Rebalancing Act: Global Imbalances in a Changing World

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In June 2006 when the Federal Reserve Bank of Boston conference on global imbalances took place, the world had been confronting unusually large current account imbalances for so long that international policymakers had almost stopped warning that these misalignments represented a major risk to the world economic outlook. Almost—but not completely. To avoid accusations of crying wolf, many analysts were continuing to include disruptive-adjustment scenarios involving sharp dollar depreciation, financial market crises, and global slowdowns in their published forecasts. But they had begun placing these warnings in boxes, outside the main text, where the reader could easily ignore these alternative scenarios. Today, while somewhat reduced and overshadowed by the (not unrelated) U.S. house price correction and its repercussions, these imbalances are still with us.[1]

How big a threat do these imbalances actually represent to the global economy? And how did these imbalances develop—with the United States, on one side, accounting for the bulk of the global deficit and a more variable group—currently China, Japan, Germany, and a collection of oil-exporting nations—accounting for the bulk of the global surplus, as shown in Figure 1.1? This state of affairs means that the United States has consumed more than it has produced and invested more than it has saved since 1991—a situation that has lasted well over 15 years. Equivalently, our trading partners, some of whom are very poor on a per capita basis, have willingly lent us, a wealthy country, the funds needed to import the resources to fill the gap—now equal to about 5 percent of our GDP, as illustrated in Figure 1.2. If the United

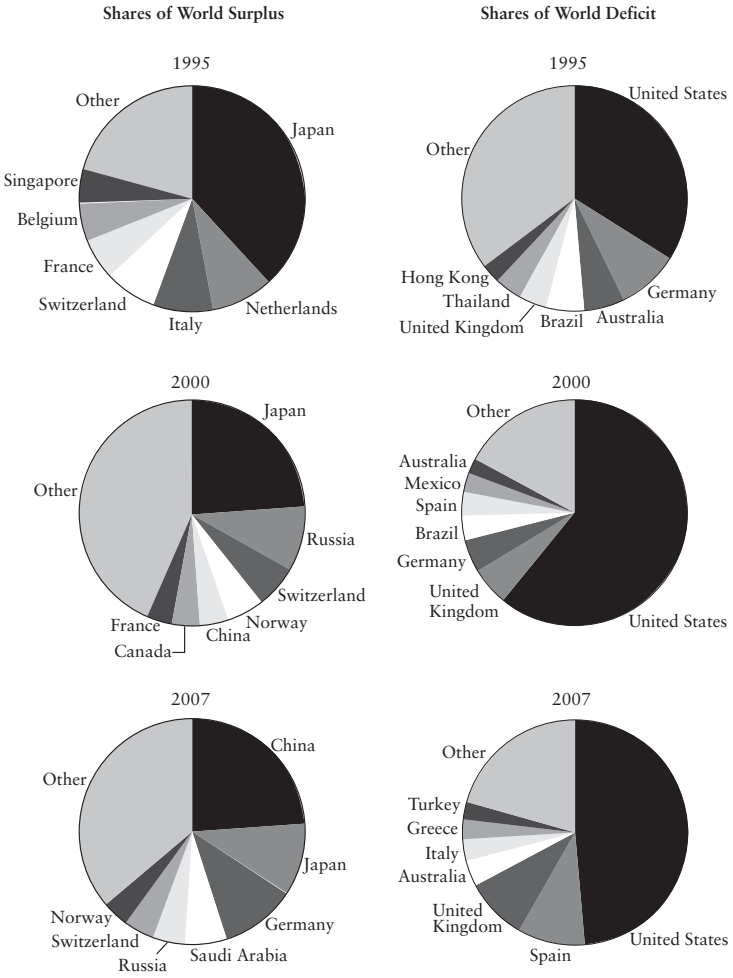

Figure 1.1
Global Current Account Imbalances, 1995, 2000, and 2007
Source: IMF *World Economic Outlook Database,* April 2008.
Note: Some 2007 data are IMF estimates.

States were a developing country, such behavior would have triggered a crisis long ago. But, of course, the United States is not a developing country.

In assigning blame, foreign policymakers tend to highlight American policy "mistakes" as having led to a decline in public and household saving rates in this country, while U.S. policymakers tend to point to Asian countries' "ill-advised" decision to manage their currencies in terms of the dollar. Such a dollar peg has led, they claim, to too much production with too little domestic consumption—a global savings glut, in other words, although some observers interpret this imbalance as a surplus-country investment dearth instead.

But cyclical imbalances are generally short-lived, and policy mistakes are usually quickly punished. By contrast, persistent imbalances may reflect something more fundamental than short-run policy errors. Indeed, such enduring imbalances may more likely reflect a major structural shift in the distribution of the world's resources associated with the arrival

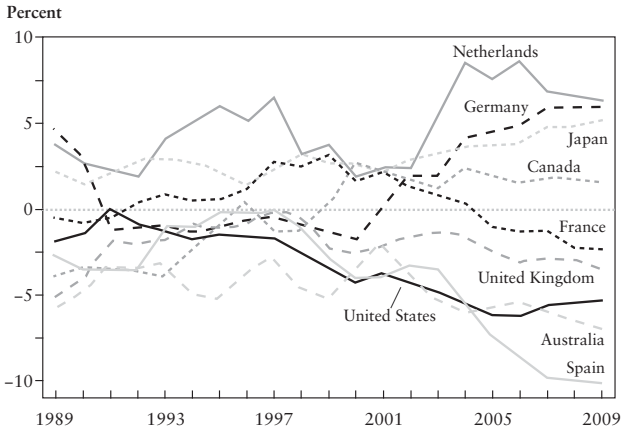

Figure 1.2
Current Account Balances as a Percent of GDP, Selected OECD Countries, 1989–2009
Source: OECD *Economic Outlook 82 Database.*
Note: 2008 and 2009 data are OECD projections.

of the new giants—China, of course, but also India and the ex-Soviet bloc countries—as key players in the global economy. In particular, the recent addition of hundreds of millions of Chinese and Indian workers to the globally active labor force represents a significant re-weighting of world labor markets. In addition, now Japan and Germany (and in a few decades, China) are stepping into an unprecedented demographic future of secular population decline. In scope and significance, these global resource shifts are not unlike the flows of capital and labor that accompanied the European migrations to the New World and the colonization of India and other regions in earlier periods. (See the following brief essay in this section for a discussion of the economic importance of the emerging giants.)

But in contrast with these previous episodes, this time around the capital flows are heading the "wrong way"—from fast-growing developing countries, where returns on investment would presumably be high, to mature wealthy countries. Is this situation sustainable? Simply stabilizing the U.S. current account deficit at its present level relative to GDP would require foreign investors to add U.S. assets worth about 5 percent of U.S. GDP to their portfolios year after year—an uncertain proposition.[2] But if these imbalances do turn out to be sustainable, is that outcome desirable? If not, will adjustment occur smoothly or in response to a crisis? How concerned should policymakers be? Opinions run the gamut from Apocalypse Now to Panglossian equanimity. What are the potential policy implications of these various scenarios?

In response to these puzzles and concerns, the Federal Reserve Bank of Boston organized a conference titled "Global Imbalances—as Giants Evolve," held in June 2006. Our hope in gathering academics, financial market participants, and policymakers from around the globe was to gain a better understanding of the fundamentals explaining these imbalances and to identify policy responses that might help ease the way to a smooth adjustment. This essay summarizes the conference presentations and discussions, some of which have been updated to take into account the potentially epochal events that have occurred since the conference was held two years ago.

Déjà Vu?

Does history hold any lessons for the contemporary world economy? A wave of international activity between 1870 and 1913, often characterized as the "First Globalization," represents an earlier time when technological, economic, and political developments suddenly provided improved global access to previously untapped resources and the incentive to take advantage of them. The resulting flows of capital and people led to very persistent current account imbalances lasting through much of the period, a condition which offers some possible parallels to today's situation.

Beginning in the nineteenth century, improvements in shipping and communications technology and widespread adoption of the gold standard led to a surge in international migration, trade, and investment through the world's first truly global markets.[3] Steam replaced sail, the telegraph arrived in the 1830s, the first transoceanic cable was laid in 1866, and the Suez Canal opened in 1869. Driven by poverty, famine, religious persecution, and failed revolutions, the stream of people from the European core to sparsely populated British offshoots in North America, Australia, and New Zealand became a flood as 55 million people, one-quarter of the European population in 1850, emigrated between 1815 and 1924;[4] 60 percent of the migrants landed in the United States. Capital followed them to the New World, while investment in densely populated Asia accelerated as well. Throughout this period, Britain, the banker—and venture capitalist—to the world, ran a current account surplus that peaked at 9 percent of GDP. Britain was able to run this current account surplus despite a persistent trade deficit because it enjoyed significant income from massive foreign assets distributed throughout the empire. By contrast, the offshoot countries, settled largely by European immigrants and their offspring, ran persistent current account deficits. The United States recorded a current account deficit for most years between 1850 and 1890 as interest payments on its foreign debt more than offset a small trade surplus based on its shipping services. In other words, net flows of investment income played a key role in sustaining these long-term imbalances.

