

Overview

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I am afraid I am going to take us back away from central bank issues, possibly in a fashion too dramatic for many people here.

I assumed when I was asked to speak at a closing session that what would be appropriate would be an elegant summary with some thoughtful, new insights. But for two reasons I decided not to do that. One is that I felt wholly inadequate to the task, particularly in this community, being myself no expert on the issues with which the central banking community typically grapples. Second, I wanted to exploit the opportunity to bring you the perspective of a development economist concerned with poverty and inequality in the poorest countries in the world. I come from an institution that assesses the implications of the global system and of rich-country policies on the prospects for sustained economic growth in the developing world. So, today I want to consider some implications of aging in the advanced economies, and the policy responses aging is likely to provoke in the United States and other advanced economies, on the poorest countries.

I will focus on one particular risk to the poorest countries, namely the increasing loss of people with exceptional talent and skills—due to the combined pressures of the worldwide aging phenomenon and

the increasingly global nature of the labor market in highly skilled people. I'll explain the risk in two parts: First that the past trend of divergence in per capita income between rich and poor countries implies a growing global imbalance between where the world's workers are and where the world's wealth and productive capacity is; and, second, that that imbalance will exacerbate from both the demand and supply sides the tendency for emigration from poor countries of skilled people, with potentially high costs to those countries' own growth prospects.

Lant Pritchett labeled as "divergence big time" the growing gap in average per capita income levels between the world's richest and poorest countries. The ratio of average income of the five richest countries in the world in 1900 to the five or 10 poorest countries in the world then was about 9 to 1 in purchasing power parity terms. By 1960, it was 30 to 1, and it is now an estimated 100 to 1. The main reason for increasing divergence is that a large number of countries that were poor in 1960 have grown much more slowly or have hardly grown at all in per capita terms. They are concentrated in sub-Saharan Africa and south and central Asia.

Of course, it is not true that all countries that were poor in 1960 have failed to grow. Stan Fischer has made the point, as have others, that at the global level with rapid growth in China and India, both of which are still today classified as "low-income" by the World Bank, global inequality measured across people is coming down. I am making a different point, which is not inconsistent, namely that there are a large number of very poor countries, whose populations total almost 1 billion and are still growing rapidly, where economic growth is barely keeping up with population growth. Between them and the richest countries, there is not convergence.

Lack of convergence is perfectly consistent with economic modeling of the notion of "conditional" convergence—that is, convergence as long as poorer countries have adequate economic management policies, healthy institutions, and a minimum level of human capital,

property rights, rule of law, and so on. Recent economic analyses of the determinants of economic growth in the developing world suggest that these “conditions” that seem to be prerequisites of growth do not exist and are difficult to “produce” in many of the currently poorest countries. Even good economic policy, though no doubt necessary, seems far from sufficient to ensure growth. In many low-income countries, especially in Africa but elsewhere as well, a decade of reasonably sound macroeconomic policy under the tutelage of the IMF has not triggered the rapid growth that China and India now enjoy. These tend to be countries with some lethal combination of poor access to global markets and other geographic handicaps, high disease burdens, heavy dependence on primary commodity exports, high debt levels, and/or a history of internal conflict, corruption, political instability, and neighboring country difficulties—which combined with initial low household income inhibit private savings and investment.

A fundamental constraint in countries that have failed at growth seems to be the weakness of political and economic institutions that provide the ballast for healthy growth, and in a vicious circle, the difficulty of creating and sustaining such institutions in settings that start with certain handicaps. Table 1 shows the close association (though not necessarily the causality I have suggested) between average country income and some widely used and reasonably good summary measures of institutional capacity, which reflect such indicators as enforcement of property rights, level of corruption, economic management and so on.

