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# Introduction

*As they say on my own Cape Cod, a rising tide lifts all the boats. And a partnership, by definition, serves both partners, without domination or unfair advantage.*

—US President John F. Kennedy in an address  
in Frankfurt, Germany, on June 25, 1963

Perceptions about the benefits of global trade have undergone radical changes in recent years. In 2000, the conventional wisdom was that trade had been good for developed countries such as the United States and a few countries in Asia such as China and India but bad for developing countries, especially those in Africa and Latin America that had experienced two decades of economic stagnation. Partly in response to this view, a new round of multilateral trade negotiations dubbed the Doha Development Agenda was launched in 2001 with the principal goal of creating a trading system that would be more beneficial to developing countries. Ironically, subsequent global growth in emerging markets was robust and concentrated. Not only did China and India sustain their rapid growth but also growth was strong in Africa, the Middle East, Latin America, and the rest of Asia. By contrast, after 2000, US economic performance was modest. The longest US postwar expansion lasted from 1991 to 2000, but it ended rudely with the bursting of the speculative dot.com bubble in the stock market, which led to falling investment in capital goods and a recession during which the US manufacturing sector lost almost 3 million jobs. Although the economy recovered after 2003, manufacturing employment remained stagnant and GDP growth averaged just 2.3 percent between 2000 and 2007.

The difference between US and foreign economic performance during the period from 2000 to 2007 was striking. The US share in the world economy had declined between 1950 and 1980 as Western Europe and Japan converged toward US income levels. But between 1980 and 2000, the United States had actually grown about as rapidly as the rest of the world—a remarkable achievement for the world's richest economy.

Between 2000 and 2007, however, the combination of weak US growth and rapid growth in emerging-market economies reduced the US share in global GDP by about 10 percent.<sup>1</sup> Moreover, the gains from this tepid growth were not widely shared. Although the top 1 percent of US income earners did well and corporate profits reached the highest share of national income in 80 years, wage growth for most Americans was slow and real median household income actually fell.

In the face of this slow income growth, Americans had to resort to borrowing in order to continue to increase their spending—a response made possible by low interest rates and strong housing and equity prices. This increased borrowing led to large current account deficits, and thus the disappointing US growth performance was associated with large trade deficits and a rapid increase in imports from developing countries, especially China.

It was not surprising, then, that even prior to the global financial crisis, Americans had become increasingly disillusioned with international trade and particularly concerned about America's ability to compete with emerging-market economies. The coincidence of trade deficits and increased imports from developing countries with several years of sluggish real wage growth, growing income inequality, and declining manufacturing employment all contributed to these attitudes. In addition, the rapid growth in the offshoring of business services sparked by the internet added to the worries. By 2004, in the face of slow employment growth, it was hard to open a US newspaper without reading stories about jobs going to India. Alarm bells rang as more educated Americans who thought their jobs were safe suddenly discovered that they too might have to engage in international competition with low-wage countries. Strikingly, the stories about India disappeared from the headlines when employment recovered, and it turned out that the number of jobs that had migrated there had been modest. Nonetheless, it was clear that the concerns had struck a chord with the public and helped contribute to fears about the potential for greater disruption in the future.

A poll by *Fortune* magazine in January 2008 reflected these negative views. The poll found that 63 percent of US respondents indicated that “trade had made matters worse for the United States as a whole,” 78 percent felt it “made things worse for US workers,” and 55 percent said it “made things worse for US business.” Finally, 68 percent said that “the benefits of trade to other countries were greater than those for the United States.”<sup>2</sup> A CBS News Poll in 2008 found similar sentiments when it asked the question “Do you think the recent economic expansion in countries like China and India has been generally good

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1. According to the International Monetary Fund, the United States averaged 3.3 percent real GDP growth in both the 1980s and 1990s, while the rest of the world grew at annual rates of 3.1 and 2.8 percent, respectively. The US share of world GDP (based on purchasing power parity valuations) fell from 23.4 percent in 2000 to 21.3 percent in 2007.