In Britain's case, its net investment earnings reflected both its large net asset position[5] and the gap between the interest it earned on those

THE ECONOMIC IMPORTANCE OF THE EMERGING GIANTS

by Selva Bahar Baziki

By what criteria does one measure an emerging giant? Or determine which countries deserve that title? Everyone agrees that, by almost any measure, mainland China tops the list. But at the Boston Fed conference, Shankar Acharya and Richard Cooper argued that India should not be clubbed with China as a giant because India is less globally engaged and contributes little to current payments imbalances. In contrast, Surjit Bhalla sees India as "China with a 5- to 10-year lag." Other candidate giants—Brazil, Russia, and the entire regions encompassed by Africa and Eastern Europe—drew only occasional mention. Clearly, the economic concept of what constitutes an "emerging giant" has many dimensions, a few of which are discussed below and illustrated in the accompanying tables.

China and India are, respectively, the world's first- and second-largest countries by population size, second- and seventh-largest by land area, and third- and eleventh-largest by economic size measured at market exchange rates. In terms of purchasing power parity (PPP) exchange rates, which equalize the price of a common basket of goods across countries and put more weight on the portion of the basket that is not traded internationally, in 2005 China's economy ranked second in the world, and India ranked fourth. Together, both countries account for more than 7 percent of the world's GDP. Each country, but China more than India, is a driver of the global economy: over the course of roughly 10 years since 1995, China's annual real GDP growth averaged 9.1 percent, contributing 12.8 percent to world output growth over that time span. India's average for the same period was 6.1 percent, and its contribution was a relatively modest 3.2 percent. In 2005 alone, Chinese GDP grew by 10 percent, and India's by 9 percent. Such rates are comparable to those of postwar Japan in the 1960s and South Korea in the 1980s. Although the growth rates in China and India are projected to decelerate, as both become increasingly prominent global players, their contribution to world output growth is forecasted to expand over the next 15 years.

Despite their already impressive economic size, China and India still fall well below the world average in terms of GDP per capita. In 2006, China's per capita GDP was $1,598, while India's was $634—roughly 25 percent and 10 percent, respectively, of the world average of $5,792 at market exchange rates. Using PPP exchange rates, which on the whole provide a better gauge of relative living standards than do the market-exchange-rate numbers, China's 2006 per capita income measures $4,500—almost 50 percent of the world average; at $2,393, India's was just over 25 percent.

To a degree, these low per capita incomes reflect these countries' histories of rapid

Table 1 – GDP in Six Selected Countries[1]
2004

	Share of World GDP*		Average Annual Real Growth Rate		Average Contribution to World Growth	
Percent	2004	2020	1995–2004	2005–20	1995–2004	2005–20
China	4.7	7.9	9.1	6.6	12.8	15.8
India	1.7	2.4	6.1	5.5	3.2	4.1
United States	28.4	28.5	3.3	3.2	33.1	28.6
Japan	11.2	8.8	1.2	1.6	5.3	4.6
Germany	6.6	5.4	1.5	1.9	3.0	3.3
Brazil	1.5	1.5	2.4	3.6	1.5	1.7
World	100.0	100.0	3.0	3.2	100.0	100.0

[1]Table data comes from the World Bank *World Development Indicators.*

population growth. But fertility rates have come down in both countries, with the Chinese rate now below 2 births per woman, compared to the 3.6 average for the 1960–2005 period; India's rate is now 2.5 births per woman, compared to the 4.4 average for the 1960–2005 period. Population growth in both countries is currently stable at 0.6 percent a year in China, and 1.4 percent a year in India. The World Bank estimates that China's population will peak in 2032 at 1.5 billion people. Owing to its higher fertility rate, India will surpass China as the most populous country before 2032 and will reach 1.8 billion people by 2050.

With their populations stabilizing, rapid economic growth and capital deepening have allowed China's and India's still-low per capital incomes to rise rapidly in recent years. With per capita incomes up 58 percent in China and 30 percent in India between 1990 and 2000, these countries have become magnets for foreign direct investment intended to serve their growing middle classes as well as to expand their thriving export base. In 2006, China plus Hong Kong attracted 9 percent of direct investment flows—ranking a close third after the United States (13 percent) and the United Kingdom (10 percent). Considering developing countries alone, Russia, Brazil and India ranked second, sixth, and seventh, respectively.

Other important indicators of emerging giant status would have to include the supply of skilled and unskilled workers; the size of the domestic financial markets; the share of world trade, world payments imbalances, and official foreign exchange reserves; and demand for natural resources, like oil and coal, and the resulting contribution to carbon emissions and global warming. Obviously the list goes on and on, and many of these additional considerations were discussed during the conference.

Finally, as Stephen Bosworth notes, it may be good to consider how growing economic integration within East Asia or all of Asia—or among China, India, and Russia—is likely to have a multiplicative effect. Ideally, such integration will be politically stabilizing, but it will also clearly magnify the growing economic impact of these emerging giants.

Table 2 – Main Indicators[2]
2006

2000 USD, unless stated otherwise	United States	EMU	Japan	China	India	World
Real GDP – trillions	11.3	6.9	5.1	2.1	0.7	37.9
Real GDP – rank	1		3	3	11	—
Real GDP – share of world	29.9%	18.2%	13.4%	5.5%	1.9%	—
Real GDP Growth YoY	2.9%	2.7%	2.2%	10.7%	9.2%	3.8%
GDP PPP[3] – trillions	12.8	9.6	4.0	5.9	2.6	58.6
GDP PPP – rank	1		3	2	4	—
GDP per capita	37,791	21,746	39,824	1,598	634	5,792
GDP per capita – rank	4		3	102	131	
GDP per capita PPP	42,610	30,216	30,961	4,500	2,393	8,969
GDP per capita PPP – rank	5		22	101	123	
Population – millions	299	317	128	1,312	1,110	6,538
Population – rank	3		10	1	2	—
Population growth rate	1.0%	0.5%	0.0%	0.6%	1.4%	1.2%
Fertility Rate[4]	2.1	1.5	1.3	1.8	2.5	2.5
Land Area – rank	3		61	2	7	—

[2]Data sources are the World Bank *World Development Indicators,* Organisation for Economic Co-Operation and Development, International Monetary Fund *International Financial Statistics.*
[3]All PPP figures are 2000 International Dollars.
[4]Fertility rate data is for 2004.
Rank excludes all Euro Area countries' individual ranks.

foreign assets and the interest it paid on its foreign liabilities. According to economic historians Christopher Meissner and Alan Taylor, this gap represented Britain's reward for risk-taking and its talent for financial innovation, as well as its reputation as a safe investment haven with secure property rights, economic stability, and deep, liquid financial markets. That the sun never set on the British Empire must have helped. But over time Britain's privilege as a financial pioneer dwindled as investors in other countries gradually adopted more sophisticated financial instruments and the emerging markets of the day grew less risky.

A century later, the United States is now the world's hegemon, a status—still largely intact despite the subprime mortgage-induced credit crisis—that again reflects a talent and taste for financial innovation and risk-taking as well as its economic strength and its financial and political stability. As a result, like nineteenth-century Britain, the United States has been earning more on its foreign assets than it pays on its foreign liabilities—by an amount that averaged 0.5 percent of GDP from 1981 to 2003, as estimated by Meissner and Taylor. Along with increased leverage, this privilege has allowed the United States to earn positive investment income on an annual basis through 2007 even as it recorded a growing net debt position for over 20 years, as shown in Figure 1.3. In other words, this country's net investment earnings have helped slow the growth in the U.S. current account deficit and contributed to its recent reversal.

But as happened in pre-World War I Britain, over time the U.S. privilege has declined, from 3 percent in the 1960s to 1 percent in recent years, according to Meissner and Taylor, as other countries have adopted U.S. financial practices. Combined with the growing U.S. net liability position, this loss of privilege could result in annual investment income turning negative and adding to the U.S. current account deficit. Thanks to the magic of compound interest, this small change, if continued, could significantly aggravate the stability issue, making the difference between a manageable payments deficit and an imbalance requiring a more painful adjustment.[6]

In this regard, however, the lessons from the First Globalization appear remarkably optimistic since, during that period, payments adjustment was surprisingly smooth. Indeed, Meissner and Taylor find that adjustment generally occurred without the severe GDP slowdowns typical of many post-World War II corrections. For the offshoot countries and other