What does continuing divergence of incomes imply for the future, taking into account demographic change in different settings as well as possible paths of income growth? Chart 1 shows for various country groups per capita income and size of working-age populations in 2050 compared to 2000, assuming average total income growth over the 50-year period for the different groups is the sum of the projected average annual growth of their working-age populations over the period (a far more certain projection than that for economic

Table 1
Measures of Institutional Performance/Quality in 2000 and 2050 by Country/Group

	Institutional measures	
	KKZ index ¹	ICRG index ²
	(a higher score indicates better performance)	
	2000	2000
USA	1.4	82
Other OECD ³	1.5	83
China	-0.3	74
India	-0.2	62
Middle income	-0.1	68
Low income	-0.8	56

Notes:

¹The KKZ index ranges from -2.5 to +2.5 where a higher score indicates better governance outcomes. The index shown here is the group average of six equally weighted components, voice-accountability, political stability, government effectiveness, regulatory quality, rule of law, and control of corruption.

²The ICRG index is based on 22 risk components and ranges from 0-100 where 0=highest risk and 100=lowest risk.

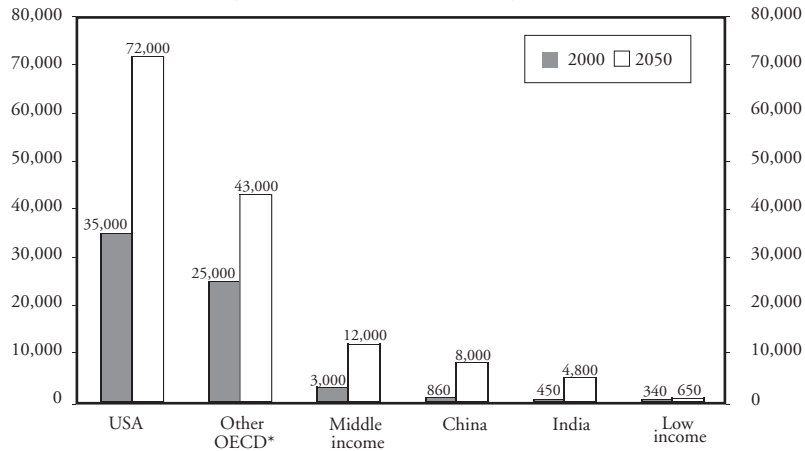
³Other OECD excludes the U.S., Mexico, and Korea.

Source: U.S. Census Bureau International Database; Kaufmann, Kraay, and Zoido-Lobaton (2002) "Governance Matters II: Updated Indicators for 2000-2001;" World Bank Policy Research Department Working Paper 2772; World Development Indicators 2004; and PRS Group monthly International Country Risk Guide

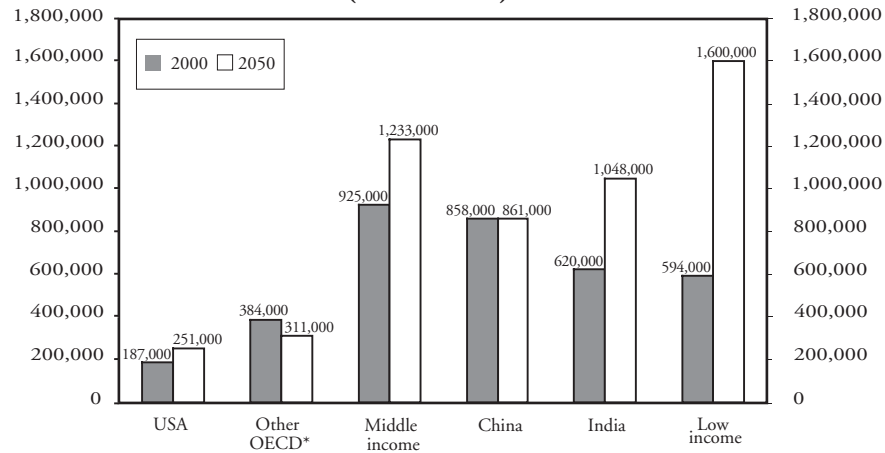
growth) and a productivity factor. The latter (set out in detail in the notes to the chart) is assumed to be an annual 1 percent for low-income countries, and 1.7 and 1.4 percent respectively for the United States and other OECD countries. Thus, the assumption of divergence is built in (though divergence is less than it would be since in the low-income countries the growth of the working-age population relative to total population is much faster than in any other group).

