Talent in the 21st-Century Economy

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I. Talent and the 21st-Century Economy

Talent — what it is, how to grow it, how to keep it, where it exists, and how to attract it — has become a preoccupation for all developed and emerging economies, as well as many developing ones, because it lies at the heart of economic growth and competitiveness. And although countries within each of these three universes look at the issue through different lenses, all are keenly interested in keeping their talent and attracting others' — and all struggle with how to produce more of the human capital needed for fueling growth. It is such talent — the mathematicians, engineers, scientists, and information and communications technologists — and particularly the elite class among these professionals, that is the focus of this paper.

At the core of this quest is the recognition that the now almost seamless global interdependence rewards knowledge-driven processes and products with little regard for ownership and location. And despite, some will argue *because* of, today's deepening economic woes, this tendency will only intensify.

Several developments have made the search for foreign talent a policy priority for increasing numbers of governments and a fascinating subject for study. First and foremost among them is an increasing appreciation of the fact that relatively small differences in talent can lead to large differences in results and, eventually, economic outcomes. In a world where critical-mass levels of capital, knowledge, and talent pools are proliferating, the value of innovation and successful "first-to-market" results can be enormous. Second, many, if not most, wealthy countries have been producing less of the talent they need and are coming to rely more on foreign-born and/or foreign-educated talent, a topic we take up later in this paper. Third, countries such as India and China have made massive investments in expanding their human capital, which has increased the talent pool in ways inconceivable a few years ago. In turn, this expanded talent pool has encouraged more countries to enter the hunt for talent. Finally, the burgeoning talent needs of these fast-emerging economies means the picture will soon become more complex than in earlier days, when the talent pool was much more limited — as were the needs of those countries that "went fishing" in it. In this last regard, the talent needs of the most developed economies might not be the game-changing variable in the longer run. Instead, it is likely to be the needs of the fast-growing, emerging economies and of the many middle-income countries that are now net contributors to the pool that will complicate matters enormously — with an insatiable China and India in the lead.

A policy tour around the world makes clear that for a growing number of countries, attracting the "right" talent is already at the top of the policy toolkit for increasing economic competitiveness.[1] And the European Union is inches away from making a final decision to adopt a Blue Card for qualified non-EU nationals whose skills EU Member States need.

What is at the root of this intensifying focus on talent? Several mutually reinforcing forces are at work.

[1] See Demetrios G. Papademetriou, Will Somerville, and Hiroyuki Tanaka, *Hybrid Immigrant-Selection Systems: The Next Generation of Economic Migration Schemes* (Washington, DC: Migration Policy Institute, 2008).

- The first is today's relentless quest among corporations and governments for competitive advantage, which fuels a sometimes reckless "just-in-time" approach to skills. National education and training institutions cannot possibly meet all such needs. Hence the importance of allowing firms to supplement their workforces with workers from abroad.
- The second is the simple fact that most national educational and training systems are notoriously resistant to change due to ingrained educational and training bureaucracies and prevailing philosophical traditions that favor such established (and important in their own right) study subjects as philosophy, political science, history, etc. As a result, these systems produce workers with credentials and skills that although crucial to building thoughtful and vibrant societies are deeply misaligned with some of the most critical needs of competitive global firms.
- The third is another "simple" fact: many firms have found it too advantageous to procure talent wherever it can be found rather than growing it themselves (although these very same firms spend enormous sums to train and retrain their employees).
- The fourth is a multilevel challenge and appears to be beyond the ability of any policymaker to deal effectively with so far: the effects of demographic change, and particularly of the double squeeze of long-declining fertility (a reality that weighs down many East Asian and European societies) and rising longevity, with all the implications for labor markets and health and retirement supports.
- The fifth is perhaps more of a derivative cause, but for many countries, it is an extremely important one. It focuses on the rewards that some societies have bestowed on certain skills, such as financial-sector and legal skills, and the market-skewing effect of these rewards. It takes much less time (and fewer "hard" skills) to earn such degrees relative to earning a PhD in mathematics or the sciences. When one considers the much lower relative compensation for a PhD and, in highly hierarchical research and academic settings, the social-standing deficit and lack of independence these advanced degree holders often confront, one understands better why so many very talented domestic students in many wealthy societies are attracted to management and legal programs.

The combined effects of these forces become completely predictable. High-income industrial countries do not produce enough graduates — let alone world-class graduates — in mathematics, the sciences, engineering, the health professions, etc.[2] to meet their firms' and the broader economy's needs. And the best among those they do produce they lose to other developed countries with more competitive firms, much better-funded universities and research and development (R&D) facilities, greater opportunities for advancement, and at times much more attractive compensation packages. The result is firms and governments giving increasing priority to trying to attract highly skilled foreign nationals.

This and similar analyses have led many to suggest that wealthy countries are somehow engaged in an increasingly heated, and zero-sum configured, "race for talent." Such a

[2] See Organization for Economic Cooperation and Development, *Education at a Glance 2008: OECD Indicators* (Paris: Organization for Economic Cooperation and Development, 2008); and Titu Andreescu, Joseph A. Gallian, Jonathan M. Kane, and Janet E. Mertz, "Cross-Cultural Analysis of Students with Exceptional Talent in Mathematical Problem Solving," *Notices of the American Mathematical Society,* 55, No. 10 (2008): 1248-1260.

characterization, however, may be both misleading and misguided. It is also intended more to generate excitement (and thus force a specific government response) than to inform and lead to a reasoned discussion about the elements of competitiveness and how to pursue them in an intelligent, integrated, and self-sustaining manner.

The race analogy may mislead because it somehow suggests in a completely reductionist manner that firms and countries are really in some sort of a head-to-head competition for "talented foreigners"—with talent reduced to foreigners with a university degree. And it is misguided because it can lead to poorly thought-out initiatives (like the EU Blue Card) that seek to somehow capture a "share" of a scarce "good."

In fact, there is no evidence of scarcity of run-of-the-mill university graduates. Of course, well-prepared graduates around the world can apply to a number of points selection systems, just as they might apply for jobs with any number of global companies. But very few of them are competitive applicants and because the selection criteria vary significantly, the "head-to-head" competition is small. And if there were a race, the "price" for university-educated foreigners would have risen measurably. If anything, however, a recurring theme in the immigration literature about the employment of skilled (read "college-educated") foreigners is that their wages are often not commensurate with those recruited directly from local labor pools — suggesting that in far too many instances the real race is for obtaining rather generic skills at a discount. Furthermore, and reinforcing the same point, most governments have not taken seriously the fact that far too many college-educated foreigners are almost systematically underemployed when it comes to working in their profession and at levels and compensation commensurate with their qualifications.[3] And instead of addressing *this* problem directly, immigration systems' policymakers focus on expanding their foreign-student populations.

Foreign students are not only valued as recruitment pools but have the additional attraction of typically paying enormous sums for tuition. And many do so hoping host-country employers might recruit them, thus allowing them to work in the country in which they are studying. Hence, whatever competition does take place is *for* foreign students and *by* prospective students seeking both a better education and a work visa — and eventually, permanent residence. This process has only a vague relationship to a race for talent.

Moreover, when governments fish either directly or through their corporate actors in the global talent pool, they do not drain the pool of workers because they only take a relatively small share of that pool. Most business leaders are aggressively seeking to attract and hire *highly* skilled foreign workers as part of their competitive strategy, but they know that immigration is only a partial, albeit important, answer to filling their skill needs. It is with the truly skilled — Harvard Business School Professor Rosabeth Moss Kanter's "thinkers" or former US Labor Secretary Robert Reich's "symbolic analysts" —[4] that is, those who specialize in concepts, can manipulate abstract images, and/or have highly specialized skill sets and relevant experience — where one senses some competition. However, this type of

[3] See Lesleyanne Hawthorne, *The Growing Global Demand for Students as Skilled Migrants* (Washington, DC: Migration Policy Institute, 2008).
[4] Rosabeth Moss Kanter, *World Class: Thriving Locally in the Global Economy* (New York: Simon and Schuster, 1995); Robert Reich, *The Work of Nations* (New York: A.A. Knopf, 1991).

competition has existed for decades. And with the talent pool being constantly replenished (primarily as a result of major and ongoing investments in education, most notably by China, India, and the European Union), even that competition may be generating virtuous circles whereby greater numbers of gifted students and young scientists sharpen their qualifications so as to make themselves even more appealing to global employers.[5]

Assuming that policymakers understand what it means to access talent in the 21st-century economy, they must keep in mind several considerations when seeking to enable their corporate citizens or otherwise directly attract highly skilled immigrants to their countries through government-led immigrant-selection schemes. First, governments must consult on an ongoing basis with the business community to understand its always evolving needs. Second, immigration policymakers need to become and remain very well versed on how global businesses operate in today's knowledge-driven economy in order to align the immigration system with their best firms' priorities. Third, government leaders must also understand the decision-making calculus that *highly* skilled individuals — the most talented among workers — use to decide whether to move abroad to pursue work.

Of course, there is no single approach or strategy that governments *must* adopt to make their countries attractive to highly skilled workers from abroad. However, policymakers would do well to heed the advice leading global business strategists offer multinational corporations on how to make their businesses more competitive in the 21st-century economy. In essence, governments must institute policies and build immigration systems that create value for potential immigrants. And for those governments that are so inclined, marketing campaigns that promote their countries as attractive destinations for well-trained immigrants will also be a priority.

Governments smart enough to have a comprehensive, strategic vision for approaching today's global economy and nimble enough to adjust their education, training, and immigration systems to meet current and projected labor needs will ultimately be those that reap the greatest benefits for their citizens from an evermore interlinked global pool of skilled workers.

II. Competitiveness in the 21st-Century Economy

Human capital — an individual's skills, education, experience, drive, initiative, and even such innate personal characteristics as personality — lies at the heart of competitiveness. It drives the creation of value that makes firms and, by extension, a nation's economy competitive and shapes the opportunities and living standards of workers throughout the economy.[6] It stands to reason, then, that building up, seeking out, and capitalizing on the talent of highly

[5] See the recent body of work by Oded Stark, discussed in Papademetriou et al, *Hybrid Immigrant-Selection Systems*.
[6] Michael E. Porter, *Competitive Advantage: Creating and Sustaining Superior Performance* (New York: Free Press, 1985).

skilled workers should be a policy priority for both firms and countries wishing to fuel their knowledge-driven economies in the 21st century.[7]

More specifically, competitiveness today depends primarily on the following factors:

- Educational and workforce-development systems that are constantly reviewed and are able to adapt so as to function effectively together — *and* work cooperatively with the private sector — to produce workers able to fill the jobs high-knowledge-content economies require.
- Social and cultural environments that value, even celebrate, work and support lifelong learning.
- Great universities that educate the thinkers, scientists, technologists, health professionals, and engineers who can produce the next round of scientific, social, institutional, governance, and technological innovations.
- Private and public-sector R&D investments that nurture and support such innovations and help take them to market.[8]
- Great companies with human capital and locational investment policies that are economically forward-looking yet committed to the communities of which they are part.
- Governments that create and maintain supportive, predictable policy environments which enable all of the above to take root and grow.

Increasingly, however, one more factor has become crucial to economic vitality and competitiveness: *international migration*. As a result, the 21st century is also set to be an age of large and growing human mobility; the multiplication of countries systematically looking to mobility to enhance their economies is evidence of that. (Until 2000-2001, only a handful of countries did so methodically; today, nearly two dozen do so.)[9] While people with substantial human capital[10] may not move nearly as freely as global goods and services — and nothing moves as seamlessly as capital and, increasingly, knowledge — human mobility has become one of globalization's defining features.[11]

Companies and governments reach out to international migrants for several reasons. Two are of particular and growing relevance for advanced economies (and soon enough for many middle-income ones, too): skill deficits and mismatches and, in an expanding number of instances, absolute labor shortages due to aging populations *and* decades-long low fertility (particularly relevant in much of Europe and East Asia).