2. “Recession Near, or Already Here,” *Fortune*, January 2008. <http://money.cnn.com/magazines/fortune/electionpoll/2008/pollresults.html> (accessed on November 1, 2012).

for the US economy, or bad for the US economy, or had no effect on the US economy?” Fourteen percent of respondents said good, 62 percent said bad, 10 percent said there was no effect, and 14 percent were unsure.<sup>3</sup> Finally, a Rasmussen poll in September 2009 found that 14 percent of Americans said what is good for the world economy is always good for the United States, while 75 percent disagreed with that statement.<sup>4</sup>

The global financial crisis further influenced these views. While no country was spared the effects of the crisis, economies like China and India, though adversely affected, were able to maintain positive growth and then recover quickly. With their relatively isolated financial sectors, low inflation rates, and large holdings of foreign exchange reserves, many developing countries were able to adopt stimulatory domestic policies. Such actions in turn bolstered primary commodity markets, helping other troubled developing-country producers. In the developed countries, however, the slump was steep and deep. In the United States, the unemployment rate breached 10 percent, and between 2007 and 2009 an additional 2 million jobs were lost in manufacturing. The International Monetary Fund (IMF) forecasts in 2010 suggested emerging-market economies would achieve growth rates close to the rapid rates they had recorded prior to the crisis. Longer-term projections by other research organizations presented a similar outlook (Lawrence 2011). By contrast, the advanced economies were expected to grow far more slowly. The US share in global output would decline, and if current trends continued China would eventually surpass the United States as the world’s largest economy.

It was again not surprising that the US public’s view on trade appeared to sour even further. In October 2010, the *Wall Street Journal* reported that Americans believed that “free-trade pacts had hurt the United States.”<sup>5</sup> Remarkably, over 50 percent of well-educated and upper-income Americans—those earning \$75,000 a year or more, a group that had previously strongly supported new trade agreements—now concurred with this view.<sup>6</sup> Partly in response to this inhospitable environment, the trade policies of the Obama administration were initially lethargic. The Doha Round was left to linger without US leadership and free trade agreements that had been signed by the Bush administration with Korea, Colombia, and Panama were presented to Congress for ratification only in late 2011. And it was not until 2012 that the administration became active in negotiating new agreements.

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3. CBS News Poll, July 31–August 5, 2008, [www.pollingreport.com/trade.htm](http://www.pollingreport.com/trade.htm) (accessed on November 1, 2012).

4. “60% Favor Less International Economic Oversight, Not More,” Rasmussen Reports, October 1, 2009, [www.rasmussenreports.com/public\\_content/politics/general\\_politics/september\\_2009/60\\_favor\\_less\\_international\\_economic\\_oversight\\_not\\_more](http://www.rasmussenreports.com/public_content/politics/general_politics/september_2009/60_favor_less_international_economic_oversight_not_more) (accessed on November 1, 2012).

5. “Americans Sour on Trade,” *Wall Street Journal*, October 4, 2010, 1.

6. In 1999, only 24 percent of Americans earning more than \$75,000 were skeptical about trade’s benefits.

## The Public's Concerns: Jobs

While Americans appreciate that imports provide them with cheaper products, their principal concerns about trade relate to jobs. In the aforementioned *Fortune* poll in early 2008, for example, only 30 percent of respondents felt that the statement “International trade is good for the United States because it leads to lower prices for consumers” was closest to their views. More than twice that share—63 percent—identified more closely with the view that “International trade is bad for the US because it results in the loss of jobs and lower wages.”<sup>7</sup>

The United States has implemented numerous trade agreements over the past two decades. These include the North American Free Trade Agreement (NAFTA) with Mexico and Canada in 1994, the Uruguay Round that established the World Trade Organization (WTO) in the same year, and the granting of China permanent most favored nation status in 2000 that allowed its accession to the WTO the following year. But the *Fortune* poll also indicated that a majority of Americans believe that these agreements have cost US jobs while providing other countries with considerably more benefits than those obtained by the United States.

The job concerns are especially focused on manufacturing. In 1970, 24 percent of US workers on nonagricultural payrolls were employed in manufacturing. By 2010, that share had dwindled to just 9 percent. Manufacturing has historically been an important provider of high-quality jobs, especially for men with relatively low educational levels. Henry Farber (2009, 2) of Princeton University puts it well:

The concern about job quality is based in part on the fact that the share of employment that is in manufacturing has been declining over a long period of time. This has led to the view that as high-quality manufacturing jobs are lost, perhaps to import competition, they are being replaced by low-quality service sector jobs (so-called hamburger-flipping jobs). The high-quality jobs are characterized by relatively high wages, full-time employment, substantial fringe benefits, and, perhaps most importantly, substantial job security (low rates of turnover). The low-quality jobs are characterized disproportionately by relatively low wages, part-time employment, an absence of fringe benefits, and low job security (high rates of turnover).

There are other concerns about the erosion of manufacturing. Manufacturing commands a disproportionately large share of spending on research and development, accounts for a disproportionately large share of productivity growth, and has been pivotal in the economies of major regions in the United States such as the Midwest. Manufacturing also plays an important role in international trade. Almost 60 percent of US exports of goods and services and 70 percent of imports are manufactured goods. Indeed, this tradability is a special source of concern when it comes to manufacturing because, as indicated in

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7. “Recession Near, or Already Here,” *Fortune*, January 2008, <http://money.cnn.com/magazines/fortune/electionpoll/2008/pollresults.html> (accessed on November 1, 2012).