Under these assumptions, income per capita in the advanced economies would be in the range of \$40,000 to \$70,000 in 2050, compared with about \$650 per capita in today's low-income countries. The ratio of income would still be about 100 to 1, but, of course, in absolute terms the difference would be much larger—which could matter for some so-called positional goods in global

Chart 1
Per Capita GDP in 2000 and 2050 by Country/Group
(Current U.S. Dollars)



Working-Age Population in 2000 and 2050 by Country/Group
(Thousands)



Notes: *Other OECD excludes the U.S., Mexico, and Korea. The total, average GDP growth rates for 2000-2050 used to obtain 2050 GDP projections for other OECD, the U.S., low-income countries are based on growth of working-age population plus rough guess at productivity growth, biased toward total GDP growth in round numbers. Total average, real GDP growth rates 2000-2050 for China, India, and middle-income countries (Brazil) are from Goldman Sachs (2003) and allow for real exchange rate appreciation over the period. The assumed total GDP growth rates 2000-2050 are 1 percent, 2.3 percent, 4.9 percent, 5.8 percent, 3.7 percent, 3 percent respectively for other OECD, the U.S., China, India, middle income, and low-income countries. The group definitions follow countries' income classification in 2000 and the working-age population is defined as 15-64-year-olds.

Source: World Development Indicators 2004, U.S. Census Bureau International Database, Goldman Sachs (2003) and author's calculations

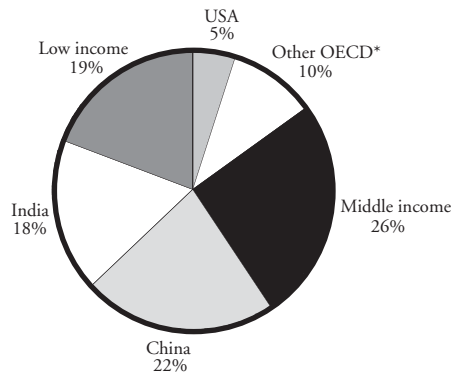
markets, and would obviously matter for the already globalized market for certain kinds of skilled labor.

Chart 2 illustrates the outcome of these projections and assumptions in terms of population and income shares in 2000 and 2050. We now have in the United States and the OECD 80 percent of world income and 15 percent of world population, a ratio of more than 5 to 1. Low-income countries, excluding China and India, now have 1 percent of world income and almost 20 percent of world population, a ratio of about 0.05 to 1—100 times smaller. In 2050 they could have almost 30 percent of the world's population and just 2 percent of world income.

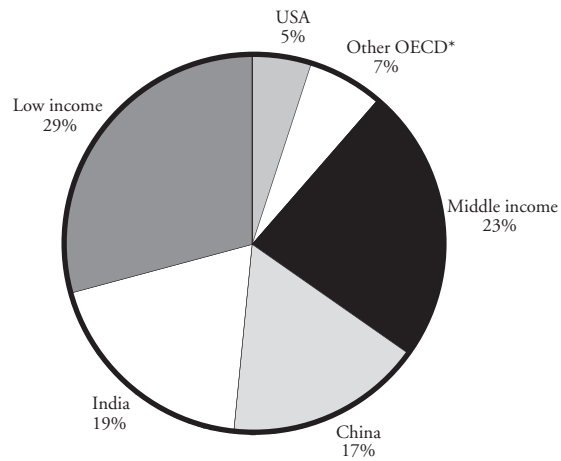
By 2050 the rich countries will have much of the world's wealth but dramatically few of the world's workers. In 2050 the United States and the other OECD countries, excluding Mexico and Korea, will have about 550 million people of working age and all the low- and middle-income countries, including China and India, more than 4.5 billion. The slower-growing low-income countries alone, excluding China and India, will have about 1.6 billion people of working age. Over that period, everywhere except in those low-income countries and in India there will be declines in the shares of the working-age group in total populations, and everywhere including in the poorest countries there will have been at least a doubling of the shares of populations over 65.

