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Why do some nations prosper while others struggle? Businesspeople, policymakers, and social scientists have sought to answer that question for centuries, starting as early as 1776, when Adam Smith published *The Wealth of Nations*. A closely related question is, Why are some nations more innovative than others? Innovation is increasingly seen as the key to unlocking competitive advantage, as much for countries as for companies.

Comparing innovation on a nation-by-nation basis, however, is fraught with difficulty, given the diversity of national business practices, economic structures, and financial and economic reporting conventions. Resolving these difficulties is the main objective of the Global Innovation Index (GII), a research project conducted by INSEAD in partnership with Alcatel-Lucent, Booz & Company, the Confederation of Indian Industry, and the World Intellectual Property Organization (a specialized agency of the United Nations). The research measures innovativeness for 125 economies. This year's report (available at www.globalinnovationindex.org) ranked Switzerland as the world's most innovative nation, followed by

Sweden, Singapore, Hong Kong (SAR), Finland, and Denmark — and the U.S., in seventh place.

The GII complements, at the country level, the work that Booz & Company's own Global Innovation 1000 study has undertaken for the past seven years at the company level. (See "The Global Innovation 1000: Why Culture Is Key," by Barry Jaruzelski, John Loehr, and Richard Holman, *s+b*, Winter 2011.) Soumitra Dutta, the study's primary author, is the Roland Berger Chaired Professor of Business and Technology and the founder and academic director of INSEAD's eLab, which focuses on the digital economy. His current research is on technology strategy and innovation at both the corporate and national policy levels. Dutta discussed some of the GII's findings with *strategy+business* in September 2011.

S+B: What was the motivation for the Global Innovation Index?

DUTTA: We saw that there were significant changes under way in innovation, especially in the developing world, that weren't being captured well by the traditional metrics. When you look at traditional measures of scientific capability, like the number of researchers divided by total population, for example, we realized that it's not very accurate for

many emerging economies where large segments of the population are not well educated, or are illiterate in many cases.

So we devised a model to better capture the holistic nature of innovations happening in both developed and emerging markets. We measure five kinds of inputs — institutions, human capital and research, infrastructure, market sophistication, and business sophistication — and two kinds of outputs: scientific and creative. We face many limitations in terms of data availability and methodologies, but we have taken great pains to make sure that we normalize variables in a way that is equitable to the conditions of both emerging and developed economies.

S+B: What are some of the trends that this year's study reveals?

DUTTA: The study confirms the dramatic rise of China in recent years. China is a low-middle-income country, but in the latest ranking it moved into the 30 most innovative countries — to number 29 from number 43 the year before.

If you look regionally, one interesting finding is that East Asia's innovativeness is rising rapidly. Indeed, East Asia is closing the gap with Europe significantly. We also see that the South Asian economies are struggling, and that on the whole they are very comparable to many African economies in terms of innovativeness. It shows that many of these economies have much more to achieve in the years ahead.

S+B: What about India, specifically?

DUTTA: India is slipping. This year it ranks number 62, compared to 56 in 2010, and 41 in 2009. We're seeing a distinct relative slippage in-

novation competitiveness and innovation successes.

S+B: Many readers may find that surprising. I think there is a general perception that India is a more innovative country than China.

DUTTA: Well, by another measure we use — innovation efficiency, or the innovation outputs divided by inputs, which discounts for the fact that different economies are at different income levels — India ranks number nine in the world, meaning it's producing a high level of outputs compared to its level of innovation inputs. But if you look at many of the measures of innovation input, such as infrastructure and human capital issues, India doesn't perform very well. This is hurting its overall innovation ranking. Clearly, India has clusters of excellence that are creating a disproportionately high level of innovation, but the mass of the country still has a lot of underdeveloped potential.

The innovation efficiency measure is interesting. If you look at the top 10, it includes six of the most densely populated economies in the world. In addition to India, there are Nigeria, China, Pakistan, Brazil, and Bangladesh. What this tells us is that these countries have the potential to move forward significantly in the future.

S+B: What are some of the study's other major messages?

DUTTA: One is that, clearly, innovation has become global. If you look at the top 20 or 30 ranks, you find economies that are successfully innovating from all parts of the world. Singapore, Hong Kong, Israel, Korea, Japan, Estonia, Qatar, China — you see a range of economies besides the usual suspects you might have

from Europe and North America.

S+B: What about the implications for companies?

DUTTA: Corporations have to have a much more global perspective about their innovation strategies. It's no longer enough to focus on only one market or region. And that has a number of follow-on consequences and implications in terms of how one might design innovation hubs, and how one might think of connecting them. You need to create the



right culture to support the integration of ideas from different parts of the world. (See "How to Make a Region Innovative," by Ernest J. Wilson III, *s+b*, Spring 2012.)

Another implication is that you see some emerging markets are moving very rapidly. The fact that China has moved into the top 30 is not trivial, and as I mentioned, many East Asian economies today have reached levels of innovation competitiveness similar to those of European countries. What this means is that European nations — and many other developed nations — will have to run hard to maintain an edge. And this is especially significant in

today's climate of global financial crisis, especially in Europe, where many sense a lack of leadership and are questioning the commitment of Europe to innovation.

The low rankings for South Asia should concern both corporate managers and policymakers. The question this raises is, Will these economies be able to take off like their neighboring East Asian economies, or will they get stuck in the same way that many of the economies in Africa have gotten stuck in the last several years? That question has implications both for the innovation strategies of global companies and for the strategies that policymakers in government might want to follow.

S+B: Do you have any specific advice for multinationals that want to maintain an edge in innovation?

DUTTA: Companies have to recognize that many key innovations will be coming from markets where there are large numbers of people who are becoming consumers for the first time in their lives. These new consumers have rising demands for products, and services such as education and healthcare, but at very different price points. Multinationals will have to innovate to satisfy these new demands in a sustainable and scalable manner.

At the same time, companies will be facing new competitors in these markets that may have a better understanding of the local markets' needs. And some of these new competitors will soon be competing with the multinationals in global markets. So multinational firms face a challenge: to innovate by rapidly integrating their global knowledge with local relevance.

The whole idea that innovations

can come from different places, that innovation can happen in different ways, and that it can move and travel in different directions is something that companies will have to adapt to, and prepare themselves for. +

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