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[7] In this paper we define the *highly* skilled broadly, to comprise those with more than a bachelor's degree in growth supporting occupations, those in persistently scarce disciplines (such as mathematics and the physical sciences), and those in occupational categories that refer to experienced "managers" and "professionals."

[8] Considering the often massive costs and long time horizons of moving from concept, to product, to market, public/private and cross-institutional partnerships — within and increasingly *across countries* — will become even more routine than they are today.

[9] See Papademetriou et al, *Hybrid Immigrant-Selection Systems*.

[10] People with less human capital also move, but so far in this young century do so mostly outside of legal channels.

[11] Saskia Sassen, *Globalization and its Discontents* (New York, NY: New Press, 1999); Stephen Castles and Mark Miller, *The Age of Migration: International Population Movements in the Modern World*, 3rd edition, (New York: The Guilford Press, 2003).

And indeed, human mobility has never been higher. Developed countries are in fact in an era of sustained immigration — an *age of mobility*[12] — where the drivers just identified and the quest for more competitive economies will ensure that all forms of immigration will continue in the decades ahead. Today, an estimated 3 percent of the world's population — some 200 million people — are living outside their countries of birth, with Organization for Economic Cooperation and Development (OECD) countries having experienced the largest increase in migration over the past three decades. Immigrants constituted 4.5 percent of the OECD population in 1975 but their share rose to 8.3 percent by 2005.[13] That share rises an additional one-third (to around 13 percent) if we remove from the OECD total the five OECD countries whose populations are less than 2 percent foreign born (Turkey, Mexico, Japan, South Korea, and Poland) *and* include estimates of illegally resident immigrants.[14] In 2005, 60 percent of the world's immigrants lived in Europe or North America (another 26 percent resided in Asia) although intra-OECD migration accounts for 45 percent of all migration to the OECD.[15]

In this era of increasing mobility, deepening economic interdependence, and rising interest in skilled workers, strategies for attracting and selecting the *most talented* must change dramatically if firms and countries are to become or remain competitive.

The Demand for and Supply of Talent in the Age of Mobility

Advanced industrial countries from Japan and Taiwan to South Korea, Singapore, and Australia, and on both sides of the Atlantic, have been showing growing interest in augmenting their human-capital pool through immigration. For instance, in 2008, South Korea established a Presidential Council on National Competitiveness; one of its goals is to draw in "global talent." Singapore touts itself as a "talent capital" and its prime minister boasts about the country's English-speaking environment, one of his island nation's most important attractions (relative to its East Asian competitors). Japan aims to attract 300,000 foreign students to its universities by 2020,[16] up from 132,460 today.[17]

Nor are these Pacific nations alone in that quest. Australia is probably the most aggressive (and successful) player in the global human-capital-accumulation sweepstakes and both New Zealand and Hong Kong are also very active. And by any measure, China and India may be poised to leave everybody else in the region behind in the next decade or so as they focus

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[12] Demetrios G. Papademetriou, *The Age of Mobility: How To Get More Out of Migration in the 21st Century* (Washington, DC: Migration Policy Institute, 2007), http://www.migrationinformation.org/transatlantic/age_mobility_032307.pdf.

[13] Organization for Economic Cooperation and Development, 2008, "Table 0.1. Foreign-born population by country of residence," *A Profile of Immigrant Populations in the 21st Century: Data from OECD Countries,* 2008.

[14] Demetrios Papademetriou, *The International Migration System Today and in the Years Ahead: Implications for Policy.* (Washington, DC: Migration Policy Institute, 2008).

[15] John Martin, "Migration and the Global Economy: Some Stylized Facts," *Canadian Diversity,* Vol.6, No.3, 2008, 22-25.

[16] Prime Minister of Japan and His Cabinet, "Plan for 300,000 International Students," (news release, July 29, 2008), http://www.kantei.go.jp/jp/tyoukanpress/rireki/2008/07/29kossi.pdf.

[17] Japanese Ministry of Justice. *2008 Immigration Control*. (Tokyo: Immigration Bureau, Ministry of Justice, 2008), http://www.moj.go.jp/NYUKAN/nyukan80-3.pdf.

ever greater energy (and resources) on attracting home many of their most talented citizens *and* many other very talented foreigners.

On the other side of the globe, in the Atlantic area, Canada is a very large, systematic, and aggressive player but none seems more determined to grow its talent pool than certain EU Member States (especially the United Kingdom and the Nordic countries), and the European Union itself — although so far virtually all of the EU-wide efforts have focused on growing the Union's own talent. (Among EU Member States, the United Kingdom is the most important exception.) In fact, since 2000, the EU-27's[18] share of researchers has grown at double the pace of either the United States or Japan, even though on average the EU-27 still have proportionately fewer researchers than either the United States or Japan.[19] For instance, in 2006, the number of full-time researchers per 1,000 workers was 5.6 in the EU-27, 9.3 in the United States, and 10.7 in Japan[20], amounting, respectively, to 1.3 million researchers for the EU-27, 1.4 million for the United States, and 710,000 for Japan. (China had 1.2 million in the same year.) Similarly, employment in science and technology occupations in the European Union has been growing at double the rate of overall employment for the majority of non-EU OECD countries.[21]

But when it comes to attracting foreign-born talent, both the most talented and "mere" university graduates, no country comes close to the United States. This is a function of a host of still formidable advantages the United States has. These include a prohibitive edge in top universities and dozens of the largest and most competitive global corporations; an environment — and the accompanying public narrative — that accepts and rewards talent regardless of place of birth; the ability to provide total compensation packages that offer great returns to those who have made serious investments in their own human capital; and an immigration system that despite being creaky and inefficient, and full of contradictory goals, still offers multiple opportunities for talented foreigners to be employed by US firms.

While demand for skilled workers is intensifying, their supply has also been growing briskly. Yet only a tiny proportion of the workers now in the global workforce, and in all likelihood also from those joining that workforce in the next two decades, is likely to possess the skills developed economies need.[22] And even much of the human capital being grown in emerging

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[18] The EU-27 includes the countries that joined the European Union in the 2004 and 2007 accession rounds. The 27 countries are Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxemburg, Malta, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, and the United Kingdom.

[19] European Commission, *A more research-intensive and integrated European Research Area: Science, Technology and Competitiveness key figures report 2008/2009*, (Brussels: Directorate-General for Research, 2008), http://ec.europa.eu/research/era/pdf/key-figures-report2008-2009_en.pdf.

[20] Ibid.

[21] Organization for Economic Cooperation and Development, *Science, Technology, and Industry Outlook 2006* (Paris: Organization for Economic Cooperation and Development, 2006).

[22] The International Monetary Fund estimates that the global supply of all workers quadrupled between 1980 and 2005 while the World Bank forecasts that the global labor supply would grow by 1 percent every year between 2001 and 2030, to reach 4.1 billion workers. Ninety percent of those workers will live in the developing world and 40 percent of them will come from India and China alone. (See International Monetary Fund, *World Economic Outlook: Spillovers and Cycles in the Global Economy* (Washington DC: International Monetary Fund, 2007), http://www.imf.org/external/pubs/ft/weo/2007/01/pdf/text.pdf and The World Bank, *Global Economic Prospects 2007: Managing the Next Wave of Globalization* (Washington,

and middle-income countries is not of adequate quality to be attractive to discerning global-level end users. Moreover, the countries that are making the human-capital investments are not using it properly.

The pool of college graduates in India, for instance, is indeed growing but many of the college educated still run into obstacles in finding employment. Indeed, many skills are "going to waste."[23] According to India's 2001 census, college graduates were less likely to find a job than middle- or high-school graduates. As a result, many of the best and wealthiest seek education and job opportunities abroad. More than half of California's college graduates in mid-decade were from India, the Philippines, China, and South Korea.[24]

Nonetheless, the numbers of college graduates in India and China are growing rapidly. In India, college graduates jumped from 2.4 percent of the population in 1991 (20.5 million people) to 4.5 percent in 2005 (48.7 million),[25] while in China the number of PhD graduates in science and engineering is projected to be larger than those graduating from US universities by 2010.[26]

Firms, Nations, and Individuals

Globalization has brought about enormous changes in most everything that firms and governments do but it has also challenged — and changed — human institutions, the value of talent, and how it is recruited.[27] The resulting global market for talent has three protagonists — businesses, governments, and skilled and highly skilled individuals themselves. Specifically:

- A growing number of firms and, increasingly, entire economic sectors (such as the technology sector) now operate on a global scale. This reality both expands their

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DC: The International Bank for Reconstruction and Development and The World Bank, 2007), http://siteresources.worldbank.org/INTGEP2007/Resources/GEP_07_Overview.pdf.)

[23] Anand Giridharadas, "A College Education Without Job Prospects," *New York Times*, November 30, 2006, http://www.nytimes.com/2006/11/30/business/worldbusiness/30college.html.

[24] Hans P. Johnson and Deborah Reed, *Can California Import Enough College Graduates?* (San Francisco: Public Policy Institute of California, 2007), http://www.ppic.org/content/pubs/cacounts/CC_507HJCC.pdf.

[25] Rajesh Shukla, *India Science Report: Science Education, Human Resources and Public Attitudes towards Science and Technology*, (New Delhi: National Council of Applied Economic Research, 2005), http://www.insaindia.org/India%20Science%20report-Main.pdf.

[26] Richard B. Freeman, "Labor Market Imbalances: Shortages, or Surpluses, or Fish Stories?" (paper presented at the Boston Federal Reserve Economic Conference 'Global Imbalances – As Giants Evolve,' Boston, June 14-16, 2006), http://www.bos.frb.org/economic/conf/conf51/papers/freeman.pdf.

[27] Globalization accelerates and deepens the integration (and hence the interdependence) of markets in capital, goods, services of all types, and, of course, talent. See also David Held, Anthony McGrew, David Goldblatt, and Jonathan Perraton, *Global Transformations: Politics, Economics, and Culture* (Cambridge, UK: Polity Press, 1999); David Held and Anthony McGrew (2003) *Global Transformations Reader: An Introduction to the Globalization Debate*, 2nd edition (Cambridge, UK: Polity Press, 2003). Even those who take a skeptical view of globalization (see, for example, Paul Hirst and Grahame Thompson, *Globalization in Question: The International Economy and the Possibilities of Governance*, 2nd edition (Cambridge, UK: Polity Press, 2001) concede that there has been greater economic integration in larger regional trading blocs, such as Europe, over recent decades.

need for highly skilled workers from around the world and boosts their ability to identify and access such workers.

- Governments' role in mediating the decisions of both firms and individuals by shaping the conditions under which firms can broadly access global talent (and vice versa) has grown in importance. This reality has placed enormous responsibility on policymakers to define the terms of engagement between the other two protagonists properly, that is, in ways that do not undermine business decisions (and possibly interfere with firms' abilities to succeed) yet keep in mind the broader societal interests with which governments are entrusted, such as building up their nation's education and training institutions, enforcing rules about employment, etc.
- Finally, growing numbers of more- and less-skilled and qualified workers now think of themselves and behave as "global workers," that is, they are both eager and better able to ply their talents and take up employment opportunities in a truly global marketplace.[28]

As noted, demand for skilled and highly skilled workers is thus increasing simultaneously with an expanding global talent pool. Firms seeking to attract such workers do not, however, operate in a social or ethical vacuum. Whether a company can legally recruit foreign talent depends very much on the availability of locally grown talent (who must have at least an opportunity to compete for any available job). Beyond that essential responsibility, governments must be responsive to employers' labor needs, rather than simply adding undifferentiated foreign workers to a country's human-capital pool.

The rest of this paper sets out a framework for thinking about the way nations (and the businesses and individuals that constitute them) can tap into needed talent wherever it may be found. We first outline how the interests of the three protagonists in human mobility — businesses, governments, and individuals — overlap and diverge. We then examine what public-sector policymakers can learn from global corporations' recruitment strategies in a "borderless" talent pool — and how to apply these lessons to their immigration systems — before concluding by reflecting on the challenges heightened competition poses for all of us.