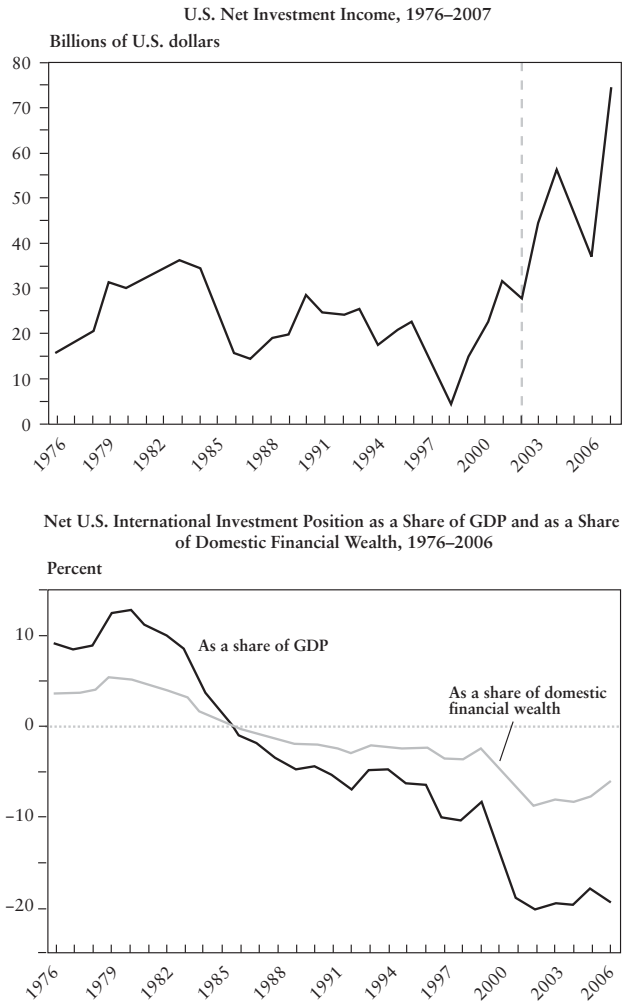

Figure 1.3
U.S. Net International Investment Position
Source: U.S. Bureau of Economic Analysis.
Note: Data from 2002 onward for U.S. net investment income are on a different conceptual basis than those prior to that time. Source data are not available to make similar adjustments to earlier years. Net U.S. international direct investment position is calculated at current cost.

borrowers that could credibly adhere to the gold standard, the reversal of payments imbalances did not generally involve a banking or currency crisis. Further, the nations that adopted the unforgiving gold standard as proof of good behavior did not suffer greater output losses during an adjustment than did the countries with flexible exchange rates, possibly because labor markets were also more flexible (and wages free to fall) in the early twentieth century. Overall, Meissner and Taylor argue that during the First Globalization, the capital-poor countries were able to run sustained deficits with smooth reversals as long as they invested the borrowed capital in productive ways that facilitated export growth and debt repayment. Today, Meissner and Taylor suggest, the United States' ability to avoid the hard landing and large dollar depreciation predicted by many analysts depends on our ability to maintain market confidence in this country's economic fundamentals.

Others are less agnostic on this point. Suzanne Berger questions whether foreign capital has in fact been used to build productive capacity in the United States, while John Helliwell warns that, in an era of multiple financial centers, the only way the United States can remain a magnet for foreign capital is to continue producing a steady stream of financial and other innovations and unusually high returns. If and when the luster disappears, disappointed investors are likely to flee—as happened in Asia in 1997–1998. And indeed, as the financial market distress triggered by the U.S. subprime credit crisis intensified in the third quarter of 2007 and the first quarter of 2008, U.S. net private portfolio flows turned notably negative.

Labor Market Imbalances

As in the First Globalization, today's stubborn imbalances appear to be rooted (at least in part) in massive shifts in the size and location of the globally accessible labor supply. Indeed, the recent doubling of the globally active labor force may be one of the defining developments of our era. As Richard Freeman points out, until the end of the Cold War, China, India, and the ex-Soviet bloc countries were cut off from the world by trade barriers, capital controls, and restrictions on emigration. But with the collapse of the Soviet Union, China's turn toward market economics, and India's shift away from autarky, the supply of labor available to global producers roughly doubled from 1.5 billion to 3 billion people—though of this new supply of workers, a sizeable part remains in unproductive jobs located in rural areas and in state-owned enterprises, as suggested by Figure 1.4. While some argue that China is hardly a new player in the world economy, the country was largely closed to foreign investment from 1949 to the late 1980s. While postwar China first welcomed foreign investors in 1982, the 1989 Tiananmen tragedy scared them off. Almost a decade later, Y2K investments greatly improved Asia's global communications links, and China finally joined the World Trade Organization, earning its ultimate seal of approval, in 2001.

But the arrival of this additional labor supply did not increase the world's capital stock proportionately. Indeed, Freeman calculates that with the doubling of the global labor force, the capital-labor ratio fell to 61 percent of what it would have been had China, India, and the ex-Soviet bloc remained isolated. Naturally, newly arrived workers have benefited from the opportunity to work with capital and technology from the advanced countries. But comparably skilled workers in advanced countries find themselves in a weakened bargaining position vis-à-vis owners of capital everywhere and could face capital shallowing as well.

From the perspective of the American worker, China's daunting competitive threat reflects its remarkably low wages. According to the Bureau of Labor Statistics, average hourly compensation in China's manufacturing sector was just 67 cents in 2004, although anecdotal evidence suggests that Chinese wages have risen quite rapidly since then. But what producers really care about is relative labor costs adjusted for differences in productivity. And the gap between American and Asian labor costs per unit of output is much smaller than the gap between American and Asian wages. After adjusting for productivity differences, China is probably no more competitive overall than are high-income Hong Kong or Singapore—although the more productive foreign-affliated ventures in China's coastal provinces may have a significant competitive advantage. Still, history suggests that this gap between domestic and foreign unit labor costs tends to narrow over time as foreign productivity rises faster than productivity in the United States, but foreign wages rise even faster.

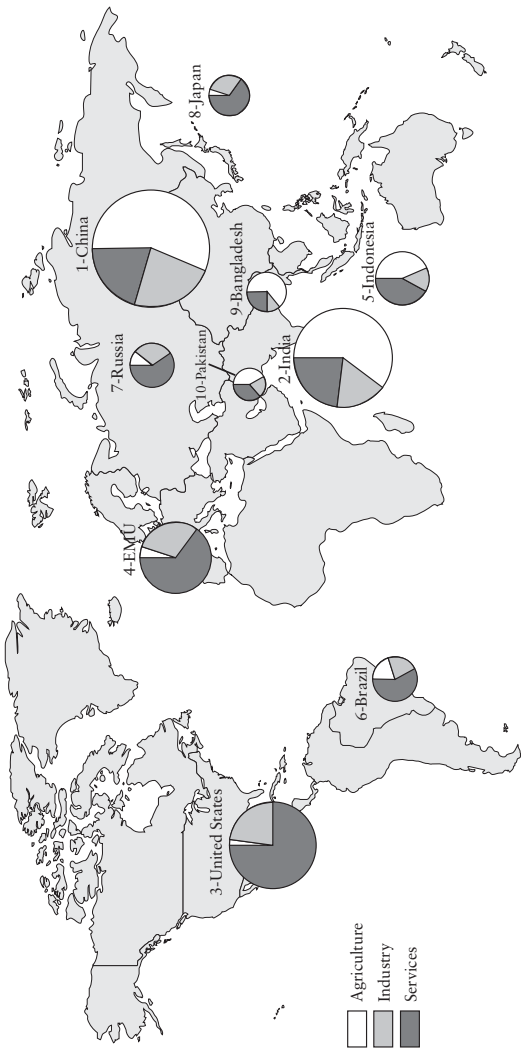

Figure 1.4
World's Largest Labor Forces, Ranked by Country, Showing Sectoral Decomposition, 2002
Source: International Labour Organization cited by the World Bank *World Development Indicators*; U.S. Department of State, *Key Labor Indicators*.
Note: The area of each pie is proportional to the size of the labor force of the selected region/country. Bangladesh's sectoral distribution data are for 2000; India's are for 2005.

While economists used to argue that American workers would always do well if only they invested in human capital and moved up the technology ladder to "better" jobs ahead of the foreign competition, China and India have not been following the economists' script. Rather these countries, particularly China, have been investing a surprising amount in education plus research and development (R&D) in order to "leapfrog" (to use Freeman's phrase) to higher levels of human capital and technical sophistication well ahead of schedule. As a result, Dani Rodrik finds that China's export bundle is far more sophisticated than one would expect given its low per capita income.[7] He attributes this success to China's industrial policy and its emphasis on technology transfer.

These Asian investments in human capital have produced some sobering statistics. While the United States accounted for 30 percent of world enrollment in higher education in the 1970s, as Freeman points out, this share had fallen to 14 percent by 2000. Similarly, in the 1970s, the United States produced 50 percent of the world's Ph.D.s, but it is expected to grant just 15 percent of the world's doctorates in 2010, when China alone will grant more Ph.D.s in science and engineering than the United States.[8] These developments are a matter of concern primarily because maintaining a leading role in high-tech sectors appears to require having a comparative advantage in scientists and engineers as well. Further, Freeman notes, innovation seems to depend on scale—on having a critical mass of researchers—rather than on achieving a given proportion of researchers in the workforce. While the United States is most unlikely to lose its critical mass or comparative advantage in high-tech industries any time soon, it could face growing challenges to its leadership role, at least in some sectors.

But beyond this competitive issue, as Freeman and Bhalla point out, we should rejoice that by bringing modern technology to all, globalization offers the prospect of "making poverty history." According to Judith Banister,[9] the real wages of urban manufacturing workers in China more than doubled between 1990 and 2002, while in India[10] real wages rose at a robust 4 percent a year in the second half of the 1990s.[11] As a result, rapid development has already lifted at least 450 million people out of $1-per-day poverty in China and India in the past 25 years.[12] But these

declines in global income inequality have accompanied a highly visible increase in income inequality within China; these growing gaps are fueling social tensions, particularly in impoverished rural regions, as the Chinese government is acutely aware.