In short, wage and income differences between the richest and poorest countries (and indeed as Chart 1 suggests between the richest and all the other country groups) will be greater than they are today and will be combined with fiscal and other pressures associated with "aging" everywhere generating considerable demands for movement of workers from poorer to richer countries. Wealth and productivity will be concentrated in one set of countries, and to a large extent, the world's worker in another set. Indeed, cross-country economic analysis suggests an association between country level measures of productivity and the share of the labor force age 40 to 49. Chart 3

Chart 2
Shares of World Population in 2000
(Percent)



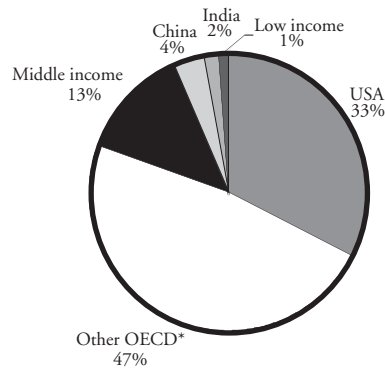
Shares of World Population in 2050
(Percent, projected)



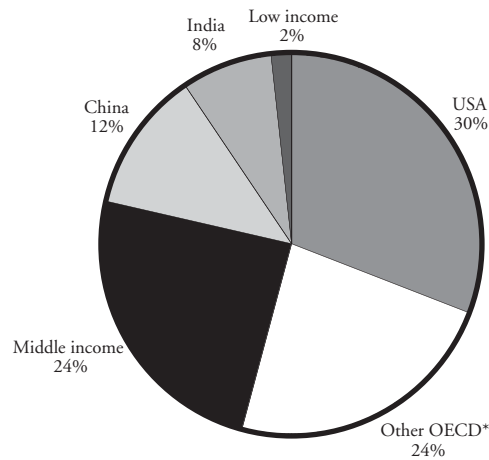
Notes: *Other OECD excludes the U.S., Mexico, and Korea. The group definitions follow countries' income classification in 2000. For example, the countries included in the low-income group were classified as low income in 2000 (per capita GDP of less than US\$765 in 2000).

Source: U.S. Census Bureau International Database

**Chart 2 (cont.)
Shares of World GDP in 2000
(Percent)**



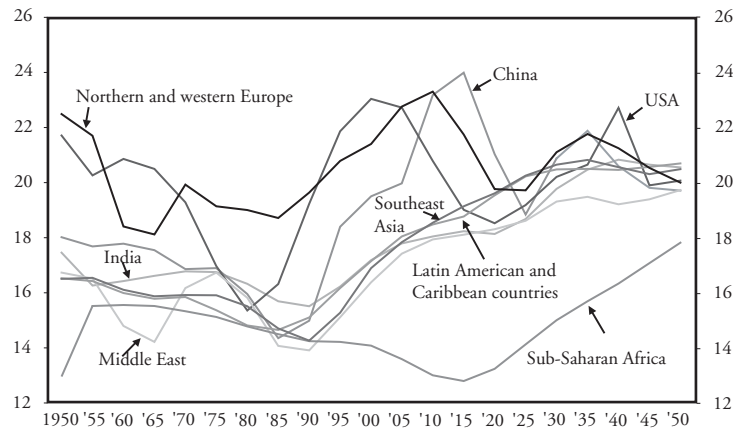
**Shares of World GDP in 2050
(Percent, projected)**



Notes: *Other OECD excludes the U.S., Mexico, and Korea. The total, average GDP growth rates for 2000-2050 used to obtain 2050 GDP projections for other OECD, the U.S., low-income countries and low-income sub-Saharan Africa are based on growth of working-age population plus rough guess at productivity growth, biased toward total GDP growth in round numbers. Total average, real GDP growth rates 2000-2050 for China, India, and middle-income countries (Brazil) are from Goldman Sachs (2003) and allow for real exchange rate appreciation over the period. The assumed total GDP growth rates 2000-2050 are 1 percent, 2.3 percent, 4.9 percent, 5.8 percent, 3.7 percent, 3 percent respectively for other OECD, the U.S., China, India, middle-income, and low-income countries. The group definitions follow countries' income classification in 2000.

