



Focus

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The new global labor market

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Before the collapse of Soviet Communism, China's movement toward market capitalism, and India's decision to undertake market reforms and enter the global trading system, the global economy encompassed roughly half of the world's population comprising the advanced Organisation for Economic Co-operation and Development (OECD) countries, Latin America and the Caribbean, Africa, and some parts of Asia. Workers in the United States and other higher-income countries and in market-oriented developing countries such as Mexico did not face competition from low-wage Chinese or Indian workers or from workers in the Soviet empire. Then, almost all at once in the 1990s, China, India, and the former Soviet bloc joined the global economy, and the entire world came together into a single economic world based on capitalism and markets.

This change greatly increased the size of the global labor pool, from approximately 1.46 billion workers to 2.93 billion workers (Figure 1). I have called this “the great

doubling.”¹ In this article I argue that the doubling of the global workforce presents the U.S. economy with its greatest challenge since the Great Depression. If the United States adjusts well, the benefits of having virtually all of humanity on the same economic page will improve living standards for all Americans. If the country does not adjust well, the next several decades will exacerbate economic divisions in the United States and risk turning much of the country against globalization.

The promise is that as the world economy grows rapidly, so too will the U.S. economy, creating the opportunity for shared prosperity for all. The danger is that as many firms invest in low-wage labor overseas, low-wage Americans will lose ground in the economy, as they have in the past two to three decades. Many will be unable to afford the health-care plans their firms offer, and many will find themselves in jobs with no coverage. Fewer will have private retirement plans. The sentiments against globalization revealed in the North American Free Trade Agreement (NAFTA) debate in the 1990s and in the debates over ways to deal with illegal immigrants in the early 2000s could combine to lead many Americans to blame the global economy for their woes. But it will not be globalization itself that is at fault, but rather the failure of the nation to choose policies that distribute the benefits of the global economy widely.

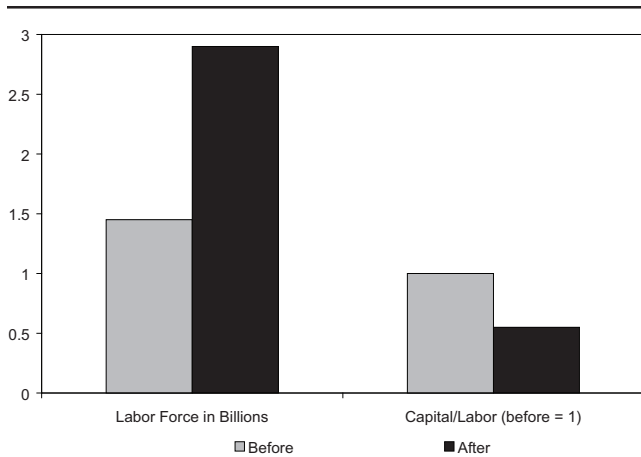


Figure 1. Old and new global labor markets.

Source: Employment from ILO data, <http://laborsta.ilo.org>, 2000. Capital/labor ratio, calculated from Penn World tables, scaled so “before” is 1.0.

Note: “Before” shows the labor market that would have existed in the global capitalist system in 2000 if China, India, and the former Soviet bloc had remained outside the global economy. “After” shows the labor market with the addition of the workers and capital from those countries.

The capital/labor balance

What impact might the doubling of the global workforce have on workers? To answer this question, imagine what would happen if through some cloning experiment a mad economist doubled the size of the U.S. workforce. Twice as many workers would seek employment from the same businesses. You do not need an economics Ph.D. to see that this would be good for employers but terrible for workers. Wages would fall. Unemployment would rise. But if the nation’s capital stock doubled at the same time, demand for labor would rise commensurately, and workers would maintain their economic position. In the simplest economic analysis, the impact of China, India, and the former Soviet bloc joining the global economy depends on how their entry affects the ratio of capital to labor in the world. This in turn depends on how much capital they brought with them when they entered the global system. Over the long run, it depends on their rates of savings and future capital formation.