Our focus on the protagonists in human mobility explores three major questions:

- How do firms view and attract talent?
- What role can/does government play in attracting talent?
- How do the most talented individuals decide where to go?

[28] A number of migration scholars now argue that migration itself has become one of the constitutive processes of globalization. See Saskia Sassen, *Globalization and Its Discontents: Essays on the New Mobility of People and Money* (New York: The New Press, 1998); and Stephen Castles and Mark Miller, *The Age of Migration: International Population Movements in the Modern World*, 3rd edition, (New York, The Guilford Press, 2003).

III. How Businesses View Skilled and Highly Skilled Workers

Highly Skilled Workers, Growth, and Productivity

Global corporations rely significantly on skilled and highly skilled foreign workers and their recruitment strategies, reputations, and employment conditions also shape the attractiveness of a host country for potential highly skilled immigrants. In 2007, the foreign born constituted approximately 18 percent of the US workforce with a bachelor's degree in science and engineering, 33 percent of those with a master's degree, and 39 percent of those with a doctoral degree.[29] Using a different but equally telling measure, in 2006, Singapore had approximately 90,000 skilled immigrants who constituted about 13 percent of its total foreign workforce of 670,000.[30] Skilled foreign workers were estimated to have contributed 37 percent to Singapore's GDP growth during the 1990s.[31] And by a different measure yet, US multinational corporations, which employ talented foreign workers both in the United States and abroad, create 25 percent of total US output and account for a staggering 68 percent of US R&D expenditures[32] despite comprising less than 1 percent of US firms.

Accessing global talent, then, is not just about employing foreign workers in a host country. Global corporations rely heavily on skilled and highly skilled workers regardless of nationality everywhere they operate. The most highly competitive firms make sophisticated value calculations in attracting the best talent. Banks, for example, have traditionally established foreign operations in leading financial centers, in part to gain access to the human capital, knowledge, and social and professional networks that different locations have to offer.[33] Most obviously, senior-management talent is tracked *and developed* globally, as is talent responsible for innovation and creativity. More broadly, successful firms always think about ways to maximize value through international knowledge transfer, and foreign talent has become increasingly crucial to business competitiveness. Finally, global corporations move highly skilled professionals across borders through direct recruitment and intracompany transfers.

Accessing Global Talent

Firms access international talent in four major ways.

1. *Hiring locally.* Businesses recruit workers in local labor markets by using the standard recruitment techniques of posting job announcements, hosting informational

[29] MPI analysis of the US Census Bureau's 2007 American Community Survey.
[30] Brenda S. A. Yeoh, "Singapore: Hungry for Foreign Workers at All Skill Levels," *Migration Information Source*, January 2007, http://www.migrationinformation.org/Profiles/display.cfm?ID=570.
[31] Pang Eng Fong, "Foreign Talent and Recruitment in Singapore," in *Competing for Global Talent*, Eds. Christiane Kuptsch and Pang Eng Fong, (Geneva: International Institute for Labor Studies, International Labor Office, Singapore Management University, 2006), http://www.ilo.org/public/english/bureau/inst/download/competing.pdf.
[32] The White House, *Economic Report of the President 2007*, (Washington, DC: United States Government Printing Office, 2007), www.gpoaccess.gov/eop/2007/2007_erp.pdf.
[33] Jonathan V. Beaverstock and James T. Boardwell, "Negotiating Globalization, Transnational Corporations and Global City Financial Centers in Transient Migration Studies," *Applied Geography*, 20, No.3, (2000): 277-304).

sessions at their offices and on college campuses, participating in professional job fairs, and tapping into social networks, including those of university and firm alumni.[34] Global firms employ these strategies to recruit both native and foreign-born applicants (such as international students or immigrants looking to change employers) already in the country.

2. *Hiring workers from abroad.* Unlike the previous approach, this one focuses on *bringing the talent to where the company operates*. Firms do so by sponsoring workers through temporary, provisional, or permanent migration processes. In practice, this presents a bit of a risk in that the hiring decision is based on less complete information about the candidate and incurs a cost for the employer, who has to pay for the candidate's travel to the interview. Alternatively, firms can bring in foreign workers from subsidiaries abroad through an intracompany transfer, a much preferred way but one that cannot satisfy all of a company's talent needs. Or they can actively engage in a two-step immigration process by creating the equivalent of an investor's "diversified portfolio" with an office located in a country that is more flexible in terms of immigration processes and from which they can then transfer talented personnel to other destinations. In many ways, Microsoft Corporation's September 2008 launch of its first Canadian development center in Richmond, British Columbia — which employs 300 staff from 45 countries who work on over half of Microsoft's products[35] — fits that mold well. The Canadian center, just 130 miles north of Microsoft's Seattle headquarters, also opens up two immigration routes into the United States for the company: intracompany transfers and access to the TN work visa created by the North American Free Trade Agreement (NAFTA).

3. *Looking abroad for talent.* Firms can also access global talent by building operations abroad where they can access a critical mass of talented individuals, for example, in the high-tech industrial clusters that have developed near metropolises throughout many East and Southeast Asian countries. Among them are science-based industrial parks such as Hsinchu south of Taipei, Taiwan; the Zhongguancun Science Park in Beijing; Zhangjian in Shanghai; and, of course, the Indian city of Bangalore. While these parks and similar research hubs are supposed to serve multiple purposes — most important among them for the host government is attracting successful nationals back to their home country with first-rate research facilities and many privileges —[36] they also serve as recruitment grounds for global firms because they have critical masses of talent. The increasingly global nature of the still relatively few[37] but very competitive companies thus allows employers to recruit and employ

[34] Alesia F. Montgomery, "Virtual Enclaves: The Influence of Alumni Email Lists on the Workspaces of Transnational Software Engineers," *Global Networks*, 8, No.1 (2008): 71-93.
[35] Microsoft has similar centers in Boston, Massachusetts; Bellevue, Washington; North Carolina; Ireland; and Denmark. Full R&D centers are located in the United Kingdom, India, China, and Silicon Valley. Microsoft Corporation, "Microsoft Opens Development Center in Richmond, British Columbia," (news release, September 10, 2008), http://www.microsoft.com/presspass/features/2008/sep08/0910canada.mspx.
[36] In practice, firms taking this route will also have other business-strategy considerations in mind (such as proximity to production and distribution hubs and, of course, consumption hubs).
[37] Pankaj Ghemawhat argues that the world is in a semiglobalized state where only 10 to 20 percent of investment and economic activity occurs across borders. The impact of such global corporations, however,

talent wherever they can find it. This includes companies establishing operations abroad to take themselves *to* the talent, an option that may also present a cost saving, particularly during the early stages of deployment abroad.[38]

4. *Accessing global talent in developed-country operations directly*. Finally, firms can bypass government immigration systems altogether and tap talent by outsourcing and off-shoring a wide range of tasks to workers abroad, particularly if this leads to cutting costs without loss in either quality or productivity. Such outsourcing has been expanding into what economist Alan Blinder calls "impersonally delivered" services,[39] such as various forms of college teaching, accounting, banking and financial services, medical services (including radiology), research, publishing services of all forms (including editing), and many other services that until recently had been thought of as "tied down" in both time and space. Unlike most "personally delivered" services, which include most medical and legal services but also occupations such as cooks, plumbers, and hair dressers, the circle of impersonally delivered services keeps expanding, causing some to discern a trend toward more types of skilled and highly skilled service-sector jobs being "off-shorable." This emerging reality puts additional pressure on national educational and training systems to produce more workers who "learn how to learn," rather than ones just with a particular set of skills,[40] and fits easily into our narrative about the relentless globalization of workforces.

As these strategies and their many variants indicate, accessing global talent is not just a question of bringing foreign workers to the host country. The ability to access talent is an important factor in a firm's decision about where to locate its operations. Research conducted by the US National Academy of Sciences confirms this finding by pointing out that over the past two decades, companies have made major R&D investments in countries partly to tap into concentrated pools of talented specialists, often at lower cost. For example, in the biotechnology sector, the United States remains the dominant player in all R&D; in the personal-computing sector, component-led R&D takes place in the United States and Japan, whereas applied R&D and platform development occurs in Taiwan; in the flat-panel display industry, R&D has followed production from the United States to Japan, Korea, and

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is very large. See Pankaj Ghemawat, *Redefining Global Strategy: Crossing Borders in a World Where Differences Still Matter* (Cambridge, MA: Harvard Business School Press, 2007).

[38] Cost savings begin to disappear when R&D teams become truly multinational and include significant staff transfers from headquarters.

[39] Alan S. Blinder, "Offshoring: The Next Industrial Revolution?" *Foreign Affairs*, March/April 2006, 113-128; Richard Baldwin, "Globalisation: The Great Unbundling(s)" (Paper for the Finnish Prime Minister's Office, Economic Council of Finland as part of EU Presidency, September 20, 2006), http://hei.unige.ch/~baldwin/PapersBooks/Unbundling_Baldwin_06-09-20.pdf; Alan S. Blinder, "How Many US Jobs Might Be Offshorable?" (Princeton University, Center for Economic Policy Studies Working Paper no. 142, March 2007), http://www.princeton.edu/~ceps/workingpapers/142blinder.pdf; Alan S. Blinder, "Education for the Third Industrial Revolution" (Princeton University, Center for Economic Policy Studies Working Paper no. 163, May 2008), http://www.princeton.edu/~ceps/workingpapers/163blinder.pdf.

[40] See *ibid*, Alan Blinder, 2008, and Richard Baldwin, 2006.

Taiwan, and now takes place in mainland China; in the lighting industry, R&D has shifted completely from the United States and Europe to Southeast Asia.[41]

IV. How Governments View Skilled and Highly Skilled Workers

In most ways, government policymakers and employers share the same goal: to bring productive, talented workers into the labor market and maximize their economic value. However, government policymakers' interests are broader than individual employers' focus on filling vacancies. They must balance multiple, and often competing, considerations. For instance, they must focus on creating and preserving opportunities for native and other domestic workers to obtain good jobs while recognizing that failures in the educational and public-sector training systems that they oversee, together with demographic imbalances and skills mismatches and shortages, may make it difficult for employers to recruit qualified workers from the domestic workforce. Policymakers also must take into account the positive spillovers from the presence of qualified foreign workers and the entrepreneurial contributions such workers may make in setting up companies and creating more jobs. Hence government policymakers are amenable, and in increasing numbers of cases even eager, to pursue foreign talent regardless of country of origin.

In this section, we look more specifically into demographic change and imperatives, skill mismatches and shortages, human capital spillovers, and entrepreneurship.

Demographic Change and Imperatives

Over the coming decades, virtually all industrialized countries will experience native workforce declines, though of different levels and at different rates; some of these countries will also see their total populations decrease.[42] Falling birth rates and aging populations account for these changes although the effect of each will vary from country to country.

Birth rates for many European and East Asian countries have been plummeting. For some, such as those for most Mediterranean and Eastern European EU Member States, as well as Japan, the trend has been both long and sharp. The number of births per year in Bulgaria, Italy, Spain, and Japan has declined for at least three decades since the 1970s (United

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[41] Jeffrey T. Macher and David C. Mowry, eds., *Innovation in Global Industries: US Firms Competing in a New World (Collected Studies)* (Washington, DC: The National Academies Press, 2008).

[42] In 2005, Japan experienced population decline. See Japanese Ministry of Health, Labor, and Welfare, "A Summary of Future Population Estimates as of 2007," http://www.mhlw.go.jp/topics/2007/bukyoku/seisaku/04.html. In 2006, eight of the EU-27 (Germany, Poland, Hungary, Lithuania, Latvia, Estonia, Bulgaria, and Romania) also experienced population decreases. See Rainer Münz, *Migration, Labour Markets, and Integration of Migrants: An Overview for Europe* (Washington, DC: The World Bank, 2008). Without immigration, Western and Central Europe's labor force of 227 million in 2005 would decline to 201 million in 2025 and to 160 million in 2050. See Jeff Dayton-Johnson, Louka T. Katseli, Gregory Maniatis, Rainer Münz, and Demetrios Papademetriou, *Gaining from Migration: Towards a New Mobility System* (Paris: Organization for Economic Cooperation and Development, 2007).