Farber's comments, many believe that America's trade performance is the most important reason for manufacturing's declining role in the economy.

What explains the trade deficits in manufacturing? Many claim they reflect a decline in US international competitiveness. Some fault poor management (e.g., auto manufacturers), others fault unions for burdening their employers with costly benefit packages. But much of the blame is focused on US government policies. Frequently cited are corporate taxes (too high), regulatory and skilled-worker immigration policies (too restrictive), and an education system especially weak in math and science (Liveris 2010, chapter 6). Others point to unfair foreign practices and what they see as the toothless responses to these by the United States (Brown 2004, Fletcher 2009). Some castigate American policymakers for these policies and ascribe them to misguided beliefs in laissez-faire economics (Choate 2008). Articles on this theme often excoriate economists in particular for their cavalier attitude toward manufacturing.<sup>8</sup>

There have therefore been numerous calls for new trade and industrial policies. Prominent leaders from the business community have advocated new policies to encourage firms to "Make It in America"—the title of one such book by Andrew Liveris, the chairman and CEO of the Dow Chemical Company (Liveris 2010).<sup>9</sup> Warren Buffett, CEO of Berkshire-Hathaway, has a plan to guarantee balanced US trade by rationing the right to import using vouchers earned by exporting.<sup>10</sup> Ralph Gomory, former director of research at IBM, has endorsed Buffett's proposal and advocated new tax breaks for firms that produce output with "high-value-added-per-US-employee."<sup>11</sup> Andy Grove, former CEO of the Intel Corporation, would like to "tax the products of off-shored labor."<sup>12</sup>

As the economy recovered from the global financial crisis, there were numerous reports about the possibilities of manufacturing jobs returning to the United States due to higher wage costs in China and discoveries of new technologies in the production of energy. Nonetheless, whatever the specific prescriptions and prospects, there is a widespread view that the key to creating more jobs and preserving those that still exist in the US industries that

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8. For example, Alan Blinder of Princeton University has been pilloried for suggesting that the United States is better off when more standardized products are produced elsewhere. (Blinder was referring to televisions.) Michael Boskin of Stanford University has been criticized for allegedly saying "Computer chips, potato chips, what's the difference?" And Gregory Mankiw, chairman of President George W. Bush's Council of Economic Advisors, almost lost his job for saying that outsourcing would prove to be a "plus for the economy in the long run" and was simply "a new way of doing international trade."

9. An earlier work making similar arguments was Cohen and Zysman (1988).

10. Warren E. Buffett and Carol J. Loomis, "America's Growing Trade Deficit Is Selling the Nation Out from Under Us. Here's a Way to Fix the Problem—And We Need to Do It Now," *Fortune*, November 10, 2003.

11. Ralph Gomory, "A Time for Action, Jobs, Prosperity and National Goals," *Huffington Post*, January 25, 2010. [www.huffingtonpost.com/ralph-gomory/a-time-for-action-jobs-pr\\_b\\_434698.html](http://www.huffingtonpost.com/ralph-gomory/a-time-for-action-jobs-pr_b_434698.html) (accessed on November 1, 2012).

12. Andy Grove, "How America Can Create Jobs," *Business Week*, July 1, 2010.

produce tradable goods lies in policies that promote more innovation and enhanced productivity growth at home, and in adopting a more aggressive stance abroad toward the emerging-market economies.

## The Economists' Concerns: Welfare and Inequality

It is not only the public at large that has negative views about developing-country growth and its impact on the United States through trade. Some very prominent economists have also voiced their doubts. While the public's concern is mainly about jobs—and while some economists have raised questions about the impact of trade on employment in sectors producing goods and services that are actually or potentially tradable (Spence 2011, Blinder 2006)—the issues raised by economists are for the most part different, although their arguments resonate with the broader public's worries. Emblematic of these views was an op-ed in the *Financial Times* in April 2008 by former US Treasury Secretary Lawrence Summers, who was also the director of the National Economic Council during the first two years of the Obama administration.<sup>13</sup> Summers raised several concerns, as outlined in the next two sections.<sup>14</sup>