Source: World Development Indicators 2004, U.S. Census Bureau International Database, Goldman Sachs (2003), and author's calculations

Chart 3
Share of Labor Force Age 40-49 by Region/Country
over the Period 1950-2050 (Percent)



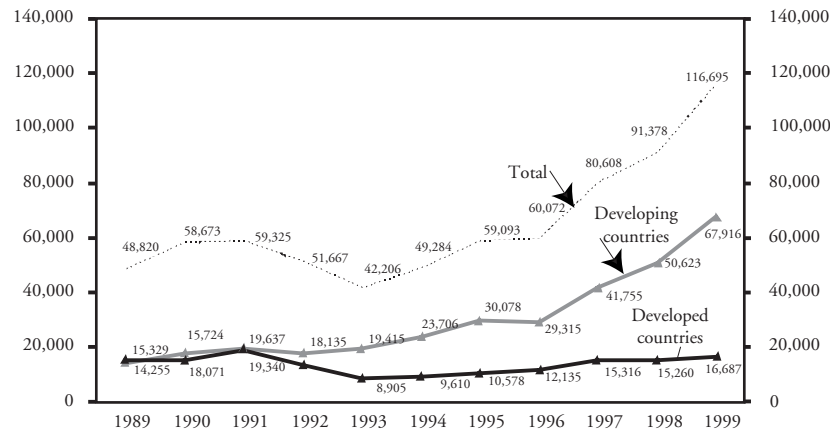
Notes: The labor force is defined as 15-64 years old. The numbers are projections from 2002 onward.

Source: United Nations Population Division, *World Population Prospects: The 2002 Revision Population Database*

drives home the point about future likely imbalances in productivity related to demographic shifts—except in China, the share of the total working-age population age 40 to 49 will remain smaller for the next half-century everywhere than it is today in the OECD economies.

Let me go to the second part of the argument. What are the implications of rich-country aging combined with these imbalances for future trends in the international mobility of skilled workers? It is fair to assume that the pressures associated with aging will lead OECD countries to reinforce current immigration policies that already are designed to attract skilled workers. General equilibrium models of the potential for immigration to relieve the fiscal and other pressures of aging in the advanced economies suggest minimal benefit from greater immigration of unskilled workers (for example, Kotlikoff and others), and/or measurable benefits only with increases in rates of immigration that are unlikely to be politically acceptable. On the other hand, that is not the case for skilled workers (whose lifetime tax payments are likely to exceed their lifetime fiscal “costs”).

Chart 4
Total H-1 Visas Issued and Number of H-1 Visas Issued to
Developed and Developing Countries, 1989-1999



Note: The developing country group includes India, China, the Philippines, Mexico, and Russia.

Source: Lowell (2000) "H-1B Temporary Workers: Estimating the Population," CCIS Working Paper 12, Washington, D.C.: The Center for Comparative Immigration Studies

Chart 4 shows that, in fact, there is an increasing trend in issuance by the United States of the special H-1 visas granted skilled foreign workers. Not surprisingly, given not only large wage differences across countries but the greater specialization (scale and agglomeration economies) and intangible benefits of working in a more competitive and productive environment, the demand is easily met by an adequate supply. In fact, the supply is assuredly much greater than the legally constrained "demand." Table 2 provides a comparison of the proportion of U.S. immigrants from various countries with tertiary education, relative to the proportions of people in their sending countries with tertiary education. Consider the (extreme) case of Nigeria. Eighty-three percent of Nigerians in the United States have tertiary education, compared with 4 percent of Nigerians in Nigeria. Table 3 shows that for almost all developing countries, rates of emigration of skilled workers are increasing. The best-known example is the increasing trend of emigration of nurses from English-speaking Africa, even as that continent suffers the AIDS pandemic; the resulting furore has led the UK and several other countries to pledge to halt