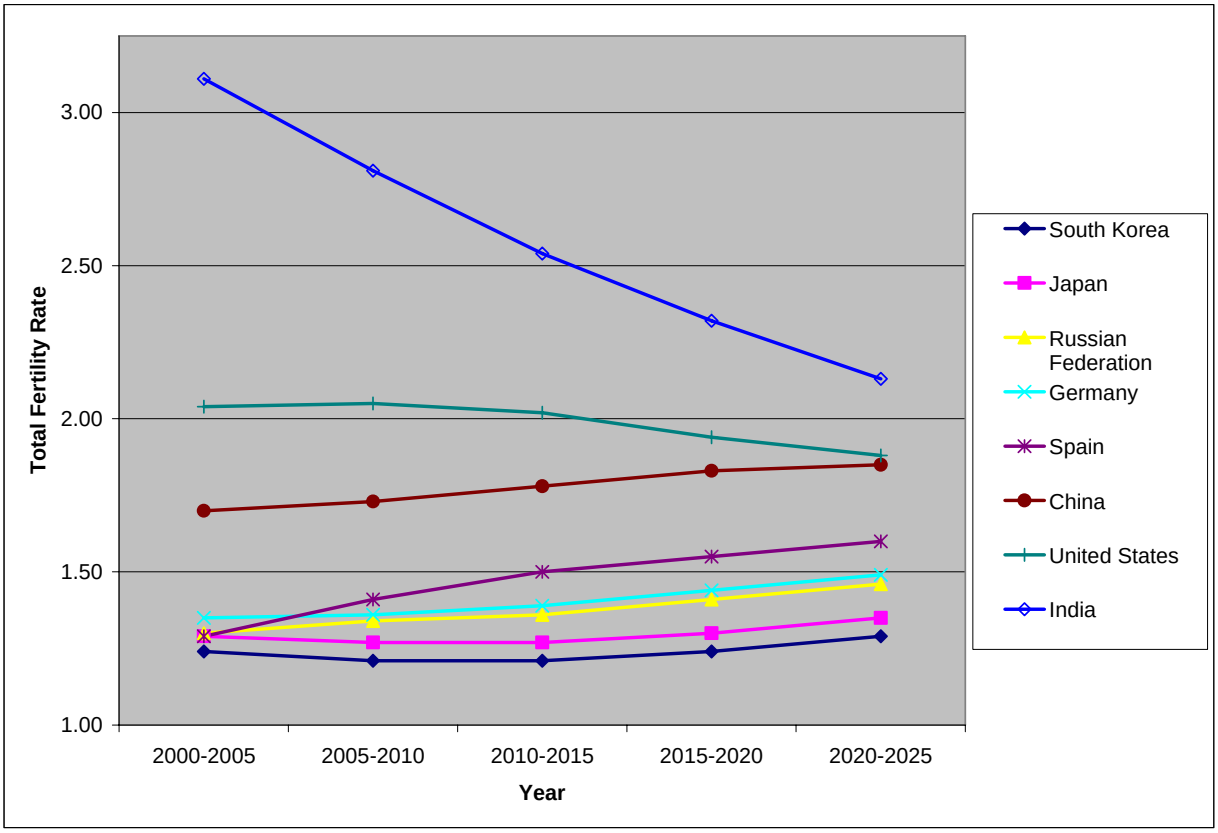
Nations 2008).[43] As a result, their birth-supported new-worker pipeline is woefully inadequate to meet these countries' labor-market needs in the years and decades ahead. In fact, the European Union estimates that under current assumptions about labor force participation rates, retirement decisions, productivity, and the like, the EU-27 labor force by 2025 will have shed about 25 million workers. This explains the European Union's intensifying interest in various forms of migration and, more specifically, in skilled migration.

As Figure 1 makes clear, the predicament is uneven. But for those countries with the lowest fertility, the effects will come sooner and will be deeper — and the need for action will be most urgent. Of course, the primary policy response cannot be migration because of the massive cultural reaction to the numbers that would be required. Also, any permanent immigrants would eventually age out of the workforce and contribute to the overall problem.

Only responses that use multiple policy levers simultaneously might be able to address such a socially and economically complicated issue. Among them are getting more work out of the existing population, particularly women and immigrants and their offspring; changing the retirement age and rethinking how retirement schemes operate; restructuring the economy to increase labor-market flexibility and devising incentives for postretirement, part-time work; trying to change fertility behavior gradually through multiple forms of incentives, a particularly difficult task for what may have become a new normal (having few or no children); and, of course, increasing migration flows.[44]

[43] United Nations. *World Population Prospects: The 2008 Revision.*
[44] Demetrios G. Papademetriou, "Managing International Migration Better: Principles and Perspectives for Gaining More From Migration," in *Europe and its Immigrants in the 21st Century,* ed. Demetrios G. Papademetriou (Washington, DC: Migration Policy Institute, 2006).

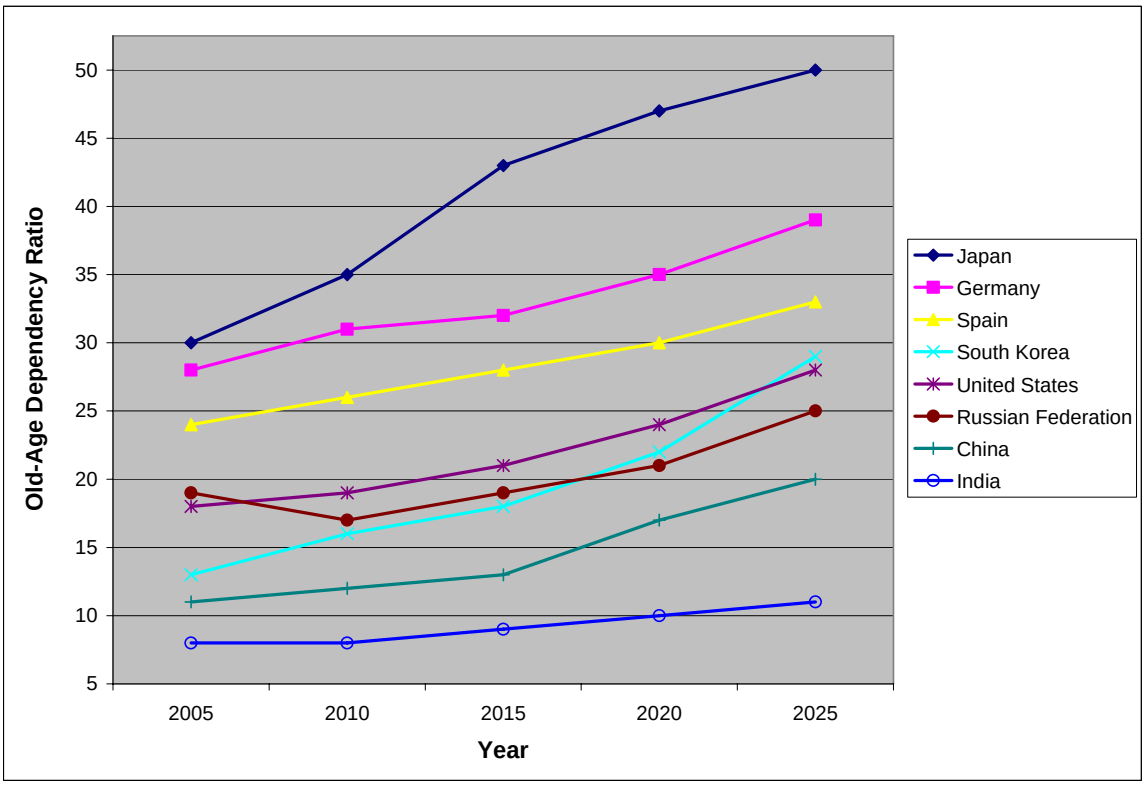
Figure 1. Projected Total Fertility Rates for Selected Countries, 2000 to 2025



Note: A country is estimated to need approximately 2.1 births per woman to keep replenishing its population.
Source: United Nations; *World Population Prospects: The 2008 Revision*, data in digital form, 2008.

If long-term fertility declines are not a real challenge for some countries (such as France, the United Kingdom, the United States, and Canada, to mention a few) the other end of life's continuum, aging and increased longevity, provides its own predicaments. All advanced industrial societies share the dilemmas of aging as they confront the retirement of their baby boomers. As Figure 2 shows, the biggest challenge of the upcoming massive increases in the ranks of the old and the very old in wealthy societies is, once more, its effect on labor markets. Aging populations also have massive implications for health support and retirement systems, both of which rely on tax receipts from workers to stay solvent. Hence the importance of Figure 2's five-year interval calculations of the tax burden on active workers.

Figure 2. Projected Old-Age Dependency Ratios for Selected Countries, 2005 to 2025



Note: The old-age dependency ratio is the ratio of the population age 65 and older to the population ages 15 to 64, multiplied by 100. Accordingly, in 2025, the United States is projected to have 28 people over the age of 65 for every 100 working-age people. In other words, in the United States, which has a "pay-as-you-go" retirement system, the taxes of about 3.5 workers will have to support a retired person.
Source: United Nations; *World Population Prospects: The 2008 Revision*.

Skills Mismatches, Shortages, and High-Growth Fields

Demographic change, skills and locational mismatches, labor shortages, and rapid expansion in some areas of the economy (such as the entire health and eldercare sectors) make it difficult for employers to find as many domestic skilled and highly skilled workers as they need. When that happens, most policymakers are willing (some become even keen) to complement their workforces with qualified immigrants.

A number of developed countries have designed their immigration systems to target immigrant admissions to sectors with high demand for workers. Importantly, many of these "occupations in demand" are skilled and highly skilled. According to Australia's most recent Migration Occupations in Demand List (MODL),[45] for instance, the country seeks

[45] Australian Government, Department of Immigration and Citizenship, "Is Your Occupation in Demand?" May 17, 2008, http://www.immi.gov.au/skilled/general-skilled-migration/skilled-occupations/occupations-in-demand.htm.

engineering managers, accountants, architects, civil engineers, dentists, and general electricians. Half of the occupations on the shortage list are professional occupations.[46]

Other efforts, however, are full of bureaucratic requirements that make the analyst wonder whether the endeavor has been designed to attract talent or simply to allow bureaucrats to check off the box marked "we are also players" in these sweepstakes. It is the latter that best defines the European Union's version of its entry into the talent race. (Several EU Member States already have skilled immigration programs, which may explain their lack of enthusiasm for EU-wide legislation in this area.)

The European Union is in the final stages of adopting a Blue Card, to be activated in 2011, to be made available to highly qualified workers[47] seeking to work in the Union.[48] The European Parliament has already voted in favor of the proposal,[49] leaving the step of adopting the directive to the Justice and Home Affairs Council of the European Union. Under the proposed directive, applicants must meet numerous requirements, such as possessing a valid work contract or a job offer of at least one year; satisfying the national conditions to work in the regulated profession for which they apply; proving they possess relevant higher professional qualifications or at least five years of professional experience in the occupation or sector in which they intend to work (two of these years must be in a senior position); and being offered a gross salary of at least 1.7 times the average national gross monthly or annual wage, and at least equal the wages of a comparable worker from that country. However, only EU Member States can decide whether the prospective applicant or the employer applies for the Blue Card and whether they wish to admit a qualified applicant or not.[50]

Governments also seek to attract talented workers directly in order to grow certain economic sectors projected to expand. For example, New Zealand has designated "future growth areas" that are considered important for the nation's prosperity[51] and in which training

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[46] The Skilled Occupation List (SOL) encompasses a wider range of occupations deemed skilled. See Australian Government, Department of Immigration and Citizenship, "Skilled Occupation List (SOL) and Employer Nomination Scheme Occupation List (ENSOL) Form 1121i," http://www.immi.gov.au/allforms/pdf/1121i.pdf.