Using data from the Penn World tables on yearly investments by nearly every country in the world, I have estimated the level of capital stock country by country and added the estimated stocks into a measure of the global capital stock. My estimates indicate that as of 2001, the

doubling of the global workforce reduced the ratio of capital to labor in the world economy to 61 percent of what it would have been before China, India, and the former Soviet bloc joined the world economy. The reason the global capital/labor ratio fell greatly was that the new entrants to the global economy did not bring much capital with them. India had little capital because it was one of the poorest countries in the world. China was also very poor and destroyed capital during the Maoist period. The Soviet empire was wealthier than China or India but invested disproportionately in military goods and heavy industry, much of which was outmoded or so polluting as to be worthless.

The immediate impact of the advent of China, India, and the former Soviet bloc to the world economy was thus to reduce greatly the ratio of capital to labor. This has shifted the global balance of power to capital. With the new supply of low-wage labor, firms can move facilities to lower-wage settings or threaten to do so if workers in existing facilities do not grant concessions in wages or work conditions favorable to the firm. Retailers can import products made by low-wage workers or subcontract production to lower-cost locales. In 2004 the Labor and Worklife Program at Harvard Law School held a conference on the impact of the end of the Multi-Fiber Arrangement that gave quotas to different developing countries for selling apparel in the United States and other advanced countries. Union leaders representing apparel workers in Central America told the conference that firms were ordering workers to work extra hours without any increase in earnings under the threat of moving to China.² With wages in Central America three to four times those in China, the threat was a valid one. But the Chinese researcher at the meeting noted that the shift of apparel jobs to China was helping workers much poorer than those in Central America and thus was reducing world inequality and poverty.

In the long run, China, India, and the former Soviet bloc will save and invest and contribute to the growth of the world capital stock. The World Bank estimates that China’s savings rate is on the order of 40 percent to 50 percent, higher than the savings rate in most other countries, which will help increase global capital rapidly.³ Although China is much poorer than the United States, it saves about as much as the United States because its savings rate far exceeds the U.S. savings rate. Still, it will take about three decades to restore the global capital/labor ratio to what it had been before China, India, and the former Soviet bloc entered the world economy, and

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even longer to bring it to where it might have been absent their entry. For the foreseeable future the United States and other countries will have to adjust to a relative shortfall of capital per worker and to the power this gives to firms in bargaining with workers. This will affect workers in different parts of the world differently.

Effect on workers

The flow of capital to China and India to employ their low-wage workers will increase wages in those countries. Indeed, as their rates of economic growth have zoomed, real earnings have risen. In China, the real earnings of urban workers more than doubled between 1990 and 2002. Poverty fell sharply despite a huge rise in inequality in China. Real wages in India also rose rapidly.

But workers in many of the developing countries in Latin America, Africa, and Asia did not fare well. Employment in Latin America, South Africa, and parts of Asia shifted from the formal sectors associated with economic advancement to informal sectors, where work is precarious, wages and productivity low, and occupational risks and hazards great. The entry of China and India into the world economy turned many developing countries from the low-wage competitors of advanced countries to the high-wage competitors of China and India. Countries such as Peru, El Salvador, Mexico, and South Africa can no longer develop by producing generic low-wage goods and services for the global marketplace that the World Bank/International Monetary Fund model of development envisaged that they would do. The backlash against this orthodox form of globalization in Latin America reflects this failure.

The doubling of the global workforce also challenges worker well-being in the United States and other advanced countries. First, it creates downward pressures on the employment and earnings of less-skilled workers through trade and immigration. The traditional answer to this pressure is that the advanced countries should invest more in educating their workers. During the early 1990s' debate in the United States over the impact of the NAFTA treaty with Mexico, proponents of the treaty argued that because U.S. workers were more skilled than Mexican workers and thus more capable of producing high-tech goods, the United States would gain high-skilled jobs from increased trade with Mexico while losing low-wage, less-skilled jobs. Less-skilled U.S. workers would benefit from trade if they made greater investments in human capital and became more skilled.

The argument that the United States will gain skilled jobs while losing less-skilled jobs would seem to apply even more strongly to trade with China and India. The average worker in China and India has lower skills than the average Mexican worker. From this perspective, Chinese and Indian workers are complements rather than substitutes

for American workers. Their joining the global labor pool reduces the prices of the manufacturing goods the United States buys and raises demand and prices for the high-tech goods and services the United States sells, which benefits educated labor. Lower prices for shoes, T-shirts, and plastic toys, and higher prices for semiconductors and business consulting and finance would be in the interest of all U.S. workers save perhaps for the last shoemaker or seamstress.

