracks the five-year change of the same indicators used in the current-level analysis (except for the dimension of health, where HIV prevalence and incidence of tuberculosis are excluded owing to a lack of historical data).
[1]Calculation based on this IMF indicator: gross domestic product based on purchasing-power-parity valuation of country GDP.
[2]SEDA model uses a composite of the corruption and the rule of law indicators.
[3]SEDA model uses a composite of the voice and accountability and the press freedom indicators.
[4]SEDA model uses a composite of the population undernourished and the population obese indicators.
[5]SEDA model uses a composite of the immunization against measles and the immunization against diphtheria indicators.

Table 3 | SEDA Long-Term Sustainability Indicators per Dimension

Dimension	Key sustainability factors	Indicators	Primary source
Income	Education and skills development	Education level score	SEDA[1]
	Health care	Health level score	SEDA[1]
	Investment capacity	Domestic credit provided by banking sector (% GDP)	World Bank, World dataBank
		Foreign direct investment, net inflows (% GDP)	World Bank, World dataBank
		Gross fixed investment (% GDP)	Economist Intelligence Unit, Country data
		Total natural resources rents (% GDP)	World Bank, World dataBank
	Public finances	General government gross debt (% GDP)	International Monetary Fund, World Economic Outlook Database
		General government total expenditure (% GDP)	International Monetary Fund, World Economic Outlook Database
	Economic institutions	Governance level score	SEDA[1]
	Infrastructure development	Quality of roads (1–7)	World Economic Forum, Global Competitiveness Reports
	Economic dynamism	Doing Business rankings	Doing Business Economy Rankings
		Innovation index	*The Global Innovation Index, 2011* (Insead)
	Demographics and employment	Labor to retired ratio[2] (0–1)	United Nations, World Population Prospects; BCG analysis

Table 3 | SEDA Long-Term Sustainability Indicators per Dimension (continued)

Dimension	Key sustainability factors	Indicators	Primary source
Economic stability	Education and skills development	Average of math and science score	OECD, Programme for International Student Assessment, Results and Analysis
	Investment capacity	Domestic credit provided by banking sector (% GDP)	World Bank, World dataBank
	Public finances	General government gross debt (% GDP)	International Monetary Fund, World Economic Outlook Database
		General government total expenditure (% GDP)	International Monetary Fund, World Economic Outlook Database
	Economic institutions	Governance level score	SEDA[1]
	Infrastructure development	Infrastructure level score	SEDA[1]
	Economic dynamism	Export diversification (0–1)	UNCTAD, Concentration and diversification indices of merchandise exports and imports by country
	Macroeconomic management	Total reserves (% GDP)[3]	World Bank, World dataBank; BCG analysis
Employment	Health care	Incidence of tuberculosis (per 100,000 people)	World Bank, World dataBank
	Investment capacity	Domestic credit provided by banking sector (% GDP)	World Bank, World dataBank
		GDP per capita, purchasing power parity (current $)	International Monetary Fund, World Economic Outlook Database
		Gross fixed investment (% GDP)	Economist Intelligence Unit, Country data
	Economic institutions	Governance level score	SEDA[1]
	Economic dynamism	Innovation index	*The Global Innovation Index, 2011* (Insead)
	Macroeconomic management	GDP growth volatility (variation coefficient)[4]	International Monetary Fund, World Economic Outlook Database; BCG analysis
Income equality	Education and skills development	Average of math and science score	OECD, Programme for International Student Assessment, Results and Analysis
	Health care	Physician density (per 1,000)	World Bank, World dataBank
	Infrastructure development	Improved sanitation facilities (% of population with access)	World Bank, World dataBank
		Internet users (per 100 people)	World Bank, World dataBank
	Social development	Civil society level score	SEDA[1]
	Demographics and employment	Labor tax rate (%)	*KPMG's Individual Income Tax and Social Security Rate Survey 2011*, "Highest Rates of Personal Income Tax"
Civil society	Education and skills development	Education level score	SEDA[1]
		School enrollment, primary, female (% net)	World Bank, World dataBank
	Health care	Health level score	SEDA[1]
	Economic institutions	Property rights index (0–100)	Heritage Foundation, 2012 Index of Economic Freedom
	Social development	Ethnolinguistic heterogeneity (0–1)	Alesina et al., "Fractionalization"
	Demographics and employment	Employment level score	SEDA[1]

TABLE 3 | SEDA Long-Term Sustainability Indicators per Dimension (continued)