Table 2
Share of Foreign-Born Population with Tertiary Education
in the U.S. and Share of Source Country Population
with Tertiary Education in 2000

Country of birth	USA (percent)	Source country (percent)
Mexico	14	20
Philippines	73	31
India	80	11
China	54	13
El Salvador	17	17
Dominican Republic	29	23
Jamaica	45	16
Colombia	46	23
Guatemala	20	8
Peru	53	26
Pakistan	67	4
Brazil	55	16
Nigeria	83	4
Egypt	78	37
Bangladesh	62	6
Turkey	58	24
Indonesia	75	14
Armenia	51	24
Croatia	41	34
Albania	38	15
Morocco	65	10
Sri Lanka	72	5
Sudan	63	7
Tunisia	64	21

Notes: Numbers are for population age 25 years and over. Tertiary education corresponds to more than 12 years of schooling.

Source: Kapur and McHale (forthcoming), *Sharing the Spoils: International Human Capital Flows and Developing Countries*, Washington, D.C.: Center for Global Development, who cite Census 2000, U.S. Census Bureau, Adams (2003), and World Development Indicators 2004

Table 3
Absent Human Capital
Emigration Rates to the U.S. for High-Skilled Workers
25 and Older in 1990 and 2000¹

Country of birth	Percent of domestic population (source country)		Change (percent) 1990-2000
	1990	2000	
Mexico	10.3	14.2	38
Philippines	6.6	10.5	59
India	1.1	2.7	145
China	1.4	2.2	57
El Salvador	26.1	28.3	8
Dominican Republic	14.2	19.9	40
Jamaica	67.5	78.6	16
Colombia	5.6	9.0	61
Guatemala	13.5	20.5	52
Peru	3.0	4.0	33
Pakistan	2.4	6.0	150
Brazil	0.6	1.1	83
Egypt	2.5	2.2	-12
Bangladesh	0.6	2.2	267
Turkey	1.5	1.3	-13
Indonesia	1.4	0.7	-50
Sri Lanka	3.8	5.3	39
Sudan	1.8	3.3	83
Tunisia	1.6	1.3	-19

¹High-skilled workers are defined as those with tertiary education. The emigration rate is computed as the number of tertiary emigrants divided by the sum of tertiary emigrants and workers in the source country with tertiary education.

Source: Kapur and McHale (forthcoming), *Sharing the Spoils: International Human Capital Flows and Developing Countries*, Washington, D.C.: Center for Global Development, who cite Carrington and Detragiache (1998) for 1990 numbers and Adams (2003) for 2000 numbers

the “poaching” of nurses (with signing bonuses and so on) for their public sector health services (though this has not halted the recruitment by private health services).

Why does this matter for these poor countries? There are potential-benefits—remittances and the possibility of return migration with

enriched human capital and return investments by emigrants. But there are also high costs. In addition to the fiscal losses associated with the sending countries' (often publicly financed) investment in these emigrants' education, and the loss of a critical input to growth, human capital, there is a less tangible but potentially critical loss to the low-income countries. That is the lost positive externalities—the spillover effects—that are critical to building the local institutions that are in turn so central to sustained economic growth. If we believe that initial stages of institution-building require a critical mass of innovative, skilled people, then countries like Nigeria can ill afford this loss.

Rates of emigration of unskilled workers are also bound to increase as wage differences continue to grow and given employer demands in the more rapidly aging economies. But because the population base from which such workers come in the poorest countries is so huge, and the political tolerance for their entry into the rich countries is ultimately limited, any positive effect on wage levels and other economic variables in the sending countries will be marginal.