### Aggregate Welfare

First, Summers invoked the authority of Nobel Laureate Paul Samuelson, who in a widely quoted article published in 2004 had used the classical trade model originally developed by David Ricardo to point out that growth in developing countries does not necessarily improve welfare in the United States.<sup>15</sup> Summers was not alone in agreeing with Samuelson. In her 2008 campaign for the US presidency, Hillary Clinton referred to Samuelson's argument as providing support for her position that the United States call a "time out" on negotiating any new trade agreements in order to reconsider whether these were in America's interest.<sup>16</sup>

In his paper, Samuelson had presented three scenarios. Two supported the conventional view that the United States could gain from growth abroad through cheaper imports and larger export markets. But in a third scenario he demonstrated the possibility that the United States could lose if foreigners emerged as stronger competitors for US exports (Samuelson 2004). Summers added to Samuelson's argument by pointing out that in addition to such

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13. Lawrence Summers, "America Needs to Make a New Case for Trade," *Financial Times*, April 27, 2008.

14. Summers made several observations about US multinational firms that are evaluated in Moran (2009, 2010).

15. For a presentation of the model, see Krugman and Obstfeld (2003, chapter 2).

16. Edward Luce, "Clinton Doubts Benefits of Doha Revival," *Financial Times*, December 2, 2007. Senator Clinton was quoted as saying "I agree with Paul Samuelson, the very famous economist, who has recently spoken and written about how comparative advantage, as it is classically understood, may not be descriptive of the 21st century economy in which we find ourselves."

competition with the United States in export markets, faster growth in oil-importing countries like China could increase the world price of oil and thus reduce US welfare by raising US import costs.<sup>17</sup>

## Winners and Losers

Summers also observed that while global growth might benefit Americans who were already highly paid for intellectual creations by providing them with large markets, it could also put downward pressure on US wages in industries such as computers that the United States produces on a significant scale. Again Summers was not alone. In making this claim, he was joining another Nobel Laureate, Paul Krugman, who had raised alarms that US trade with developing countries had become an important reason for increased US wage inequality and slow real wage growth. Krugman also argued on the basis of another widely used classical trade model that “growing US trade with third world countries reduces the real wages of many and perhaps most workers in this country.”<sup>18</sup>

The concerns raised by these prominent economists about lower US welfare, increased inequality, and lower real wages for most US workers are especially troubling because they relate to the long-run impact of trade. If true, they would not be mitigated by the passage of time and would be present even if the US economy returned to full employment.

Some of the public’s fears are well founded and recognized. Some (but not all) increased trade certainly could cause short-term pain in the form of job losses, lower profits, and the dislocation of people and communities. In addition, in the context of the other downward pressures on US manufacturing employment due to sluggish demand and rapid productivity growth, these adverse effects of trade on US blue-collar workers have been especially painful. Nonetheless, the justification for open trade is that even if there are adjustment costs, they will be more than offset by eventual gains from improved resource allocation and enhanced productivity once those who lose their jobs are reemployed, even taking into account the costs to those who are not.<sup>19</sup>

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17. In the *Financial Times* article (see footnote 13), Summers wrote, “As Paul Samuelson pointed out several years ago, the valid proposition that trade barriers hurt an economy does not imply the corollary that it necessarily benefits from the economic success of its trading partners. . . . When other countries develop, American producers benefit from having larger markets to sell into but are challenged by more formidable competition. Which effect predominates cannot be judged a priori. But there are reasons to think that economic success abroad will be more problematic for American workers in the future.”

18. Paul R. Krugman, “The Trouble with Trade; Keep Our Markets Open but Protect Those Who Get Hurt,” *Pittsburgh Post-Gazette*, December 29, 2007, B-7.

19. Stephen Magee (1972), for example, estimated that the benefits from a five-year phaseout of all US trade restrictions in 1971 would be 100 times greater than the wages that would be lost during the transitional unemployment required for displaced workers to find new jobs. A more detailed follow-up study concluded that the overall gains from trade liberalization were 20 times the overall adjustment costs (Baldwin, Mutti, and Richardson 1980). See also Autor, Dorn, and Hanson (2012) for a cost-benefit analysis of Chinese imports.

These prominent economists are challenging the view that these net benefits exist for the US economy as a whole (in the case of Samuelson and Summers) and for most American workers, even those not directly engaged in international competition (in the case of Krugman).