[47] A highly qualified job is one in which an individual is directed and remunerated by another individual and for which a higher educational degree or higher professional competence is required.

[48] Ingrid Melander, "EU Agrees 'Blue Card' to Lure Highly Skilled Migrants," *Reuters Africa*, October 22, 2008, http://africa.reuters.com/wire/news/usnLM320561.html.

[49] The Blue Card Directive is officially known as the Council Directive on the Conditions of Entry and Residence of Third-Country Nationals for the Purposes of Highly Qualified Employment.

[50] The Blue Card would be initially valid either for three years and renewable for at least another two or for the duration of the work contract plus six months. Those who lose their jobs would have three months to find a new one while those who complete two years under a Blue Card would be allowed to look for employment in another EU Member State and bring their families with them if that Member State admits them. After three years of continuous legal residence as a Blue Card holder in a Member State, the individual could apply for permanent residence in the European Union.

[51] Creative industries include advertising, software and computing services, publishing, TV and radio, film and video, architecture, design, designer fashion, music and performing arts, and visual arts. Immigration New Zealand, "SM8.10 Employment in an Identified Future Growth Area," December 17, 2003, http://www.immigration.govt.nz/nzis/operations_manual/6365.htm.

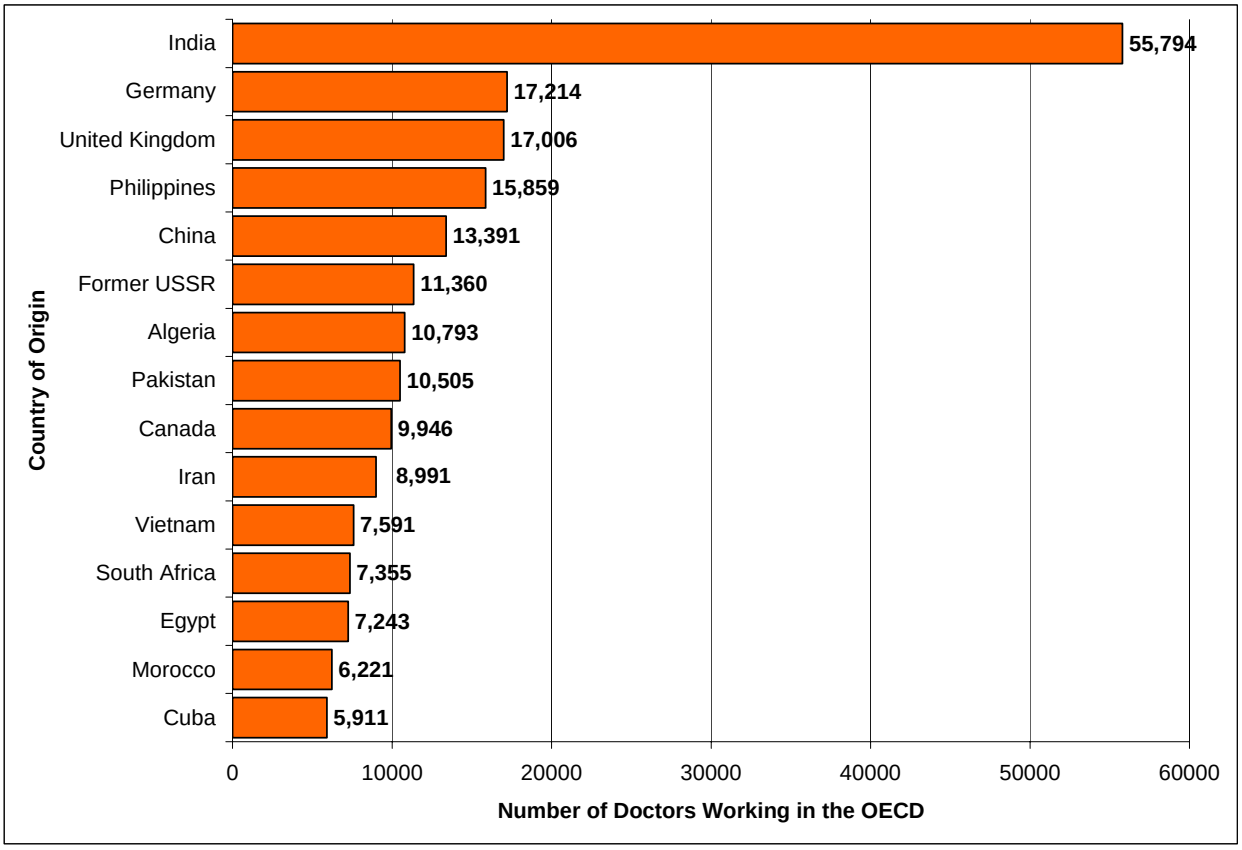
workers from scratch is a difficult and long-term process that often requires fundamental and difficult-to-achieve changes in a country's education system.[52]

An example from the health field demonstrates the point most directly. Virtually all high-income countries and many middle-income ones do not produce nearly enough of the health professionals they need, and some are losing ground. Japan, which has one of the lowest physician densities per 1,000 people in the OECD, has seen the growth in the number of its practicing physicians drop dramatically over the last three decades — from 2.9 percent average annual growth between 1975 and 1990 to 1.2 percent per year between 1990 and 2005. Among OECD countries, only Portugal, France, Sweden, and Belgium have done worse. Portugal experienced the greatest decline, going from 6.4 percent to 1.3 percent growth for the same two periods.[53] Foreign-born doctors represent large proportions of the growth in physician numbers throughout the OECD. Approximately half of the increase in the number of doctors in both the United Kingdom and the United States between 2000 and 2005 is estimated to have been due to foreign-trained doctors (France, New Zealand, and Sweden have also seen increases for the same reason). However, it is Ireland and Switzerland that have relied most heavily on foreign-trained doctors during the 2000-2005 period.[54]

Figures 3 and 4 below, as well as Tables 1 and 2, tell extraordinary, if complex, stories of OECD countries' reliance on medical personnel educated elsewhere and the even more extraordinary losses of such professionals by some of the world's smallest and poorest countries.

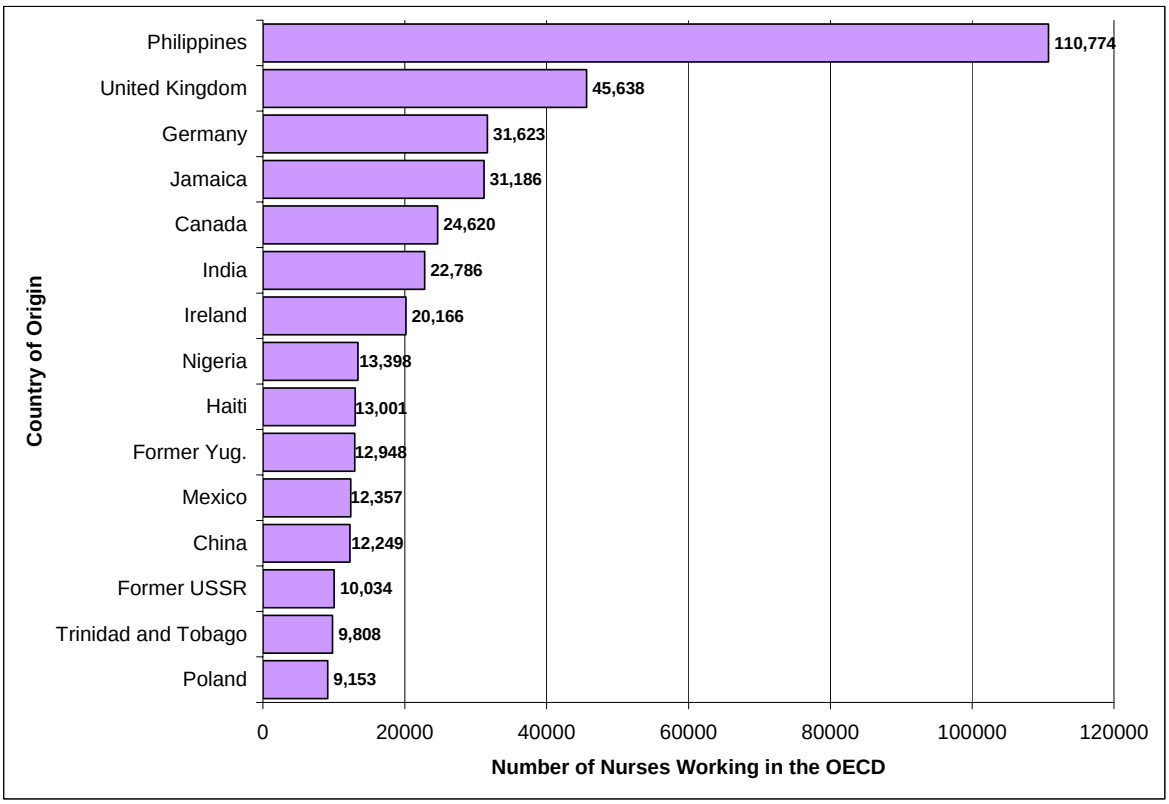
[52] Titu Andreescu, Joseph A. Gallian, Jonathan M. Kane, and Janet E. Mertz, "Cross-Cultural Analysis of Students with Exceptional Talent in Mathematical Problem Solving," *Notices of the American Mathematical Society*, 55, No.10 (2008): 1248-1260; see also Organization for Economic Cooperation and Development. *Education At A Glance 2008*.
[53] Organization for Economic Cooperation and Development, *The Looming Crisis in the Health Workforce: How Can OECD Countries Respond?* (Paris, OECD, 2008).
[54] Ibid.

Figure 3. Top 15 Countries of Origin of Foreign-Born Doctors in the OECD, 2000



Source: Organization for Economic Cooperation and Development, *International Migration Outlook SOPEMI 2007* (Paris: OECD, 2007).

Figure 4. Top 15 Countries of Origin of Foreign-born Nurses in the OECD, 2000



Source: OECD, *International Migration Outlook 2007.*

Table 1. 15 Countries with the Highest Emigration Rates for Nurses

Country of birth	Emigration Rate (%)
Haiti	94.0
Jamaica	87.7
Grenada	87.6
Belize	81.8
Saint Vincent and the Grenadines	81.6
Guyana	81.1
Barbados	78.0
Saint Kitts and Nevis	76.7
Antigua and Barbuda	74.4
Trinidad and Tobago	72.9
Liberia	66.9
Dominica	66.2
Samoa	62.1
Tonga	58.2
Sierra Leone	56.3

Source: OECD, *International Migration Outlook 2007.*

Table 2. 15 Countries with the Highest Emigration Rates for Doctors

Country of birth	Emigration Rate
Antigua and Barbuda	89.3
Grenada	72.7
Guyana	72.2
Mozambique	64.5
Angola	63.2
Dominica	60.4
Fiji	58.5
Sierra Leone	58.4
United Republic of Tanzania	55.3
Trinidad and Tobago	54.6
Liberia	54.2
Cook Islands	53.3
Saint Vincent and the Grenadines	53.2
Haiti	53.1
Guinea-Bissau	49.2

Source: OECD, *International Migration Outlook 2007*.

But even countries with world-class educational institutions complement native talent with foreign-born talent for a variety of reasons, including gaining from their direct fiscal contributions through tuition and their contribution in helping to spur innovation. Moreover, policymakers at all levels have come to understand that upgrading education is a long-term process, but unmet demand needs to be addressed rapidly if key industries are to remain competitive in the global economy.

In sum, skilled and highly skilled immigration policies must work in tandem with steps to improve national education and training systems to produce world-class workforces if countries want to be and remain competitive in the 21st century.