But these analyses ignore the second challenge that the advent of the highly populous low-wage countries to the global economy poses for the United States and other developed countries. This is that these countries are becoming competitive in technologically advanced activities. The model that economists use to analyze trading patterns between advanced countries and developing countries assumes that the advanced countries have highly educated workers who enable them to monopolize cutting-edge innovative sectors while the developing countries lack the technology and skilled workforce to produce anything beyond lower-tech products. In this model, American workers benefit from the monopoly the United States has in the newest high-tech innovations. The greater the rate of technological advance and the slower the spread of new technology to low-wage countries, the higher paid are U.S. workers compared with workers in the developing countries.

But the spread of higher education and modern technology to low-wage countries can reduce advanced countries' comparative advantage in high-tech products and adversely affect workers in the advanced countries. In 2004, when many engineers and computer specialists were troubled by the offshore transfer of skilled work, Paul Samuelson reminded economists that a country with a comparative advantage in a sector can suffer economic loss when another country competes successfully in that sector.⁴ The new competitor increases supplies, and this reduces the price of those goods on world markets and the income of the original exporter. Workers have to shift to less desirable sectors—those with lower chance for productivity growth, with fewer good jobs, and so on. Some trade specialists reacted negatively to Samuelson's reminder. What he said was well-known to them but irrelevant. In the real world it would never happen.

Samuelson is right, and his critics are wrong. The assumption that only advanced countries have the educated workforce necessary for innovation and production of high-tech products is no longer true. Countries around the world have invested in higher education, and the number of college and university students and graduates outside the United States has grown hugely. In 1970, approximately 30 percent of university enrollments worldwide were in the United States; in 2006, approximately 12 percent of university enrollments worldwide were in the United States. Similarly, at the Ph.D. level the U.S. share of doctorates produced around the world has

fallen from about 50 percent in the early 1970s to 18 percent in 2004.⁵ Some of the growth of higher education overseas stems from European countries rebuilding their university systems after World War II, and some owes to Japan and Korea investing in university education. By 2005, several EU countries and Korea were sending a larger proportion of their young citizens to university than the United States. But much is due to the growth of university education in developing countries, whose students made up nearly two-thirds of university enrollees in 2000. China has been in the forefront of this; between 1999 and 2005, China increased the number graduating with bachelor's degrees fivefold to four million people.

At the same time, low-income countries have increased their presence in the most technically advanced areas. China has moved rapidly up the technological ladder, expanded its high-tech exports, and achieved a significant position in research in what many believe will be the next big industrial technology—nanotechnology. China's share of scientific research papers has increased greatly. India has achieved a strong position in information technology and attracts major research and development (R&D) investments, particularly in Bangalore. China and India have increasing footprints in high tech because as large populous countries they can produce as many highly educated scientists and engineers as advanced countries, or more, even though the bulk of their workforce is less skilled. Indeed, by 2010 China will graduate more Ph.D.s in science and engineering than the United States. The quality of university education is higher in the United States than in China, but China will improve quality over time. India has produced many computer programmers and engineers. And Indonesia, Brazil, Peru, and Poland—name the country—more than doubled their university enrollments in the 1980s and 1990s.

Multinational firms have responded to the increased supply of highly educated workers by “global sourcing” for workers. This means looking for the best candidates in the world and locating facilities, including high-tech R&D and production, where the supply of candidates is sufficient to get the work done at the lowest cost. Over 750 multinational firms have set up R&D facilities in China. The offshore transfer of computer programming or call centers to lower-wage countries is the natural economic response to the availability of educated labor in those countries. The combination of low wages and highly educated workers in large populous countries makes them formidable competitors for an advanced country.

The bottom line is that the spread of modern technology and education to China and India will undo some of the U.S. monopoly in high-tech innovation and production and place competitive pressures on U.S. workers. Eventually the wages of workers in China and India will approach those in the United States, as have the wages of

European, Japanese, and to some extent Korean workers, but that is a long way off.