In the end, China and India will likely follow the path of developing countries before them. Wages and incomes will rise to rough parity with world levels. But the transition will take time. In South Korea, it lasted about 50 years, but the enormous scale of China's adjustment is even more daunting. Almost 200 million underemployed Chinese workers with huge incentives to move to better paid jobs in coastal urban areas remain in the countryside. Some 150 million have already moved, and more are following at the rate of more than 5 million a year by OECD estimates.[13] But because the Chinese government is concerned about urban overcrowding and unrest, it is using a variety of schemes like the Hukou system[14] to manage a migration that dwarfs the great European population movements of the nineteenth century. Still, if China's urban manufacturing wages continue to double every decade, Chinese wages will approach advanced country levels in about 30 years, according to Freeman's calculations. He estimates that it may take India 40 to 50 years to reach the same level. Other observers, including Alan Deardorff and Lawrence Lau, suggest that convergence may take even longer, given the remarkable degree of home bias in consumption and the size of China's labor surplus.[15]

Of course, if Chinese wages are likely to rise somewhat slowly, renminbi (RMB) appreciation offers an alternative way to narrow the gap between American or European and Chinese labor costs. But the Chinese government remains very cautious about allowing that process to occur. As this essay was being written in mid-2008, the dollar has fallen about 16 percent against the RMB since China ended its dollar peg in July 2005. This gradual decline reflects Chinese concern that rapid RMB appreciation might harm China's uncompetitive agricultural sector and stir political unrest in the countryside. It might also undermine the inefficient state-owned enterprises and the major banks whose assets are heavily weighted with loans to that sector of the economy. However, possibly because incomplete sterilization of Chinese foreign exchange market intervention has contributed to a disturbing increase in inflation, the Chinese authorities have allowed the RMB to appreciate at a somewhat faster pace over the past year.

The Essential Complements to Capital

The global distribution of labor and energy resources helps to explain the prevailing pattern of current account deficits and surpluses. But what explains the current pattern of capital flows? In particular, why are poor surplus countries willing to invest so much of their savings in the United States, a mature, wealthy country? Many analysts have found these wrong way flows to be a particular cause for concern.

Capital, a requirement for growth, embodies technology. But to make effective use of capital-cum-technology, as Brad DeLong reminds us, countries also need institutions like property rights, the rule of law, good management, good governance, and social and political security. Unfortunately, these complements to capital tend to be in relatively short supply in many developing countries.[16] So while economic theory suggests that capital ought to flow toward capital-poor countries, where the returns to investment should be high, in reality most developing countries are forced to raise most of their investment capital domestically. Making the task of raising capital intensities based on domestic savings alone all the more heroic, as DeLong points out, are the facts that in most developing countries population growth remains rapid and the real cost of capital remains high. Thus capital, or the lack thereof, represents a binding constraint on growth in many places.

During the First Globalization, to be sure, capital did flow from Britain to the offshoot countries and to the periphery as well, but, for the most part, these areas were under British rule. Indeed, the British East India Company literally governed India from the mid-1700s to the mid-1800s. And the offshoot countries were led by people who had brought British and other European institutions with them. Even so, in the nineteenth century the U.S. current account deficit generally amounted to about 0.5 to 1.0 percent of U.S. GDP, while investment spending equaled 20 percent of GDP. For the most part, in other words, foreign capital covered only a small portion of the required investment funds.

Today, by contrast, some analysts see net capital flows from China to the United States as a sign of a puzzling savings glut. But China's situation is not unique. Japan has run surpluses for years, with savings outstripping investment even in much of the 1950s. And since 1960 Malaysia and Indonesia have followed the Japanese path much of the time; see Figure 1.5. Perhaps world capital markets are just a lot less integrated than economists like to think. Indeed, while the financial market liberalization of the past two decades has led to large increases in gross capital flows to and from the developing nations, data on *net* capital flows suggest that global capital markets may be less integrated now than they were in the years before World War I—perhaps not in scale, but certainly in scope. Today, much capital flows among the rich nations, for diversification purposes, rather than from rich to poor regions as was the norm in the nineteenth century. Further, as DeLong points out, while the North American Free Trade Agreement encouraged a surge in U.S. direct investment in Mexico, rich Mexicans' concerns about monetary and political instability in their homeland produced even larger investment flows from Mexico to the United States. Similarly, DeLong notes, the Chinese government is purchasing insurance against social and political risk when it manages its exchange rate to ensure that exports grow fast enough to ensure absorption of the surplus labor flowing from the interior to the coasts.

But maybe these macroeconomic outcomes should only be expected. After all, according to Abhijit Banerjee and Colin Xu, in countries like China and India, even internal capital movements are highly constrained. In this regard, they cite the high cost of monitoring assets and collecting payments from small borrowers and the role of various institutions like the Hukou system and regional protectionism.[17] As a result of these impediments, interest rate spreads between deposit and loan rates or between loans to different borrowers can be enormous, even within a small geographic area,[18] and the marginal product of capital differs widely across regions and within narrow industries in both countries.

Yet, despite these many obstacles, and unlike portfolio capital, foreign direct investment (FDI) does flow to the developing countries on a net basis, as shown in Figure 1.6. And FDI carries technology, managerial skills, and growth-promoting institutions with it. In addition to serving

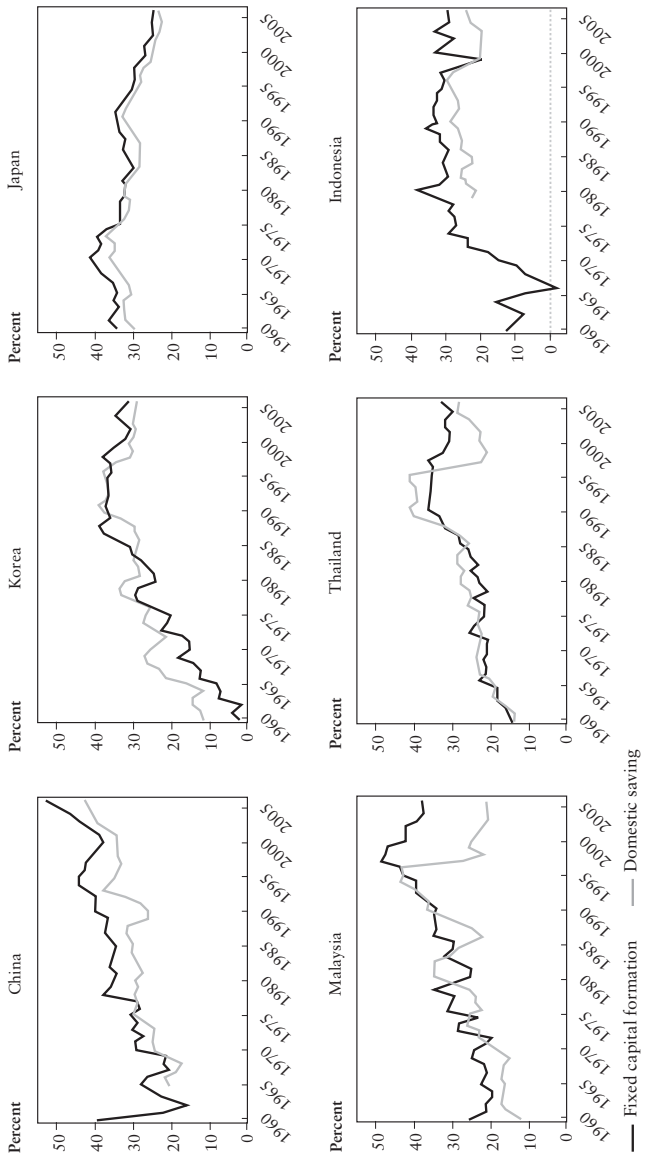

Figure 1.5
Fixed Capital Formation and Saving as a Percent of GDP in Selected Asian Economies, 1960–2006
Source: World Bank, *World Development Indicators*.