Entrepreneurialism, Human-Capital Spillovers, and Economic Development

Highly skilled foreign workers make important contributions to the broader economy, not just to those who employ them. In fact, there is a growing literature on the strong role of diasporas, and particularly "knowledge" diasporas, in economic competitiveness.[55] Economic geographers have long focused on the links between certain high-tech industrial clusters and diasporas, such as that between Silicon Valley and Indian immigrants.[56]

The evidence also indicates that talented immigrants are responsible for a disproportionate proportion of startup businesses. A recent study shows that of just over 2,000 engineering and technology companies in Silicon Valley, a quarter were founded by immigrants (26

[55] Rosalie L. Tung, "Brain Circulation, Diaspora, and International Competitiveness," *European Journal of Management*, 26, No.5 (2008): 298-304.
[56] AnnaLee Saxenian, *The New Argonauts, Regional Advantage in a Global Economy* (Cambridge, MA: Harvard University Press, 2006).

percent of whom where Indians).[57] Another study found that immigrants founded 39 percent of all California startups.[58]

Diasporas can also contribute to the development of their countries of origin through remittances and other forms of investment, although for most countries, the evidence on the migration and development relationship (rather than the migration and poverty alleviation one) is rather mixed. Total remittances in 2008 amounted to an estimated US$375 billion, with those sent to developing countries comprising US$283 billion, or approximately 75 percent of the total. Tajikistan (46 percent), Moldova (38 percent), and Lesotho (29 percent) top the charts in terms of how much remittances contributed to GDP in 2008.[59] India (US$30 billion), China (US$27 billion), and Mexico (US$24 billion — $1 billion less than in 2007) have the highest amounts of remittances transferred from a foreign country in 2008. It is no surprise, then, that remittances and the role of diasporas have become the focus of endless migration policy discussions in countries across the world.

V. How the Highly Skilled View Work Choices in the Global Economy

Firms want and need highly skilled and talented individuals to be competitive, and governments have an interest in facilitating the match. But what do the truly skilled and those with the "right" (and typically scarce) qualifications in the fields that are key to economic growth and competitiveness — the sciences, technology, engineering, and mathematics (STEM) — want and need in return? And how do these sought-after individuals make decisions on when to move, where to work, and how to respond to recruitment efforts? This section examines immigrant selection through the eyes of highly skilled foreign-born professionals, that is, those who both "envisage" a global career[60] and are most likely to have a choice of destinations — rather than those with run-of-the-mill paper credentials and experience who fill the ranks of applicants for one points selection system or another.

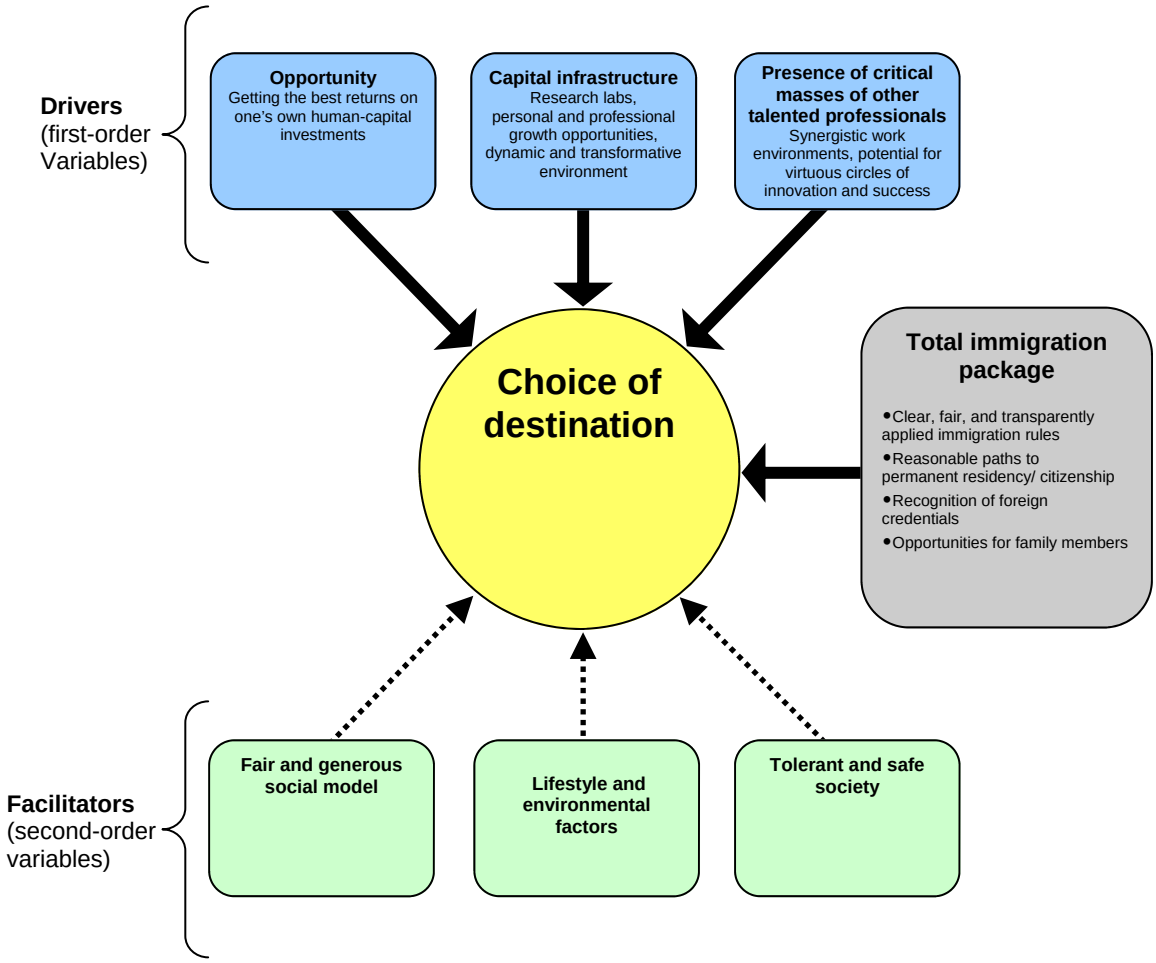
The immigrants who are the true focus of this paper — the highly skilled — migrate to take advantage of sometimes small opportunity differentials that may make a large difference in outcomes for them and their employer. And although wages matter, they do not drive the decision because the remuneration differentials for the most talented do not typically vary significantly. (US firms may be the exception in this regard.) The highly skilled also weigh a firm's and the destination area's human- and physical-capital infrastructure, the presence of

[57] Vivek Wadhwa, AnnaLee Saxenian, Ben Rissing, and Gary Gereffi, "Skilled Immigration and Economic Growth," *Applied Research in Economic Development* 5, no. 1 (2008): 6-14.
[58] Duke University study cited in Tung, "Brain Circulation, Diaspora, and International Competitiveness."
[59] The World Bank, "Remittances Data," November, 2008, http://siteresources.worldbank.org/INTPROSPECTS/Resources/334934-1110315015165/RemittancesData_Nov08(Release).xls.
[60] Günter K. Stahl, Edwin L. Miller, and Rosalie L. Tung, "Toward the Boundaryless Career: A Closer Look at the Expatriate Career Concept and the Perceived Implications of an International Assignment," *Journal of World Business*, 37, No. 3 (2002): 1-12.

other talented workers, and what we call the "total immigration package" (that only governments can offer), as well as a host of other variables.

Our analysis is organized along three pathways and is laid out visually in Figure 5. The top half of the figure focuses on a series of "first-order" decision-making variables that we consider essential to the calculations most talented and highly skilled immigrants are likely to make in the process of deciding where to move. This cluster of variables has easily permeable boundaries that allow each variable to reinforce the others; we call them decision "drivers."

Figure 5. A Highly Skilled Individual's Decision-Making Calculus about Where to Emigrate



Our second group of variables (the "second-order" ones, in the bottom half of the figure) also influence the migration decision and are also able to cross boundaries — both vertically and horizontally. In most instances, however, they are not likely to determine the outcome. We call them decision "facilitators." [61]

[61] Many studies offer broad support for the main thrust of our schema. See, for instance, Rosalie L. Tung and Mila Lazarova, "Brain Drain Versus Brain Gain: An Exploratory Study of Ex-Host Country Nationals in Central and East Europe," *International Journal of Human Resource Management*, 17, No.11 (2006):

And located between the two is what we call the "total immigration package," that is, the sum total of immigration rules and conditions at destination that has a strong, if not determinative, effect on the decision-making process of prospective highly qualified foreign workers.

Decision-Making Drivers

The first driver, *opportunity*, is a primary motive for immigration. Highly skilled immigrants have made deep and often expensive (to them and their families) investments in developing their human capital. As a result, they want to get the best returns on these investments. It stands to reason that, like all "investors," they will look for places where this can be accomplished best and fastest.

We call the second driver *capital infrastructure.* By that, we want to convey the importance of facilities that allow highly skilled immigrants to realize personal and professional goals. These might include research labs for scientists, great universities where the immigrant and his/her family might continue with their academic and professional development, availability/access to industrial clusters for high-tech entrepreneurs (a prerequisite for the essential transitions from scientific innovation, to product development, to market), and even such intangibles as a sense of dynamism — that is that this is the crossroads where knowledge, creativity and transformation meet. California's Silicon Valley probably is the best exemplar of that genre.

The third driver is the presence of, and access to, substantial numbers of *other talented professionals,* both in the same field but also in cognate and, increasingly, in complementary, disciplines. This matters a great deal because critical masses of highly educated and motivated workers from many disciplines — including workers from different ethnic, cultural, and educational backgrounds — create the synergies and multiplier effects that are thought to facilitate breakthroughs in research and product development.[62] The presence of other talented individuals also provides opportunities to become integrated into crucial professional networks and enables the transformative environment that attracts new talented immigrants — in effect, creating, fueling, and replenishing the talent pools that energize the virtuous circles of progress and innovation.

As noted, our three drivers are mutually dependent and intentionally overlapping. For example, opportunity is fully integrated with the availability of ample human and physical capital infrastructure and the presence of pools of other talented professionals. And all three drivers contribute to the constant replenishment of a firm's and an area's human capital pool since they influence deeply both internal and international migration patterns by other highly skilled and motivated workers.

1853-1872; and Timothy J. Hatton and Jeffery G. Williamson, "What Fundamentals Drive World Migration?" (working paper No.W9159, National Bureau of Economic Research, September 2002).

[62] See for instance: Annalee Saxenian, "Lessons from Silicon Valley," *Technology Review*, 97, No. 5 (1994): 42-51; Brian Knudsen, Richard Florida, Kevin Stolarick, and Gary Gates, "Density and Creativity in U.S. Regions," *Annals of the Association of American Geographers*, 98, No. 2 (2008): 461-478; David Audretsch and Max Keilbach, "Entrepreneurship Capital and Economic Performance," *Regional Studies*, 38, No. 8 (2004): 949-959; and Robert E. Lucas, Jr., "On the Mechanics of Economic Development," *Journal of Monetary Economics*, 22, No. 1 (1988): 3-42.

Decision-Making Facilitators

We discuss three variables that influence the decision about choosing a destination. Their effect will vary with the personal and professional circumstances of the prospective immigrant.

The first factor, the receiving society's *social model*, will be important to every potential immigrant but would be of particular interest to persons contemplating a long stay and those with family. For those for whom a fair and generous social model is crucial, places like Canada and most of the European Union — with their universal health care systems, social partnerships (involving government, employers, and worker organizations), and strong social welfare traditions — might be particularly attractive. Strong norms (and regulations) about workplace conduct by employers (including rules about hiring and firing), as well as opportunities, even guarantees, of worker participation in key firm decisions, extensive unemployment protections and training and retraining opportunities, etc., also give many EU Member States decided advantages.

The second variable, *lifestyle and environmental factors*, typically refers to quality-of-life issues. Survey respondents, for instance, point to specific destinations' environmental or cultural attributes[63] as particularly relevant. In fact, the ability to market the lifestyle advantages, including the climate and natural beauty, of a country is and will continue to be important to a significant pool of applicants. Places like Australia and New Zealand are thought to be particularly appealing to many immigrants for precisely such reasons.