Finally, the development of computers and the Internet enhances the potential for firms to move work to low-cost operations. Business experts report that if work is digital—which covers about 10 percent of employment in the United States—it can and eventually will be offshored to low-wage highly educated workers in developing countries. The most powerful statement by a business group on this issue was given in 2005 by the Institute of Directors in the United Kingdom:

The availability of high-speed, low-cost communications, coupled with the rise in high-level skills in developing countries meant offshoring has become an attractive option outside the manufacturing industry. Britain has seen call centres and IT support move away from Britain, but now creative services such as design and advertising work are being outsourced. There is more to come. In theory, anything that does not demand physical contact with a customer can be outsourced to anywhere on the globe. For many UK businesses this presents new opportunities, for others it represents a serious threat. But welcome it or fear it, it is happening anyway, and we had better get used to it.⁶

Transition to a truly global labor market

By bringing modern technology and business practices to most of humanity, current global capitalism has the potential for creating the first truly global labor market. Barring social, economic, or environmental disasters, technological advances should accelerate, permitting huge increases in the income of the world and eventually rough income parity among nations. But even under the most optimistic scenario, decades will be required for the global economy to absorb the huge workforces of China, India, and potentially other successful developing countries. After World War II it took 30 or so years for Western Europe and Japan to reach rough parity with the United States. It took Korea about 50 years to move from being one of the poorest economies in the world to the second rung of advanced economies. If the Chinese economy keeps growing rapidly and wages double every decade, as in the 1990s, Chinese wages would approach levels that the United States has today in about 30 years, and would approach parity with the United States about two decades later. India will take longer to reach U.S. levels. This period of transition to a truly global labor market presents both new opportunities and serious threats to worker well-being in the United States and other advanced countries.

How American workers fare in the transition will depend on a race between labor-market factors that improve living standards and factors that reduce those standards. On

the improvement side are the likely higher rates of productivity due to more highly educated workers advancing science and technology and the lower prices of goods made by low-wage workers overseas. On the reduction side are the labor-market pressures from those workers and the worsening of terms of trade and loss of comparative advantage in the high-tech industries that offer the greatest prospects for productivity advances and the most desirable jobs. Which factors will win the race depends in part on the economic and labor-market policies that countries, the international community, unions, and firms choose to guide the transition. I can envisage a good transition scenario and a bad transition scenario.

In the good transition scenario, India, China, and other low-wage countries rapidly close the gap with the United States and other advanced countries in the wages paid their workers, as well as in their technological competence. Their scientists, engineers, and entrepreneurs develop and produce new and better products for the global economy. This reduces costs of production so that prices of goods fall, which improves living standards. The United States and other advanced countries retain comparative advantage in enough leading sectors or niches of sectors to remain hubs in the global development of technology. The world savings rate rises so that the global capital/labor ratio increases rapidly. As U.S. GDP grows, the country distributes some of the growth in the form of increased social services and social infrastructure—national health insurance, for instance—or through earned income tax credits so that living standards rise even for workers whose wages are constrained by low-wage competitors during the transition.

In the bad transition scenario, China and India develop enclave economies in which only their modern-sector workers benefit from economic growth while the rural poor remain low paid and a sufficient threat to the urban workers that wages grow slowly. The global capital stock grows slowly as Americans maintain high consumption and low savings. Eventually, citizens in the United States begin to blame globalization for economic problems and try to abort the transition and introduce trade barriers and limit the transfer of technology. To add to the nightmare, huge within-country inequalities in China, India, and other countries produce social disorder that creates chaos or gets suppressed by a global “superelite” who use their wealth and power to control a mass of struggling poor. The bad scenario resembles some recalcitrant Marxist’s vision of global capitalism.

The challenge to the United States is to develop business, labor, and government policies to assure that the country and the world make a good transition. What might this entail?

First, this requires that the United States invest in science and technology and keep attracting the best and brightest scientists, engineers, and others from the rest of the

world. The United States leads in science, technology, and higher education in part because it attracts huge numbers of highly educated immigrants. In the 1990s, dot-com and high-tech booms in the United States greatly increased employment of scientists and engineers without increasing the number of citizens graduating in science and engineering and without raising the pay of scientists and engineers relative to that of other professions. This was done by greatly increasing the share of foreign-born workers in the science and engineering workforce. Sixty percent of the growth of Ph.D. scientists and engineers consisted of foreign-born individuals, with the largest numbers coming from China and India. In 2000, over half of employed doctorate scientists and engineers aged less than 45 were foreign born. Many of the foreign born were United States educated, but most of those with bachelor’s degrees were educated overseas. The country needs to maintain itself as an attractive open society to keep a large flow of highly educated immigrants.