What about remittances? Table 4 shows the use of remittances by Bangladeshi households. It is not obvious that remittance income is used differently by poor households than is their non-remittance income. Relatively little goes to productive investment or to savings that are likely to be intermediated. A more fundamental problem is that in countries where there is not much incentive to invest—whether because of poor policies, lack of property rights, or political instability, remittances are not likely to affect growth trajectories (though they certainly do increase recipients' welfare).

Is there any policy implication at all? None of what I have set out is meant to suggest that restricting the mobility of people—either by sending or receiving countries—would be a good thing to do at the global level (though it is notable that we are much quicker to see the violation of individual rights in restricting emigration than in restricting immigration). From a narrow economic point of view, and in

Table 4
Bangladesh: Use of Remittances Sent from Abroad 1998-2000

Use	Share of total remittances (percent)
Food and clothes	20.45
Home construction/repair	15.02
Agricultural land purchase	11.24
Repayment of loan (for migration)	10.55
Social ceremonies	9.07
Sending family member abroad	7.19
Investment in business	4.76
Repayment of loan (other purpose)	3.47
Medical treatment	3.22
Savings/fixd deposit	3.07
Child education	2.75
Release of mortgaged land	2.24
Taking out a mortgage to purchase land	1.99
Other	1.14
Homestead land purchase	0.96
Gift/donations to relatives	0.94
Send relatives for pilgrimage	0.92
Furniture	0.69
Insurance	0.33
Total	100

Note: Study based on interviews with 100 households in two villages, Tangail and Chittagong.

Source: Abrar and Siddiqui (2003), "Migrant Worker Remittances and Micro-Finance in Bangladesh," Working Paper 38, Social Finance Program, International Labor Organization

terms of rights defined solely at the individual level, it is full liberalization of the global labor market that would be ideal. Nor do I mean to suggest that reducing emigration of skilled people from poor countries would solve those countries' growth problems. Indeed, the additional burden on currently poor countries that is likely to arise because of aging-induced immigration policy in the rich countries will be small compared with the shortcomings associated with their own weak policy and institutional problems. The fate of those countries is, in the end, mostly in their own hands.

On the other hand, it is also true that if rich countries were to liberalize their markets in this domain, as they have in goods, services, and capital, many more millions of people would leave poor countries and human welfare at the global level would probably be greater—even taking into account the disruption to communities and losses of well-being broadly conceived to which John Helliwell refers so well. And some of the low-income countries might have some greater probability of accumulating and retaining the critical mass of skills that could trigger a growth spurt that might then be sustained.

Still, between ignoring the dilemma at the global level and the impractical ideal, there are, in fact, reasonable steps the increasingly richer (and older) receiving countries can take to minimize the risks to their poorer neighbors. These include compensation through bilateral agreements for sharing of tax revenues; policies to encourage temporary return to their home countries of skilled workers without loss of residency rights, so as to encourage greater return investments; increases in temporary immigration of both skilled and unskilled; and, as mentioned by David Canning, other arrangements that would shift the global community from quantitative restrictions to less distortionary “pricing,” analogous to the shift from quotas to tariffs in trade regimes.

I realize even these proposals amount to a call for unusually enlightened, far-sighted, and some would say impossibly altruistic policy decisions in the United States and the other advanced economies. I regret adding my own policy pessimism to that of the last couple of days here, regarding the possibility of the kinds of reforms that would ease adjustments to aging—by in this case suggesting that one possible adjustment mechanism for the better-off countries, greater immigration of skilled people, may have its own costs for the worse-off countries and more generally at the global level (assuming we all care in some measure about a divided unequal world).

So instead, let me end on a happy note. Let me predict that a decade hence, the next time the Kansas City Federal Reserve Bank addresses the global implications of some phenomenon, you will be welcoming

some central bankers from such places as Tajikistan, Malawi, Cambodia, and Senegal, as well as from India, Turkey, and Brazil, to the non-pecuniary benefits of engagement (which John Helliwell also described so well) into this banking community. That will be a healthy step toward a better as well as a more globalized world.