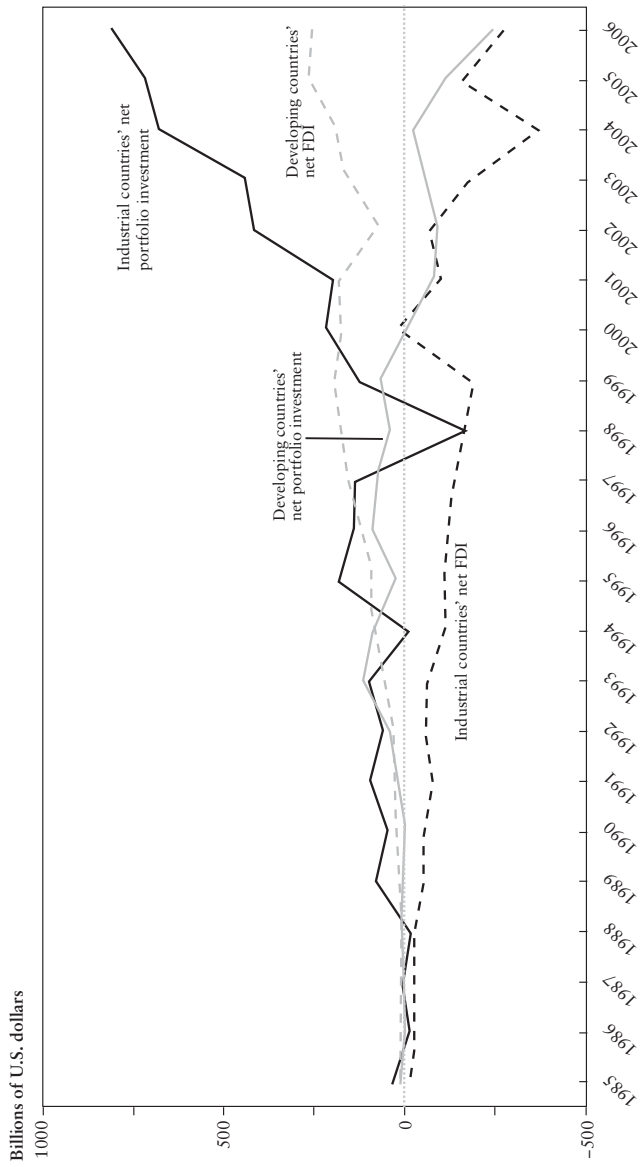

Figure 1.6
Industrial and Developing Countries' Net Portfolio and Net Foreign Direct Investment, 1985–2006
Source: International Monetary Fund, *Balance of Payments Statistics Yearbook,* Parts 2&3, 1992–2007.

as a conduit for the complements to capital, FDI is also more stable than portfolio flows, which are subject to sudden stops and reversals. Thus, as DeLong emphasizes, we should fervently hope—and governments should work to ensure—that gross and net FDI flows to the developing countries prove adequate to the task of providing these crucially important externalities.

Explaining the Imbalance in Global Savings

The United States is clearly well endowed with the complements to capital. Why then does the United States, the "world's consumer of last resort," save so little? And why do the major surplus countries—currently China, Japan, Germany, and some of the oil-exporting nations—save so much? In 2006, U.S. gross national saving amounted to just 14 percent of GDP, one of the lowest ratios in the OECD, while Japan was saving almost twice and South Korea almost three times as much. In the context of the global imbalances, however, what really counts is the match or gap between domestic saving and domestic investment.

According to the U.S. national income accounts, between 1995 and 2007 the U.S. current account has deteriorated by about 4 percentage points of GDP. For the period as a whole, this development matched an increase in the gap between gross investment and private saving amounting to almost 4 percent of GDP, plus a small decline in government dissaving. But these numbers mask big swings in the government fiscal balance, which improved markedly in the late 1990s and then fell by almost 5 percent of GDP from 2000 to 2005. Within the private sector, net corporate saving is little changed, while personal saving has fallen near zero. Figure 1.7 shows the U.S. net savings rate between 1995 and 2006.

Yet Richard Cooper argues that when properly measured, U.S. households actually save a lot. Because "saving" is defined as consumption deferred today to raise consumption tomorrow, he believes that in the U.S. national income and product accounts, "saving" should actually include investment in education and durable goods as well as capital gains on wealth (which, thanks to ongoing financial innovations like mortgage equity withdrawals, have become ever more liquid). Adding in public and private pension claims,[19] American households have a good

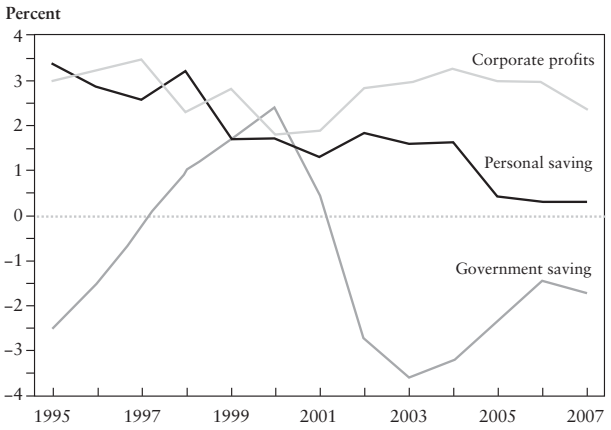

Figure 1.7
Net Saving by U.S. Public and Private Sectors as a Percent of GDP, 1982–2007
Source: U.S. Bureau of Economic Analysis
Note: Corporate profits includes inventory valuation and capital consumption adjustments.

many sources of future income, he suggests—although, admittedly, the uneven distribution of these resources may be cause for concern. But overall, Cooper contends, it is not clear that the average U.S. household needs to save more—or that it is likely to do so.

Similarly, corporate and government saving/investment are also poorly measured by current national income accounting standards. Corporate research and development (R&D), training, and branding are recorded as intermediate business expenses, while government spending on R&D and education are included in consumption, not investment. If U.S. spending on durable goods, education, and R&D were considered saving, then U.S. "saving" would equal over 33 percent of GDP—hardly a sign that the United States is shortchanging the future, in Cooper's view. Making a similar measurement adjustment for other countries boosts their saving rates as well, but generally by less than for the United States.[20] Still, while it is useful to recognize that part of today's "consumption" spending is actually "investment," it is spending nonetheless. Extra saving matched

by extra investment does nothing to improve the imbalance between saving and investment reflected in today's current account deficit.

Turning to why the major surplus countries save so much (relative to domestic investment) and invest a great deal in the United States, Cooper, DeLong, and others[21] point out that U.S. assets are attractive because over the long run the American economy remains robust and innovative and because U.S. financial markets offer liquidity, security, and stability—although the subprime mortgage crisis and related financial market distress may have raised questions about that reputation in recent months. In the major surplus countries, by contrast, investment opportunities are limited relative to the available savings—primarily because of demographic trends. Indeed, Cooper argues, the demographic differences among the world's nations are key considerations. Low population growth countries with declining numbers of young adults, like Japan and Germany, have limited need for investment in housing, education, and capital equipment, as the population pyramids in Figure 1.8 suggest. Moreover, as a result of its one-child policy, China will soon be a low population growth country as well, even though as a developing country it also faces huge housing and infrastructure needs. In China, therefore, investment is extraordinarily high—near 40 percent of GDP—but its savings rate is even higher because of China's inadequate social safety net and underdeveloped capital markets. Among the advanced economies, the United States is the demographic exception to the rule, as its fertility rate has remained relatively high, thanks to ongoing immigration on a significant scale.

Why are Japan and Germany not investing their surplus savings in the capital-poor developing countries, as economic theory suggests they should? Stated thus, the theory is just too simple, Cooper replies, because risk-averse investors seek a host of legal, political, and financial institutions, like the rule of law and secure property rights. Most low- and many middle-income countries do not offer these conditions, as discussed in the previous section, and as the recent rise of "resource nationalism" in many of the oil-exporting nations confirms.[22] By contrast, the United States does offer the required institutions—plus a higher return on investment than most other rich countries, at least as a general rule.

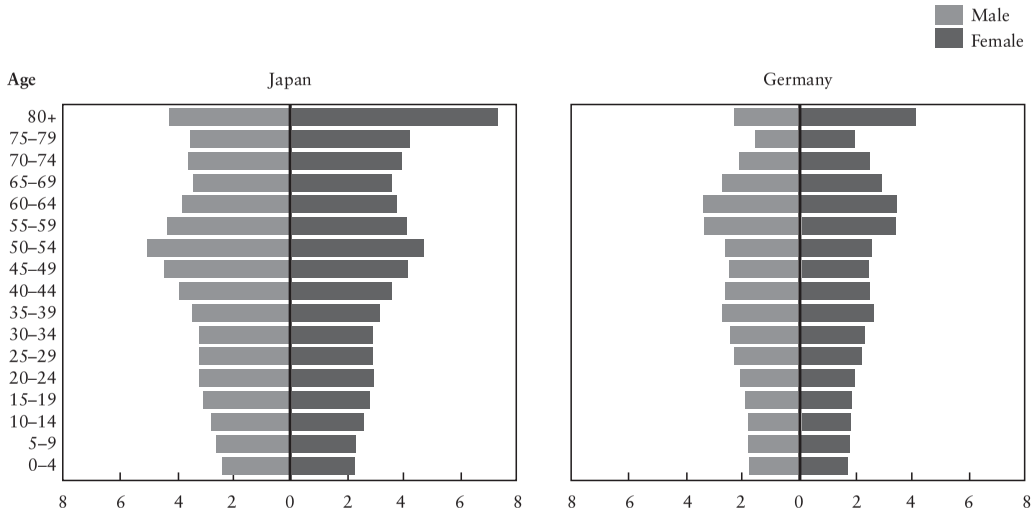

Figure 1.8
Population Pyramids, 2025 (Millions of People)
Source: U.S. Census Bureau.