From the perspective of U.S. university graduates, however, the immigration of large numbers of highly educated workers and global sourcing of jobs to low-wage countries threatens economic prospects. This reality contradicts the notion that skilled Americans need not worry about competition from workers overseas. If you study or work in science and engineering, where knowledge is universal, you should worry. Your job may not go to Bombay or Beijing, but you will be competing with individuals from those countries and other low-wage countries. For the United States to maintain its global lead in science and technology, it has to encourage American citizens to go on in these fields, as well as attract foreign talent. This requires more spending on basic research and development, allocating a larger share of research grants to young researchers as opposed to senior researchers, and giving more and higher-valued scholarships and fellowships. The United States needs to educate citizens with skills that differ sufficiently from those being produced in huge numbers overseas and to modernize the country’s infrastructure so that U.S. workers have the best transportation, sustainable and affordable energy, and state-of-the-art machines and computers in order to compete with lower-wage workers in other countries.

For less-skilled and lower-paid Americans, there is a need to restructure the labor market for their services so they do not fall further behind the rest of the country. Some of the policies that can help workers through this period are “tried and true”: a strengthening of rights at work that would allow them to gain a share of the profits of firms in non-traded-goods markets through shared capitalist arrangements; trade unions; higher minimum wages, which can raise wages at the bottom of the job market with little cost to employment; expansion of the Earned Income Tax Credit, which will improve incomes and living standards without raising the cost of labor; and provision of social services such as health insurance that

makes them less costly to hire. Given the doubling of the global labor force, these workers will need greater social support than in past years to advance in the economy.

With productivity and GDP rising, the country will have the resources to raise social safety nets and supplement earnings so that work will be attractive even for those who face low-wage competition from overseas. Ideally, the competitive market would improve the well-being of all Americans without any policy interventions, but to the extent that globalization or any other factor prevents some groups from benefiting from economic growth, the country will need to buttress the living standards of those groups.

Conclusion

The world has entered a long and epochal transition toward a single global economy and labor market. There is much for the United States to welcome in the new economic world, but also much for the United States to fear. The country needs to develop new creative economic policies to assure that workers fare well during this transition and that the next several decades do not repeat the experience of the past 20 or 30 years in which nearly all the American productivity advance ended up in the pockets of the highest-paid individuals and very little

in the pockets of normal workers. National policies toward education, worker rights, taxation, and investment in infrastructure can help the economy make the adjustments to assure that all will benefit. ■

¹A version of this article, "The Great Doubling: The Challenge of the New Global Labor Market," was published as a chapter in *Ending Poverty in America: How to Restore the American Dream*, eds. J. Edwards, M. Crain, and A. L. Kalleberg (New York: The New Press, 2007).

²Harvard Law School, Labor and Worklife Program, "The Ending of Global Textile Quotas: Understanding the New Shape of the World Economy" (briefing book available from Labor and Worklife Program, May 23–24, 2005).

³World Bank, "World Development Indicators," Table 4.9, <http://devdata.worldbank.org/wdi2005/Section4.htm>.

⁴P. A. Samuelson, "Where Ricardo and Mill Rebut and Confirm Arguments of Mainstream Economists Supporting Globalization," *Journal of Economic Perspectives* 18 (2004): 135–46.

⁵R. B. Freeman, "Does Globalization of the Scientific/Engineering Workforce Threaten US Economic Leadership?" *Innovation Policy and the Economy* 6 (2006): 123–58; and R. B. Freeman, "What Does Global Expansion of Higher Education Mean for the US?" NBER, U.S. Universities in a Global Market, Woodstock, Vermont, October 3–4, 2008.

⁶Institute of Directors, "Offshoring Is Here to Stay," January 23, 2006, [http://www.politics.co.uk/issue-of-the-day/institute-directors-offshoring-here-stay-\\$370499\\$367012.htm](http://www.politics.co.uk/issue-of-the-day/institute-directors-offshoring-here-stay-$370499$367012.htm).

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