Finally, living in *a safe and tolerant* society, where the acceptance and even respect for diversity of language, ethnicity, race, and cultural and religious practices — and a welcoming environment toward immigration — are part of the national narrative, can be a very strong element of attraction, particularly given the growing intolerance of many societies. This suggests that the more traditional countries of immigration (the United States, Canada, Australia, and New Zealand) fare much better on these grounds than almost any other single country, with Canada probably scoring the highest because of its constitutionally guaranteed and now deeply ingrained multiculturalism model. Once more, those intending long-term or permanent immigration, as well as those with families, will tend to place much greater emphasis on these factors than younger, single, foreign workers focused almost exclusively on advancing their career and building wealth and without a predetermined interest in permanent settlement in a particular country.

The Total Immigration Package

We now turn to the total immigration package a country makes available to the prospective immigrant — that is, the immigration rules that apply to them both upon and after entry and

[63] Survey evidence from New Zealand suggests that various lifestyle factors are also important. For example, pace of life or lifestyle, the climate and environment, and better chances to provide a good future for one's children. See Statistics New Zealand, "Longitudinal Immigration Survey: New Zealand (LisNZ) – Wave 1," *Hot Off the Press*, 19 May 2008, http://www.stats.govt.nz/NR/rdonlyres/20C2C838-E894-42AB-9E39-71CF29CCB0E0/0/longitudinalimmigrationsurveynzmay08hotp.pdf.

the treatment they can expect while in the host country. The immigration package affects both a potential immigrant's professional opportunities and his/her experience living in the host country. As Figure 5 indicates, we have positioned the package midway between the decision-making drivers and facilitators, making it important enough to exert strong influence in the decision about a destination choice but not necessarily a determinant of it.

We consider four elements of that package as most essential. The first two are explicitly tied to the receiving country's immigration rules while the other two are tied more closely to the immigrant's economic success and the quality of opportunities afforded his/her family.

The first element, that of *clear, fair, and transparently applied immigration rules,* takes the guessing game out of a foreigner's relationship to the host country's immigration system and what (s)he has to do to maintain his/her status. The ultimate goal is to have predictable outcomes in all immigration-related matters, an issue of supreme importance for people who are far away from familiar environments and must learn to negotiate multiple new norms. With immigration "surprises" out of the picture, immigrants know how to behave, what they can plan for, what investments to make, and how to handle unforeseen circumstances, such as an unexpected layoff or a contract or pay dispute. Considering the power asymmetries between employer and worker, knowing one's immigration status rights and being able to exercise them can make all the difference between a life of uncertainty and fear and one of relative predictability and rules-based outcomes. In these regards, work visas that offer their holders the security of permanent residence up front are unsurpassed in terms of their value to foreign workers. And this value is irrespective of the individual immigrant's ultimate decision about settlement and citizenship.

The second, and in many ways related, element of the total immigration package revolves around *paths to permanent residency and citizenship.* While it stands to reason that highly skilled immigrants, like all immigrants, value transparent rules for the transition between immigration statuses, as well as a clear path to citizenship, not all are eligible for such transitions. Some countries offer foreign workers temporary work visas without clear rules about or real prospects for taking the next immigration step — a policy that is most common of arrangements for less-skilled work and shorter-distance migration. The countries that practice this approach (such as Japan) do this precisely because they prefer to tap the labor market skills of immigrants without incorporating them into society in the long term. While this policy may make sense from the host's perspective, it makes the country much less attractive for many prospective highly skilled immigrants and reduces the pool and quality of the accessible talent.

Other countries treat skilled and highly skilled foreign workers as prospective immigrants and offer them an initially temporary work visa but put them on a path to permanent residency. That is, the initial visa allows its holder to transition into permanent status. We call these "provisional status" visas.[64] This approach is increasingly common and we expect it to become the dominant work visa model, by far, as more countries open their labor markets up to skilled and very skilled foreign workers. Provisional visas combine relative

[64] See Doris Meissner, Deborah W. Myers, Demetrios G. Papademetriou, and Michael Fix, *Immigration and America's Future: A New Chapter* (Washington, DC: Migration Policy Institute, 2006); and the authors' "Hybrid Systems," this volume.

certainty with flexibility, and in the age of mobility, qualified foreigners will expect nothing less. Increasing interest in qualified immigrants by more and more countries will make such visas the *minimum* requirement for attracting the highly skilled workers needed/wanted by firms and competitive economies.

Other countries offer permanent residence visas up front and treat their holders as prospective citizens. This approach is still limited primarily to the traditional countries of immigration, although these countries also employ the provisional status visa model with growing frequency. And as interest in the most talented immigrants intensifies, we believe that more and more countries will find that offering permanent status up front will be what is expected by the most sought-after would-be immigrants. Absent that, and as interim measures, simple, clear and transparently applied processes for the transition from temporary to permanent status[65] (as well as dual citizenship) are likely to be a strong asset in the quest to attract and retain skilled workers.

In many ways, these three approaches to work visas comport with the plans of most would-be immigrants. Some, often the less skilled, may be content with work visa arrangements that are temporary in nature, especially if the visas are multi-year and/or renewable. Others may well be satisfied with a provisional work visa. Most, however, will continue to have longer-term ambitions — such as the ability to transition from one status to another, to switch employers (work permit and visa portability), or to embark on the path to citizenship.

The third factor under the total immigration package focuses on the r*ecognition of foreign credentials.* An immigrant's high human capital guarantees neither economic outcomes on par with educational attainment and professional experience nor smooth integration into the labor market and broader society. Research on the labor-market outcomes for highly skilled immigrants chosen through points selection systems and/or entering through the family and refugee/asylum immigration streams indicates that they tend to have higher unemployment rates and lower earnings compared to similarly qualified natives.[66] One reason for this gap is the reluctance among employers to accept educational credentials, licenses, and job experiences acquired outside of the host country.[67] As a result, the recognition of foreign credentials is a key component of a potential migrant's chances of doing well in the host country and of the host society's gaining more from migration.

Not recognizing foreign-earned credentials has a substantial economic cost. For example, Australia estimates that it incurred a loss of AU$100 million to AU$350 million in 1990 because it did not recognize foreign degrees for some 200,000 immigrants.[68] Similarly,

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[65] The United States' H-1B ("specialty occupation") and L-1 ("intracompany transferee") visas are temporary visas that allow the holder to apply for permanent residency while being on that visa. They should not be seen, however, as exemplars of the criteria called for here.

[66] Organization for Economic Cooperation and Development, *Trends in International Migration - Annual Report 2004 Edition SOPEMI 2004* (Paris: Organization for Economic Cooperation and Development, 2004); Jeffrey Reitz, *Tapping Immigrants' Skills: New Directions for Canadian Immigration Policy in the Knowledge Economy* (Montreal: Institute for Research on Public Policy, 2005), http://www.irpp.org/choices/archive/vol11no1.pdf.

[67] See the authors' "Hybrid Immigrant-Selection Systems."

[68] Andrew Brouwer, *Immigrants Need Not Apply*, (Ottawa: Caledon Institute of Social Policy, 1999), http://www.caledoninst.org/Publications/PDF/77ENG.pdf.

Canadian estimates suggest that the economic impact of immigrant skill underutilization amounts to CAN$2 billion annually.[69] In the United States, legal permanent residents with US college degrees are three times more likely to work in high-skilled jobs than those with foreign degrees, and 20 percent of those with at least a bachelor's degree earned abroad work in unskilled jobs or are jobless.[70] Policymakers thus need to address the discounting of foreign credentials not only in order to improve the economic outcomes for highly skilled immigrants (thereby attracting qualified immigrants and strengthening their ability to integrate economically) but also to avoid "brain waste."[71]

A detailed recitation and analysis of possible solutions to this problem is beyond this essay's remit. Among the most promising ideas, however, are credential-recognition schemes which provide the information that employers need to make decisions on hiring workers with foreign qualifications when and where they need it. Canada, Australia, and the United Kingdom, for example, have set up bodies that "translate" foreign credentials for prospective employers.[72] But even the most sophisticated credential-recognition systems have flaws, not least the inability fully to capture all skills obtained abroad. Consequently, having obtained education or experience in the host country remains one of the best predictors of success in this difficult policy (and ethical) area and an important driver in an immigrant's choice of destination.

Another approach is to give employers a direct role in immigrant selection and to focus regulatory and enforcement resources instead on the terms and conditions under which foreign workers are employed. The definitive expression of this approach is found in the US "attestation" system discussed in detail in another of this volume's essays.[73] This overcomes the problem of discounting credentials because employment is confirmed before migration takes place. An alternative strategy yet involves requiring that credentials be recognized as part of the immigration application process: skilled workers who have not had their credentials "translated" would thus not be eligible for admission. Australia does that and the EU's Blue Card envisions a similar requirement. But although such policies *may* improve some immigrants' labor market and economic mobility outcomes once they arrive, they cannot capture the "soft skills" and experiences that employers value — while making the application process more arduous and reducing the pool of those willing to apply.

An additional issue often associated with the underutilization of skills is the ability to speak the host's language well. Although more common in lower skilled migration, it is nonetheless also a factor with many skilled and even some highly skilled immigrants, especially those going to non-English speaking countries. Hence, testing language skills before offering a visa and language assistance after immigration have caught the attention of policymakers

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[69] Jeffrey Reitz, "Does North American Experience in Immigrant Integration Have Lessons for Europe?" (keynote address, Third Annual Conference of the International Migration, Integration, and Social Cohesion, Vienna, September 5, 2006).
[70] Jeanne Batalova and Michael Fix, *Uneven Progress: The Employment Pathways of Skilled Immigrants in the United States*, (Washington DC: Migration Policy Institute, 2008).
[71] Ibid.
[72] The European Union, under the Bologna Process, has committed itself to harmonizing the recognition of degrees, study periods, and academic grades — but only across its Member States.
[73] See the authors' "Hybrid Immigrant-Selection Systems."

everywhere. Countries like the United Kingdom, for instance, require a mandatory level of English language fluency before an applicant is eligible under the points system, thus making the absence of English language competence a bar to admission. Australia rewards, but does not require, English fluency. And the United States imposes no language requirement, leaving these matters up to the employer/sponsor.

But while fluency in the host-country language is an excellent predictor of labor market success, some talented immigrants can still operate effectively even if lacking complete fluency *before* entry. This is particularly the case in occupations where technical skills and knowledge are more important than language. Of course, countries in which English is the official or mainstream language have an edge: they can tap into a larger pool of applicants proficient in the language.[74] For instance, a major reason why Singapore is able to attract highly skilled migrants more successfully than Japan is language; Singapore uses English as the main language of government and business, while countries like Japan and Germany do not, potentially deterring foreign workers.[75]

Yet if governments wish to avail themselves of all talented foreigners they can get, they might wish to focus on facilitating language acquisition programs. This would make their country more attractive to some highly skilled immigrants with relatively few language skills. And some countries are moving in that direction — in effect adding to the "total immigration package" *assistance with language acquisition.* Canada, for example, launched an enhanced language training initiative in 2003 with the explicit purpose of attracting highly skilled immigrants and integrating them into the labor market. The program provides partial funding for employers and other organizations that wish to provide language training to immigrant workers.[76] Under a related program, Canada also makes language tuition available to immigrants' families.[77] Australia recently announced plans offering incentives to businesses that allow limited English proficient workers take English lessons at the worksite during work hours.[78]

Such investments have important direct and indirect effects. They can attract new highly skilled immigrants whose language skills may be weak; they can serve to integrate existing immigrants into the labor force more completely; they can assist with the long-term social integration of immigrants; they can send a signal to employers that they can employ a well-qualified immigrant with limited language skills in the knowledge that assistance "is on the

[74] The recognition that China is likely to become a major economic power, however, has pushed many non-Chinese speakers to learn Chinese.
[75] Pang Eng Fong, "Foreign Talent and Recruitment in Singapore," in *Competing for Global Talent*, Eds. Kuptsch and Fong.
[76] Human Resources and Social Development Canada, "Enhanced Language Training," http://www.hrsdc.gc.ca/en/cs/comm/hrsd/news/2005/050425ba.shtml.
[77] Citizenship and Immigration Canada, "Welcome to Canada: What You Should Know. Language Training," http://www.cic.gc.ca/english/resources/publications/welcome/wel-22e.asp.
[78] "Migrants May Learn English at Work: Government." *The Age*, July 30, 2007. http://www.theage.com.au/news/NATIONAL/Migrants-may-learn-English-at-work-govt/2007/07/30/1185647812428.html.

way;"[79] and they can treat opportunities for language tuition as a component of their "total immigration package."