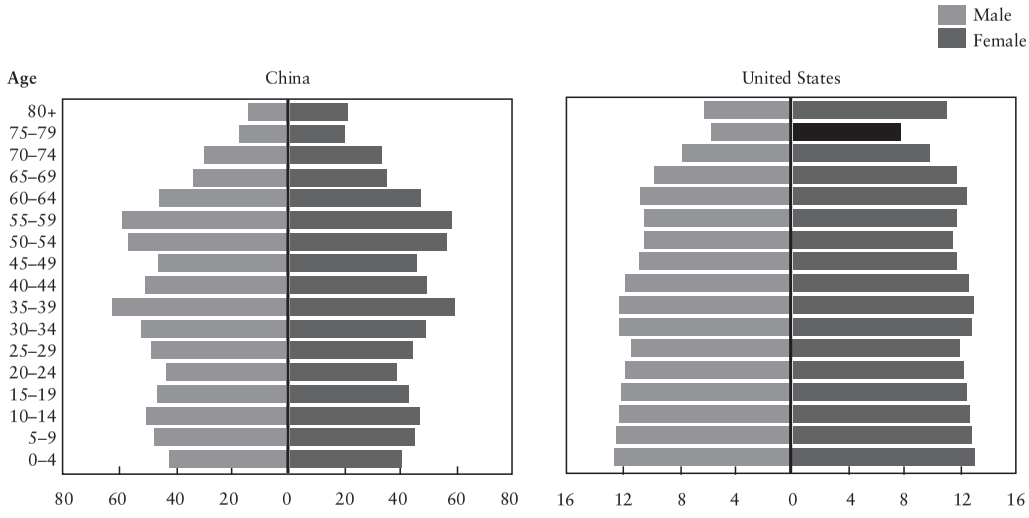

Figure 1.8 continued
Population Pyramids, 2025 (Millions of People)
Source: U.S. Census Bureau.

The demand for U.S. financial assets also reflects the fact that many, perhaps even most, countries are not comfortable with freely floating exchange rates, as Cooper, Peter Garber,[23] and Lawrence Summers all concur; thus, many governments choose to accumulate foreign exchange reserves and invest these in U.S. Treasury securities earning a modest return. In Cooper's view, these central banks are acting as financial intermediaries investing abroad on behalf of very conservative private savers (in Japan via the postal savings system) or on behalf of savers still facing capital controls (as in China). And even for developing China, the yield on U.S. government securities may not look so unattractive, given the country's current limited capacity to absorb capital. As symptoms of these limits, Larry Lau notes that the Chinese banking system continues to steer funds to unproductive projects, while the government keeps struggling to cool overheated investment spending.

Overall, in Cooper's judgment, a sizeable U.S. current account deficit is sustainable; indeed it may even be desirable. While the U.S. current account deficit clearly cannot continue to rise relative to GDP, it could certainly remain at a relatively high ratio to GDP for some years to come. Demographic trends in Europe, Japan, and parts of developing Asia will encourage those regions to accumulate external assets to draw down as the population ages. In contrast, the United States has notably different demographics. Although rich and politically mature, in a sense it remains a young and still developing country. The United States is also particularly good at inventing ways to exchange low-risk claims for high-risk assets. To be sure, some of these innovative assets can turn out to be unsound, as the subprime mortgage crisis has revealed. But even so, to date, surprisingly few U.S. financial institutions have had much trouble raising new capital from foreign investors, including sovereign wealth funds.[24] Seemingly, then, the world's savers still want to invest a significant portion of their savings in the United States, Cooper concludes.

But not everyone agrees with this assessment. Foremost among those with a less sanguine interpretation of recent trends in the U.S. saving-investment imbalance is Larry Kotlikoff. Admitting to little concern about the U.S. current account deficit[25] per se, he focuses instead on the disturbing decline in U.S. net investment and even faster decline in U.S. net saving relative to GDP.[26] Noting that government consumption has not been unusually high in recent years, Kotlikoff blames the fall in U.S. savings on increased private consumption, which now accounts for over 70 percent of GDP, its highest share since World War II. In particular, he points to an increase in consumption by the elderly, which he attributes to a fiscal policy that for decades has been transferring money from the young to the old via Social Security, Medicare, and Medicaid benefits. Citing Smetters and Gokhale, Kotlikoff emphasizes that with the aging of the baby boom generation, the present value of the fiscal gap—projected government receipts minus projected government expenditures—amounts to $63 trillion.[27] At some point, Kotlikoff warns, the U.S. government's looming fiscal gap will spook the financial markets; investors will unload U.S. government securities and dollars, U.S. interest rates and inflation will rise, and a disorderly correction will be under way.

But as several conference participants observed, most other advanced countries face equally difficult fiscal futures, for which—small comfort—they are no better prepared than is the United States. In addition, some attendees suggested that investors already assume that the U.S. government will find ways to modify—or renege on—its commitments to the elderly. More basically, as Guy Debelle reminded the group, current account deficits and fiscal deficits are distant cousins, not twins. Curing a fiscal deficit need not cure a current account deficit, or vice versa. In this regard, Cooper emphasized that while he is not worried about today's U.S. current account deficit, he strongly agrees with Kotlikoff that this country has a very serious fiscal problem related to Medicare—now that Americans have decided that death is increasingly "becoming an option."

When Will Adjustment Occur, and How Might This Happen? A Continuum of Views

In mid-2006, at the time of the conference, the U.S. current account deficit equaled 6.1 percent of GDP; now in mid-2008 it is "only" 5 percent—still plenty large enough to trigger previous episodes of sudden stops and disorderly correction in other countries. Thus, it remains relevant to ask whether further adjustment of the current global imbalances will occur soon and abruptly or take place gradually over a more extended period.

Will the costs of this reversal be modest and concentrated in the United States, or will the adjustment result in a global slowdown? Indeed, the latter is a key concern as the world navigates the financial and real economic spillovers from the U.S. subprime mortgage crisis. Opinions at the conference, and even now, range along a continuum extending from Cooper's confident optimism to Kotlikoff's heightened anxiety.

Per force, adjustment—whenever it occurs—will require that U.S. output grow faster than U.S. demand. There is no other way that these imbalances can be reduced. Narrowing the current gap between U.S. gross domestic demand and output can occur only through some combination of slower U.S. demand growth, faster foreign demand growth, and dollar depreciation to encourage U.S. production and foreign consumption. In the face of further adjustment, foreign officials may stop suggesting that more U.S. saving, particularly by the government, is all that is needed to redress these imbalances. As Larry Summers noted, more U.S. saving without offsetting foreign stimulus would likely result in an unpalatable slowdown in world growth—as, mid-2008, we may be poised to find out.

Indeed, as signaled by the persistence of these ongoing global imbalances, most players appear to be reasonably satisfied with the current situation—at least for now. In addition to Cooper and Debelle, Dooley, Folkerts-Landau, and Garber (DFG) are prominent among the analysts arguing this more sanguine case. In the DFG view, developing countries seek to borrow capital, particularly FDI capital, at least on a gross basis. But to attract gross inflows in this postcolonial era, emerging countries have needed to accumulate net dollar collateral, which they have posted in the form of foreign exchange reserves. More importantly, China and much of Asia are convinced that they need export-led growth to absorb their supplies of underemployed labor. Indeed, China and many other Asian countries' vast underemployment and savings are the central driving forces in the Bretton Woods II system[28]—as signaled by world interest rates that have been unusually low, not high. U.S. savings may have fallen, in other words, but the increased supply of foreign savings has been the dominant development driving these sustained global imbalances. In the advanced countries, moreover, almost everyone has been pleased to enjoy real long-term interest rates and core inflation rates

that have been somewhat lower—and equity and housing wealth that have been somewhat higher—than would otherwise have prevailed in the absence of such imbalances. In addition, producers who can access Asia's low-cost labor supply have been co-opted. They no longer clamor for protection and have largely abandoned labor to fight globalization on its own. For political and economic reasons, thus, the Bretton Woods II arrangement has already proved itself to be remarkably stable.

In the DFG view, eventual adjustment, when it comes, is likely to involve a slow rise in real interest rates as China becomes more fully integrated into world capital markets. They foresee that most of the adjustment in the U.S. trade account will occur as U.S. demand responds to these higher real interest rates. The dollar will depreciate against the RMB, but only gradually and moderately.[29] Reserve diversification by foreign officials would have little or no lasting effect on dollar-euro exchange rates because dollar-euro assets are close substitutes in the view of most private investors, DFG suggest.

While Cathy Mann tends to agree with DFG regarding the likely stability of the current imbalances, absent a "proper jolt," she questions the desirability of that outcome.[30] She builds her analysis around four Cs: consumption, codependency, complacency, and, possibly, crisis. Since the mid-1990s U.S. consumption has increased a good deal as a share of GDP, reinforcing the codependent relationship between the United States and its creditors. This codependency is based on unhealthy habits—an overemphasis on consumption in the United States and on production in China and Asia—that could last a long time. In China, these habits stunt financial market development and lead to a misallocation of still-scarce resources; in the United States, these habits create a dangerous buildup of foreign-owned debt and a risky reliance on a narrowing set of foreign official investors who could tire of accumulating dollar assets at any time. Mann warns against complacency—on the part of the private investors and policymakers as well.