Dimension	Key sustainability factors	Indicators	Primary source
Governance	Education and skills development	Average of math and science score	OECD, Programme for International Student Assessment, Results and Analysis
		Years of schooling, primary to tertiary	UNESCO, Social indicators (Education–school life expectancy)
	Investment capacity	GDP per capita, purchasing power parity (current $)	International Monetary Fund, World Economic Outlook Database
	Economic dynamism	Trade freedom index	Heritage Foundation, 2012 Index of Economic Freedom
	Social development	Civil society level score	SEDA[1]
	Macroeconomic management	Economic stability level score	SEDA[1]
Education	Education and skills development	School enrollment, primary, female (% net)	World Bank, World dataBank
	Health care	Health level score	SEDA[1]
	Investment capacity	GDP per capita, purchasing power parity (current $)	International Monetary Fund, World Economic Outlook Database
	Public finances	General government gross debt (% GDP)	International Monetary Fund, World Economic Outlook Database; BCG analysis
		General government total expenditure (% GDP)	International Monetary Fund, World Economic Outlook Database; BCG analysis
	Economic institutions	Control of corruption[5] (–2.5 to 2.5)	Worldwide Governance Indicators dataset
		Rule of law[5] (–2.5 to 2.5)	Worldwide Governance Indicators dataset
	Infrastructure development	Internet users (per 100 people)	World Bank, World dataBank
	Demographics and employment	Gini index (0–100)	World Bank, World dataBank; Eurostat, Statistics database
Health	Education and skills development	School enrollment, primary, female (% net)	World Bank, World dataBank
		Education level score	SEDA[1]
	Investment capacity	GDP per capita, purchasing power parity (current $)	International Monetary Fund, World Economic Outlook Database
	Public finances	General government gross debt (% GDP)	International Monetary Fund, World Economic Outlook Database
	Economic institutions	Control of corruption[5] (–2.5 to 2.5)	Worldwide Governance Indicators dataset
		Rule of law[5] (–2.5 to 2.5)	Worldwide Governance Indicators dataset
	Infrastructure development	Improved water source (% of population with access)	World Bank, World dataBank
		Improved sanitation facilities (% of population with access)	World Bank, World dataBank
Environment	Education and skills development	Years of schooling, primary to tertiary	UNESCO, Social indicators (Education–school life expectancy)
	Economic institutions	Governance level score	SEDA[1]
	Infrastructure development	Internet users (per 100 people)	World Bank, World dataBank
	Social development	Level of civic activism (0–1)	Indices of Social Development, Data Access Indices of Social Development

Table 3 | SEDA Long-Term Sustainability Indicators per Dimension (Continued)

Dimension	Key sustainability factors	Indicators	Primary source
Infrastructure	Investment capacity	Gross fixed investment (% GDP)	Economist Intelligence Unit, Country data
		GDP per capita, purchasing power parity (current $)	International Monetary Fund, World Economic Outlook Database
	Public finances	General government gross debt (% GDP)	International Monetary Fund, World Economic Outlook Database
		General government total expenditure (% GDP)	International Monetary Fund, World Economic Outlook Database
	Economic dynamism	Doing Business rankings	Doing Business Economy Rankings

Source: BCG analysis.
[1]SEDA current-level score in the analyzed dimension computed according to the data in Table 2.
[2]Calculation based on this UN indicator: World Population Prospects, 2010 Revision: Annual Population by Five-Year Age Groups 2011–2100—Both Sexes.
[3]Calculation based on these World dataBank indicators: total reserves (includes gold, current US$) and GDP (current US$).
[4]Calculation based on this IMF World Economic Outlook Database indicator: gross domestic product based on purchasing-power-parity valuation of country GDP.
[5]SEDA model uses a composite of the corruption and the rule of law indicators.

Table 4 | SEDA Long-Term Sustainability Indicators per Key Sustainability Factor

Key sustainability factor	Indicators	Primary source
Education and skills development	School enrollment, primary, female (% net)	World Bank, World dataBank
	School enrollment, tertiary (% gross)	World Bank, World dataBank
	Years of schooling, primary to tertiary	UNESCO, Social indicators (Education--school life expectancy)
	Pupil-teacher ratio, primary	World Bank, World dataBank
	Average of math and science score	OECD, Programme for International Student Assessment, Results and Analysis
Health care	Life expectancy at birth, total (years)	World Bank, World dataBank
	Mortality rate, under age 5 (per 1,000 live births)	World Bank, World dataBank
	Prevalence of HIV, total (% of population ages 15–49)	World Bank, World dataBank
	Incidence of tuberculosis (per 100,000 people)	World Bank, World dataBank
	Prevalence of undernourishment (% population)[1]	World Bank, World dataBank
	Population obesity (% BMI ≥ 30, age-standardized estimate)[1]	World Health Organization, The WHO Global InfoBase
	Immunization, diphtheria (% of children ages 12–23 months)[2]	World Bank, World dataBank
	Immunization, measles (% of children ages 12–23 months)[2]	World Bank, World dataBank
	Physician density (per 1,000)	World Bank, World dataBank
	Hospital beds (per 1,000)	World Bank, World dataBank
Investment capacity	Foreign direct investment, net inflows (% GDP)	World Bank, World dataBank
	Total natural resources rents (% GDP)	World Bank, World dataBank
	Domestic credit provided by banking sector (% GDP)	World Bank, World dataBank
	Gross fixed investment (% GDP)	Economist Intelligence Unit, Country data
	GDP per capita, purchasing power parity (current $)	International Monetary Fund, World Economic Outlook Database