The final factor in the total immigration package is *opportunities for family members.* Family (re)unification is a crucial component of international migration[80] and skilled and highly skilled admissions are no exception. It is to be expected, then, that the immigration package becomes substantially more attractive if a potential immigrant is permitted to bring immediate family members to the destination country and they are offered the tools to grow and thrive. But while spouses are often allowed to accompany an immigrant employee, many countries do not allow them to enter up front or have long waiting periods before visas become available. And in almost all countries, spouses are not permitted to work or when they are they find it difficult to gain employment in their professions. The issue's importance is underlined by lobbying efforts from business groups for governments to allow spouses and partners of expatriate employees to work legally.[81] In fact, senior HR professionals in global corporations place immigration-status transitions, including the flexibility, efficiency, and responsiveness of the visa system, and the associated rights of family members on top of their concerns when it comes to skilled and highly skilled immigration. Policymakers might consider creative ways to maximize value in this area — from easing spouses' routes into work or volunteering, to setting selection criteria that value spouses' skills and experience.

VI. What Can Policymakers Learn From Business Strategies?

Both firms and government policymakers need to partner if they are to successfully recruit the workers from abroad that firms and the broader economy require. In this section, we explore in more detail a number of business strategy concepts[82] that governments can use to adjust their immigration policies.

Creating Value for the Customer

Successful global firms look beyond what the competition offers and consider more broadly what their customers need and value. Therefore, when considering what kind of immigration package they might offer, policymakers should not just opt for matching or outdoing the conditions offered by another country, such as offering tax concessions (as Denmark and several other countries do), cutting the time required before applying for citizenship, or

[79] Chieko Kamibayashi, "Current Migration Policies of IT Engineers to Japan: Beyond Immigration Control and Cultural Barriers," in *Competing for Global Talent,* Eds. Kuptsch and Fong.
[80] For instance, in 2006, nearly two-thirds of the immigration flows to the United States and France, over half the immigration flows to Italy and Sweden, and 44 percent of immigration to OECD countries were family-based admissions. Organization for Economic Cooperation and Development. *International Migration Outlook SOPEMI 2008* (Paris: Organization for Economic Cooperation and Development, 2008).
[81] Permits Foundation, "About Us," http://www.permitsfoundation.com/sponsors.htm. This organization has lobbied with some success in a number of countries. These include France, Ireland, Brazil, and Hong Kong.
[82] Kenichi Ohmae, *The Borderless World: Power and Strategy in the Interlinked Economy* (New York: HarperCollins Publishers, 1999).

reducing visa processing times. Instead, policymakers need to ask themselves "what package will attract the kind of immigrant we need?" For example, if a government wants highly skilled workers to stay for several years, family reunification and work authorizations for spouses are likely to be essential.

This line of thought could be extended further to provide greater "tailoring" to the circumstances of different nationalities and skill groups. At present, the package offered to skilled foreigners is largely undifferentiated. In the future, governments might look to attract the most skilled migrants by taking a page out of the calculus they make when trying to attract foreign investors — that is, by setting conditions based on the value of what the investor is offering.[83] Governments could thus vary the overall configuration of immigration packages according to criteria such as the subject matter and level of degree attained, one's professional accomplishments, and years of experience in the immigrant's field of specialization. (The United States does so both in its EB-1 permanent visa category and its "O" temporary but unlimited duration visa for outstanding immigrants.) These are also the attributes that determine a firm's pay and relocation package for the most qualified.

Going Where the Client Is

Rather than operate a global business from a single headquarters, large corporations have long set up thriving regional headquarters in targeted markets. This lesson has not been lost on leading US universities. For instance, the Qatar Foundation for Education, Science, and Community Development, established in 1995 by the Emir of Qatar, founded Education City, a 2,500-acre campus that provides students the opportunity to pursue in Qatar bachelor's and professional degrees from major American universities such as Georgetown University School of Foreign Service, Cornell Medical School, or Carnegie Mellon University.[84] And more top US universities are following suit as they have come to understand that while students from the Middle East and other regions may wish to pursue a US education, many are reluctant to travel to the United States in the post-9/11 political environment. (Leading non-US universities are following the same course.) In this sense, educational institutions are expanding their presence by taking themselves to where the market and local talent are, thinking both about market share in the education industry and creating additional pools of talent for access both by local and global firms.

Marketing

Many governments have come to understand that if they are to attract the highly skilled workers their economies need they must market their country successfully to potential immigrants. And many do, with initiatives ranging from passive ones, such as setting up websites and advertising quality-of-life aspects of their countries, to extremely active ones,

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[83] For an example of foreign direct investment, see Investment and Business Development Agency, "Investment Opportunities," http://www.czechinvest.org/en/investment-opportunities.

[84] Awarded degree programs include: Carnegie Mellon University in Qatar (bachelor's degree in business administration or computer science); Texas A&M University at Qatar (bachelor's degree in chemical, electrical, mechanical, and petroleum engineering); Virginia Commonwealth University School of the Arts in Qatar (bachelor's degree in communication design, fashion design, or interior design); and Weill Cornell Medical College in Qatar (pre-med degree and doctor of medicine).

such as sponsoring job fairs abroad and the like. Australia and Canada have been leaders in this regard, as has New Zealand. Furthermore, when a given source country has an edge in a particular field (for example India in IT, or China in many science fields), governments may need to consider how different parts of the immigration package (for example, assistance with recognizing or certifying credentials, or offering language assistance) will appeal to each group. This means governments might consider tailoring their marketing strategies to meet the demands of and create value for people with different language skills, religions, professional interests, and nationalities.

Branding

Finally, recruitment and a firm's success are mutually dependent. On the one hand, a firm relies on a good brand to attract workers. On the other, good workers will build up the firm's success, and hence its brand. In the same way, countries hoping to attract global-level talent will need to establish *and maintain* a reputation as an attractive destination. A reputation for protecting immigrants' rights, in addition to strong job opportunities and a transparent visa application process, will increase a country's appeal to prospective workers. Canada, for instance, has a strong edge in these regards. At the other end of the attractiveness spectrum, the tightening of US visa regulations, the significant narrowing of civil liberties, and the seemingly indiscriminate targeting of many national groups after 9/11 led to dramatic declines in applications to American universities from (and the issuance of visas to) nationals from Arab and Muslim countries,[85] suggesting that the American "brand"[86] was, temporarily at least, in retreat. The remarkable growth in foreign student populations registered by other English-speaking countries cannot be separated from this branding problem the United States has experienced.

VII. Conclusion and Challenges Ahead

As interest in skilled and highly skilled workers grows, the firms and countries that try to entice them to move will have to adjust both their thinking and their highly skilled immigration policies. Specifically, the emphasis by today's and perhaps tomorrow's immigration policymakers is, and may well continue to be, on *selection mechanisms.* Absent a worldwide depression with its accompanying rise in economic nationalism of various forms, the immigration policy focus a decade or more from now is likely to be more *on ways to attract the qualified immigrants that competitive firms and national economies will need.* And while the overwhelming majority of the talent the truly competitive economies will need then will once again have to be home grown — suggesting the need for radical reforms in the way countries educate, train, and retrain their nationals — immigrants will be even more important than they are today in rounding out the skills mismatches and age and locational gaps that demography will exacerbate.

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[85] The University of Illinois at Urbana-Champaign experienced a 30 percent decline in applications after 9/11. Sakina Sadat Hussein, "Schools Fight Drop in Foreign Students", *MSNBC,* August 6, 2006, http://www.msnbc.msn.com/id/14034413.

[86] B. Lindsay Lowell, Micah Bump, and Susan Martin, *Foreign Students Coming to America: The Impact of Policy, Procedures, and Economic Competition* (Washington, DC: Institute for the Study of International Migration, Georgetown University, 2008).

While none of this will be easy, it also need not be unnecessarily painful. Bringing student and worker preparation systems together with thoughtful immigrant-selection processes that emphasize the importance of using well and adding value to the human capital skilled immigrants bring — and focusing on building up the qualities that make for better integrated if diverse societies — is both a worthwhile and an essential enterprise. And it helps a great deal to understand and act upon the knowledge that in pursuing these worthwhile goals in a coherent and systematic way, the interests of the three protagonists in the global market for talent — business, governments, and skilled and highly skilled individuals — are in most cases closely aligned.

Business and government share the goal of developing an economy of highly skilled workers, both native and foreign-born. Business and well-qualified individuals share an interest in taking advantage of the physical and human capital infrastructure that competitive firms and dynamic societies create to maximize the return on their investment and human capital respectively. Government policymakers and foreign-born workers both want to maximize the potential for the successful economic and social integration of the latter into the host country. With the connection between effective integration and economic outcomes now well established, and more governments building integration criteria into their immigrant selection systems, the dividends will be seen in maximizing the returns of the human capital immigrants bring both for the society and for the immigrants themselves

In closing, and with an eye to the future, it may be worth emphasizing again two points that have been made already but may need reinforcing. The skilled and highly skilled migration "game" is extremely dynamic. More and more players are entering it every year and all but one of the veteran players[87] are deeply committed to constant innovation and adaptation. So, what does the future portend?

Two observations may be worth making in that regard. The first is the more provocative, by far, and posits that in the next decade or two, *the hunt for world-class talent will no longer be the near-exclusive domain of the most developed states*. The "new player" will be one that is already trying to compete in keeping or reclaiming its own talent, as well as in attracting talent from elsewhere: Asia. *Led by but not limited to* China and India, Asia may raise the bar of competition with North America and the European Union for skilled and highly skilled workers to levels unimagined today. The ground for this to occur has been well prepared. A systematic effort to facilitate and sustain migration flows within Asia has been underway for a while now. And in recent years, noticeable numbers of American, British and Australian professionals have migrated to Asia, in particular to Singapore and Hong Kong, where employment and career prospects are good and salaries are similar to those offered in OECD countries.[88]

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[87] The United States is the lone exception and as a result has a deeply dysfunctional system with sclerotic procedures — and yet continues to find ways to remain the most attractive destination for most immigrants regardless of skills while receiving the overwhelming plurality of all skilled and highly skilled workers.
[88] Graeme Hugo, "Trends In Asia That Will Influence Its Future As A Source Of Skilled Migrants," *Diversity Canada*, 6, No.3 (2008): 41-47.

The second observation is already very much in evidence but, other things being equal,[89] we expect it to grow enormously in size and importance in the next two decades: *investments by and the return migration of talented diasporas are likely to grow mightily.* As discussed earlier, China has been extremely active in wooing its more successful nationals to return by establishing job centers for returning Chinese students, changing its laws, and offering well-qualified returnees enticements such as access to excellent laboratories and membership in elite academic circles. China's entry into the World Trade Organization in 2001 has also encouraged many of the most competitive global corporations to set up foreign operations in China, and large numbers already have done so — thus creating another attraction pole for high-quality talent in the region. A similar narrative applies to India where the government has introduced policies to facilitate the recruitment of IT professionals across the world and to engage its diaspora in helping to move its economy forward.

These developments beg the question whether today's most developed countries will have to compete with many of today's emerging and middle-income countries for global talent in the next decade or two? Once more, other things being equal, the answer is a resounding "yes."

[89] The reference is to two partially intertwined uncertainties: the depth and length of the economic downturn and the political stability of China and the Southeast Asia region.

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