In Mann's opinion, adjustment requires slower U.S. growth (not brought about by the integration of Asia into world capital markets but, as Mann proposed, by tighter monetary policy or, as has actually occurred, by increased risk aversion provoked by the subprime crisis) plus significant dollar depreciation. Indeed, airing a related and prescient

scenario, William Dudley[31] suggested that U.S. household equity and real estate wealth were unlikely to continue growing at the unusually rapid rate of recent years. Thus, the American household saving rate would rise, and U.S. demand growth would weaken. As a result, U.S. interest rates would fall, triggering a depreciation of the dollar and, thus, a decline in the U.S. standard of living.[32] Hardly a disaster scenario, Dudley noted in mid-2006, but a plausible unwinding of the current imbalances.

In the end, Mann, joined by Larry Summers, Brad DeLong, and a growing minority as the conference progressed, was less certain than DFG and Richard Cooper that adjustment will occur without a crisis—especially since private investors exhibit occasional signs of waking from their complacency. But "crisis" is defined in the mind of the beholder, Mann suggests. How benign were the sharp (roughly 30 percent[33]) dollar depreciation of 1985–1987 and the ensuing balance of payments adjustment shown in Figure 1.9? Did these adjustments constitute a crisis? For the United States, clearly not. From Japan's perspective, however, the answer might be yes, since Japan's effort to curb yen appreciation at that time clearly laid the basis for its bubble economy in the late 1980s and the dismal period that followed. While Eswar Prasad was less ready than Mann and Kotlikoff to forecast a crisis, as a preventative measure, he urged policymakers to focus on what countries need most for their own internal balance. China, for instance, needs exchange rate flexibility to develop its domestic financial markets and use its capital more effectively, he suggests.

What Is to Be Done in Uncertain Times?

What are the policy implications of today's still-large global payments imbalances? And how pressing is this question, now that the U.S. current account appears to be stabilizing? The improvement reflects the recent slowdown in U.S. relative to foreign growth and a 25-percent decline in the real broad trade-weighted dollar from its early 2002 peak to levels near its previous lows of 1978 and 1995. Looking ahead, forecasts for the U.S. current account over the next two years are mixed; most expect ongoing improvement, while others see stability or a return to somewhat larger deficits relative to GDP.

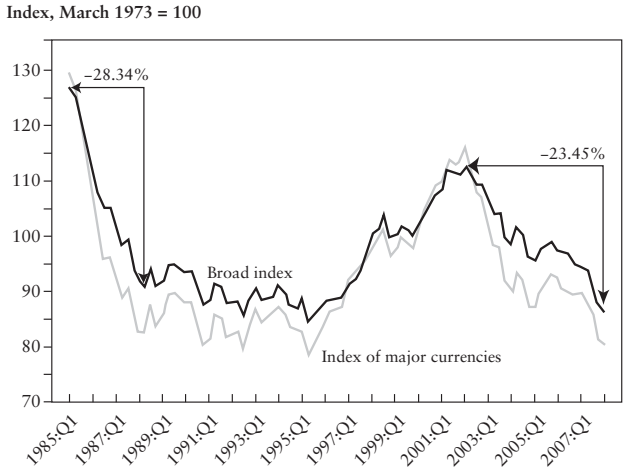

Figure 1.9
Real Trade-Weighted Exchange Value of the U.S. Dollar, 1985:Q1–2008:Q1
Source: Federal Reserve Board.
Note: Countries whose currencies are included in the Index for Major Currencies are Euro Area, Japan, United Kingdom, Switzerland, Australia, and Sweden. Broad Index has 19 additional currencies.

But whatever the immediate outlook, the current highly uneven distribution of world resources strongly suggests that today's payments imbalances could prove to be recurring and remarkably persistent. It will likely take at least three decades for Chinese wages to reach world levels—somewhat less for Eastern Europe, somewhat more for India. Demographic trends are unlikely to reverse, even with plausible changes in immigration policies. And it seems improbable that the emerging giants will offer all of the institutional features of mature financial centers any time soon. In the meantime, a U.S. payments gap shrinking to 5 or even 4 percent of GDP remains a substantial deficit, and would leave the world vulnerable to a sudden bout of disorderly dollar depreciation.

What then should policymakers do to facilitate smooth—if gradual—adjustment? Particularly if this rebalancing act is likely to be stretched out, a primary concern for all must be maintaining the credibility of the monetary, fiscal, and, more recently, supervisory authorities on both sides

of the surplus/deficit divide. For the developing countries, in particular, the main message is loud and clear: the importance of developing the good legal, political, and social institutions that comprise the essential complements to capital found in the world's financial centers. This theme, repeated throughout the conference, was echoed at the end by Larry Summers, who insisted that it is profoundly important that we find ways to get capital to flow in the "right" direction. Embracing FDI, which serves as a conduit for the complements to capital, was one specific policy prescription. Increased investment in human capital—health and education, especially in rural areas—was another.

Further, although a fixed exchange rate may well hinder the healthy evolution of a domestic money market in developing countries and clearly interferes with the conduct of an independent monetary policy, many of today's emerging giants continue to embrace this exchange rate regime for reasons ranging from a dependence on export-led employment growth to fears about reversible capital flows. Thus, as Summers put it, the "least expensive lunch" for these central banks may be figuring out how to invest their foreign exchange reserves more profitably.[34] In this context, new initiatives from China, the oil exporters, and some other emerging markets regarding reserve management via their sovereign wealth funds are an interesting and potentially promising development.

As for the United States, because monetary policy is a blunt instrument, most conference participants agreed that it would be nonsense for the Federal Reserve to engineer an outright recession to achieve, at most, a modest decrease in the U.S. current account deficit. Rather, as Governor Donald Kohn emphasized, the Fed makes its key contribution to orderly adjustment by maintaining investor confidence in its ability to deliver low, stable inflation. However, a few participants did note that an extended period of low U.S. interest rates undoubtedly contributed to the rise in equity and residential real estate prices in recent years and, thus, through the wealth effect, to strong(er) consumption and investment. Accordingly, Summers suggested that monetary policymakers should be catholic in choosing the set of variables they weigh in setting policy, including asset prices and exchange rates in particular.[35] For this reason, he argued, the current period is no time for the Fed to don a straitjacket by adopting an explicit inflation target.

Unlike monetary policy, fiscal policy is actually well suited to affecting saving behavior—public saving, obviously, but private saving as well. For instance, once the current house price correction is behind us, policymakers might want to rethink the extent to which we subsidize housing investment in this country. Maybe subsidizing one dwelling per household would be enough? After all, to facilitate repayment of this country's growing foreign debt, Congress might want to favor productive investment—in science education, say—rather than less productive investment in housing. Even more compelling is the need to deal with the very large fiscal deficits scheduled to arrive over the next 25 to 30 years with the aging and retirement of the baby boom generation, absent strong and prompt Congressional action.[36] Today, foreign investors are largely ignoring this country's irresponsible fiscal stance. Tomorrow, they just might take notice.

How workers in advanced countries fare will depend on the balance between the declines in real prices and in real compensation associated with the emergence of the new giants. Ideally, the global spread of innovative effort and new technologies will increase productivity, lower costs, and raise living standards everywhere. Thus, policymakers should aim to keep rising protectionism at bay by favoring labor over capital (which will be able to fend for itself). Examples of such policies include decoupling health insurance coverage from employment in the United States and encouraging improved labor standards in the developing countries.[37] Further, maintaining our competitiveness in coming decades will require the United States to invest more in education—in particular, in an education that gets students hooked on science and provides a less U.S.-centric view of the world. In addition, Ambassador Stephen Bosworth and Larry Summers both stressed the need for American students to gain a better understanding of Asian developments and perspectives.

In the end, U.S. policymakers must focus on what they can control, fixing what they can, accepting what they can't, and having the wisdom to know the difference.[38] China—practical and cautious—faces huge domestic challenges and is not likely to be much moved or hurried by U.S. Congressional or Administration pressures. India's challenges are equally daunting. In addressing what they can, U.S. policymakers might well start with what needs to be done for the domestic economy,

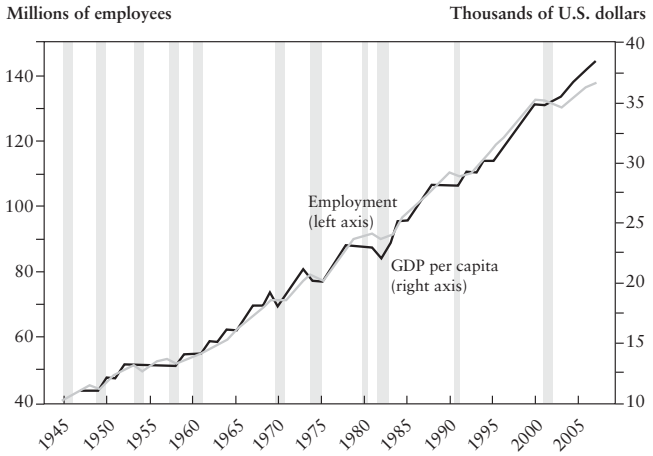

Figure 1.10
U.S. Total Nonfarm Employment and Real GDP per Capita, 1945–2007
Source: U.S. Bureau of Economic Analysis, U.S. Bureau of Labor Statistics, U.S. Census Bureau.
Note: Gray bars indicate recession shading.

balancing the needs of current and future generations. As for what they cannot control, U.S. policymakers may want to recall that despite—or was it, in part, because of?—the re-emergence of postwar Europe and the arrival of Japan and South Korea as major economies thereafter, U.S. employment and living standards have continued to rise, albeit it with brief pauses, relentlessly higher, as depicted in Figure 1.10. Thus, it seems safe to expect that, despite the transitional challenges, as Chinese and Indian incomes converge with world levels over the next 50 years, the impact on global living standards will, on balance, be enormously positive.