TABLE 4 | SEDA Long-Term Sustainability Indicators per Key Sustainability Factor (continued)

Key sustainability factor	Indicators	Primary source
Public finances	General government gross debt (% GDP)	International Monetary Fund, World Economic Outlook Database; BCG analysis
	General government total expenditure (% GDP)	International Monetary Fund, World Economic Outlook Database; BCG analysis
Economic institutions	Control of corruption[3] (–2.5 to 2.5)	Worldwide Governance Indicators dataset
	Rule of law[3] (–2.5 to 2.5)	Worldwide Governance Indicators dataset
	Political stability and absence of violence/ terrorism index (–2.5 to 2.5)	Worldwide Governance Indicators dataset
	Voice and accountability[4] (–2.5 to 2.5)	Worldwide Governance Indicators dataset
	Press freedom[4] (0–100)	Freedom House, Freedom of the Press, global and regional rankings
	Property rights index (0–100)	Heritage Foundation, 2012 Index of Economic Freedom
Infrastructure development	Internet users (per 100 people)	World Bank, World dataBank
	Mobile cellular subscriptions (per 100 people)	World Bank, World dataBank
	Quality of roads network (1–7)	World Economic Forum, Global Competitiveness Reports
	Quality of railroads infrastructure (1–7)	World Economic Forum, Global Competitiveness Reports
	Improved water source (% of population with access)	World Bank, World dataBank
	Improved sanitation facilities (% of population with access)	World Bank, World dataBank
Economic dynamism	Doing Business rankings	Doing Business Economy Rankings
	Innovation index	*The Global Innovation Index, 2011* (Insead)
	Export diversification (0–1)	UNCTAD, Concentration and diversification indices of merchandise exports and imports by country
	Trade freedom index	Heritage Foundation, 2012 Index of Economic Freedom
Social development	Level of civic activism (0–1)	Indices of Social Development, Data Access Indices of Social Development
	Interpersonal safety and trust index (0–1)	Indices of Social Development, Data Access Indices of Social Development
	Intergroup cohesion measure (0–1)	Indices of Social Development, Data Access Indices of Social Development
	Level of gender equality (0–1)	Indices of Social Development, Data Access Indices of Social Development
	Ethnolinguistic heterogeneity (0–1)	Alesina et al., "Fractionalization"
Demographics and employment	Labor tax rate (%)	*KPMG's Individual Income Tax and Social Security Rate Survey 2011,* "Highest Rates of Personal Income Tax"
	Labor to retired ratio[5] (0–1)	United Nations, World Population Prospects; BCG analysis
	Gini index (0–100)	World Bank, World dataBank; Eurostat, Statistics database

Table 4 | SEDA Long-Term Sustainability Indicators per Key Sustainability Factor (continued)

Key sustainability factor	Indicators	Primary source
Macroeconomic management	Inflation, average consumer prices (percentage change)	International Monetary Fund, World Economic Outlook Database
	Inflation rate volatility (variation coefficient)	International Monetary Fund, World Economic Outlook Database; BCG analysis
	GDP growth volatility (variation coefficient)[6]	International Monetary Fund, World Economic Outlook Database; BCG analysis
	Total reserves (% GDP)[7]	World Bank, World dataBank; BCG analysis

Source: BCG analysis.
[1]SEDA model uses a composite of the population undernourished and the population obese indicators.
[2]SEDA model uses a composite of the immunization against measles and the immunization against diphtheria indicators.
[3]SEDA model uses a composite of the corruption and the rule of law indicators.
[4]SEDA model uses a composite of the voice and accountability and the press freedom indicators.
[5]Calculation based on this UN indicator: World Population Prospects, 2010 Revision: Annual Population by Five-Year Age Groups 2011-2100—Both Sexes.
[6]Calculation based on this IMF World Economic Outlook Database indicator: gross domestic product based on purchasing-power-parity valuation of country GDP.
[7]Calculation based on these World dataBank indicators: total reserves (includes gold, current US$) and GDP (current US$).

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NOTE TO THE READER

About the Authors

Douglas Beal is a partner and managing director in the Dubai office of The Boston Consulting Group and the global leader of the firm's economic development topic area. You may contact him by e-mail at beal.douglas@bcg.com.

Enrique Rueda-Sabater is a BCG senior advisor and a former head of strategy for the World Bank. You may contact him by e-mail at EXTruedasabater.enrique@bcg.com.

Teresa Espírito Santo is a project leader in BCG's Lisbon office and the project manager of the SEDA research and development team. You may contact her by e-mail at espiritosanto.teresa@bcg.com.

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For Further Contact

Tailored assessments using our SEDA methodology can be produced for specific regions or countries and for specific dimensions of economic development. To discuss our findings and the BCG Sustainable Economic Development Assessment in greater detail please contact the following author:

Douglas Beal
Partner and Managing Director
BCG Dubai
+971 4 448 0408
beal.douglas@bcg.com

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