Notes

1. As discussed more fully later, the global labor supply conditions that contributed to the U.S. current account deficit and matching financial inflows helped keep U.S. inflation and interest rates lower than otherwise would have been the case, thus fanning the U.S. house price boom that began in the late 1990s.

2. As foreigners' U.S. assets rise, so too do U.S. interest payments on those assets; thus, stabilizing the current account—which includes interest payments—relative to output requires that the current account deficit grow no faster than nominal GDP. In these days of relatively low inflation, achieving nominal U.S. GDP growth of over 5 or 6 percent is no longer a sure bet.

3. Maurice Obstfeld and Alan M. Taylor, "Globalization and Capital Markets," in *Globalization in Historical Perspective*, ed. Michael D. Bordo, Alan M. Taylor, and Jeffrey G. Williamson (Chicago: University of Chicago Press, 2003), 121–183.

4. Robert Barde, Susan B. Carter, and Richard Sutch, "International Migration," in *Historical Statistics of the United States*, vol. 1, Population (New York: Cambridge University Press, 2006), 523–540.

5. British net foreign assets reached 200 percent of U.K. GDP in 1913.

6. Total return on U.S. foreign assets includes capital gains, which have been trending up by Meissner and Taylor's estimates. But since the source of these gains is not well understood, Meissner and Taylor warn against counting on continued increases.

7. Dani Rodrik, "What's So Special about China's Exports?" *China & World Economy* 14(5) (2006): 1–19.

8. Of course, many of the newly-minted Ph.D.s from U.S. universities will be granted to foreign students who may—or increasingly may not—decide to stay in this country.

9. Banister, Judith, "Manufacturing Earnings and Compensation in China," *Monthly Labor Review* 128 (2005): 22–40.

10. Glinskaya, Elena and Michael Lokshin, "Wage Differentials Between the Public and Private Sector in India" (Policy Research Paper 3574, World Bank, Washington, DC, 2005). Cited by Freeman.

11. By contrast, in the United States, real wages for nonfarm production workers rose by about 10 percent in total between 1990 and 2008.

12. Shaohua Chen and Martin Revallion, "How Have the World's Poorest Fared since the Early 1980s?" *The World Bank Research Observer* 19(2) (2004): 141–169. Bhalla estimates a much higher number in Surjit S. Bhalla, *Imagine There's No Country: Poverty, Inequality, and Growth in the Era of Globalization* (Washington, D.C. Institute for International Economics, 2002).

13. Anders Reutersward, "Labour Protection in China" (Social, Employment and Migration Working Papers No. 30, Organisation for Economic Co-operation and Development, Paris, 2005).

14. Hukou refers to China's household registration system, which operates to control access to public benefits like education, healthcare, and pension rights. Because the system generally limits such access to an individual's birth place, the government has used Hukou to guide labor mobility across China.

15. Shankar Acharya pointed out that only a small fraction of India's labor force is currently employed in the organized —as distinct from the informal—manufacturing sector. He blames a long history of dysfunctional labor laws.

16. In this connection, the recent passage of Communist China's new law strengthening property rights (first acknowledged in the Chinese constitution in 2004) is an intriguing development.

17. Other barriers might include India's caste system and the use of multiple spoken languages—15 in India and at least eight in China—which tend to foster the separate communities or trust networks that are the focus of Helliwell's recent work. See also Arvinder Singh, "Labour Mobility in China and India: The Role of Hukou, Caste, and Community" in *China and India: Learning from Each Other*, eds. Jahangir Aziz, Steven Dunaway, and Eswar Prasad (Washington, DC, International Monetary Fund, 2006), 241–261.

18. Banerjee mentions a basic deposit rate of 10 percent coexisting with a loan rate of 78.5 percent, and local loan rates varying between 48 percent a year and 5 percent a day (16,000 percent a year).

19. Cooper notes that the liabilities for private pensions have been an important spur to corporate saving in recent years.

20. Raising another measurement issue, Debelle noted that capital gains, which are more important for U.S. than for foreign investors, are not included in the current account but do show up in balance sheet measures like wealth. It is more appropriate, he argues, and much more reassuring, to measure U.S. net liabilities to foreigners against U.S. wealth rather than against U.S. GDP (see Figure 1.3).

21. See, for instance, Ricardo J. Caballero, Emmanuel Farhi and Pierre-Olivier Gourinchas, "An Equilibrium Model of 'Global Imbalances' and Low Interest Rates" (Working Paper 11996, National Bureau of Economic Research, Cambridge, MA, 2006).

22. Increased resource nationalism has led host countries, including Bolivia, Iran, Russia, and Venezuela to renegotiate access and revenue terms. Russia, for instance, has threatened to revoke oil and gas drilling licenses in Siberia and Sakhalin Island on the basis of "safety violations" and "environmental concerns." Investors also worry that Russia may be intent on renationalizing its energy sector.

23. As Peter Garber sees it, some bloc of countries of varying membership has always needed or wanted the stability of a fixed exchange rate; he expects they will continue to do so "for the foreseeable future." But once their domestic financial markets are more fully developed, and they are able to make a credible commitment to keeping inflation low and stable, some of these countries may find it easier to shift to a more flexible exchange rate regime.

24. Sovereign wealth funds are the professionally managed state-owned investment vehicles funded by foreign exchange assets and commodity export receipts that tend to invest in riskier assets than central banks have traditionally chosen for their foreign exchange reserves.

25. Or capital account surplus, as Kotlikoff prefers to call it, given his focus on saving and investment behavior.

26. By contrast, in this context, Cooper prefers gross to net measures of saving and investment, in part because it is gross investment that brings new technology.

27. This estimate uses rather conservative assumptions regarding health care costs and assumes that future generations face the same net tax rates as today's. See Jagadeesh Gokhale and Kent Smetters, "Fiscal and Generational Imbalances: An Update" in *Tax Policy and the Economy,* vol. 20, (Cambridge, MA: The MIT Press, 2006), 193–223.

28. The term "Bretton Woods II," coined by DFG, refers to the dollar exchange standard adopted at Bretton Woods, New Hampshire, in 1944 and in effect until the United States cut the dollar's ties to gold in 1971. In the original Bretton Woods arrangement, the United States maintained the dollar's value in terms of gold, and other countries pegged to the dollar. Under Bretton Woods II, a group of countries is choosing voluntarily to fix or closely tie their currencies to the U.S. dollar.

29. Supporting this point, Larry Lau argued that once capital controls are removed, private Chinese demand for U.S. dollar assets is likely to prove substantial. He also noted that, given the small share of domestic content in Chinese exports, it would take a large RMB appreciation to reduce Chinese exports notably.

30. Does the recent house price correction, begun in the United States but spreading beyond to some other advanced economies, represent a "proper jolt"? Mann concludes that determining the strength of the links between the subprime-led crisis in the United States and global external imbalances will require future research.

31. Executive Vice President, Markets Group, Federal Reserve Bank of New York.

32. Larry Summers describes a similar scenario with spillovers to global growth in a March 26, 2007, comment in the *Financial Times* (Lawrence Summers, "As America Falters, Policymakers Must Look Ahead," *Financial Times*, March 26, 2007) as well as in his essay in this volume.

33. From a peak in early 1985 to late 1987, the trade-weighted dollar fell almost 40 percent in real terms against other major currencies.

34. More recently, the Asian Development Bank has also urged central banks to invest their reserves in infrastructure, human capital, or financial assets earning more than U.S. Treasury securities. It points out that earning an additional 500 basis points on half of the region's reserves would yield a dividend equal to 0.8 percent of Asian GDP. Michiyo Nakamato, "Asia States Warned on Danger of Reserves: ADB Advises Investment Plans to Avoid Asset Bubbles," *Financial Times*, March 28, 2007, page 1. See also ADB, *Asian Development Outlook 2007*, March 2007.

35. By contrast, Shankar Acharya suggested prudential measures to address asset price concerns.

36. According to the U.S. Comptroller General's January 2007 testimony to the U.S. Senate Budget Committee, under conservative "intermediate" assumptions, expenditures for Social Security, Medicare, and Medicaid are projected to rise from 9 percent of GDP today to 15.5 percent in 2030. As a result, the fiscal deficit will likely deteriorate from near balance in 2001 to minus 20 percent of GDP ("out of control," as the Comptroller General sees it) by 2040. In early 2008 the "daunting" prognosis was essentially the same.

37. Suzanne Berger also proposed strengthening U.S. wage insurance programs to help counter the growing popularity of protectionist "remedies."

38. With apologies to Reinhold Niehbuhr as well as to Eswar Prasad, who advocated first setting one's own house in order—not only to reap the immediate internal benefits but also to strengthen the economy against future external shocks.

2

Dancing with Giants: The Geopolitics of East Asia in the Twenty-First Century