Support for free trade is widespread among economists. Accustomed to being berated, free-trade skeptics relish the sight of apparent cracks in the foundation on which that support rests. When those in the highest ranks of the economics profession raise questions about the benefits of trade, they attract lots of attention.<sup>20</sup> But the high priests of the economics profession making these arguments are not apostates who advocate protectionism. Indeed, Samuelson, Summers, and Krugman have all made clear their opposition to higher trade barriers. Nor are they challenging conventional trade theory and agreeing with those who claim that the theory requires outdated assumptions that are inappropriate for “new realities.”<sup>21</sup> Instead, they are actually *invoking* standard trade theory to make empirical claims about the impact of foreign growth that are familiar to anyone who has taken an undergraduate course in international economics. The textbooks for these courses do demonstrate how trade can be more beneficial than self-sufficiency, but they also explain that (1) these benefits could shrink or grow as a result of developments abroad, and (2) trade can create winners and losers within nations. The fact that the most basic conventional economic theory could be used to support the broader concerns of the US public about trade and foreign growth may come as a surprise to some, but it underscores the fact that the concerns could rest on solid ground and therefore merit serious consideration.

## Implications

If the economists’ concerns are valid, the implications for US policies could be profound. The downward pressures on US living standards from developing-country growth would be occurring at a particularly inopportune time, since Americans are already being forced to tighten their belts because of the global financial crisis. The US spending binge has proven to be unsustainable. In the late 1990s, US households became increasingly indebted as their homes and stocks appreciated and credit was available at low real interest rates. Because home and equity prices declined precipitously when the financial crisis erupted, however, it seems reasonable now to foresee a period in which American households increase their savings and rebuild their wealth. More US growth will therefore have to come from foreign demand and less from domestic private and government spending. It is likely that whatever the trend effects of growth in emerging-market economies, the adjustment process will entail a weaker dollar and the downward pressures it could exert on living

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20. These reactions are documented by Jagdish Bhagwati (2009).

21. See Charles Schumer and Paul Craig Roberts, “Second Thoughts on Free Trade,” *New York Times*, January 6, 2004. See also the comments by Hillary Clinton cited in footnote 16.

standards through a worsening of America's terms of trade (Obstfeld and Rogoff 2004, Cline and Williamson 2012).

The US economy initially responded to the recession caused by the global financial crisis with expansionary monetary and fiscal policies. But over time the country has become increasingly dependent on foreign growth to maintain the recovery. This can be seen in President Barack Obama's pledge in his 2010 State of the Union address to double US exports in five years. US exports are fundamentally driven by growth in foreign demand, and, according to IMF projections in April 2012, emerging-market economies will account on a purchasing power basis for two-thirds of global income growth between 2012 and 2017.<sup>22</sup> If the critics are correct, however, the United States is caught between a rock and a hard place. On the one hand, it needs foreign growth to maintain demand and increase US exports; on the other, the costs of this dependence could rise if such growth imposes additional burdens on US living standards.

US foreign policy might also be affected. As exemplified by the Marshall Plan after World War II, and reiterated by John F. Kennedy in his words cited at the opening of this Introduction, American global economic leadership has been predicated on the view that a "rising tide lifts all boats." The American case for a liberal economic order is that it is "win-win." Open markets are conducive to growth in foreign economies, and that growth is in America's economic interest. But the claim that the United States is hurt by developing-country growth could provide an economic rationale for policies that would seek to preserve US incomes by keeping the rest of the world poor. Given the emergence of countries such as China and India as major global players, an American repositioning on this issue and the policies that might follow could seriously threaten the current global order that is increasingly centered on the G-20, which gives more decision-making power to developing countries.<sup>23</sup> It could, of course, still be in America's interest to foster foreign economic growth, because of either altruism or noneconomic benefits such as greater stability and peace. But the case for doing so is much stronger if foreign growth also provides material advantages for Americans.

Even if growth in developing countries does benefit the United States as a whole, there could be reasons for concern if it also harms large numbers of US workers, especially at a time of slow real wage growth and high unemployment. If American workers were generally doing well, some pressures on US wages because of trade might be acceptable. But in a context of stagnant compensation, rising income inequality, and high unemployment, such pressures could engender more powerful protectionist responses. The conventional nostrum—adjustment assistance for workers displaced by trade—is of no help

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22. IMF, *World Economic Outlook* database, [www.imf.org/external/pubs/ft/weo/2012/01/weodata/index.aspx](http://www.imf.org/external/pubs/ft/weo/2012/01/weodata/index.aspx) (accessed on November 1, 2012).

23. At the Pittsburgh Summit in September 2009, it was decided to designate the G-20 to be the premier forum for international economic cooperation.

to workers who remain employed but experience real wage reductions because of trade.<sup>24</sup> A response that could help would be more progressive tax and transfer policies to redistribute gains from winners to losers. In practice, however, it is politically difficult to raise taxes on the rich, and workers have justifiable reasons for skepticism that they will be fully compensated. As Paul Samuelson (2004, 144) observed, “Marie Antoinette said, ‘Let them eat cake,’ but history records no transfer of sugar and flour to her peasant subjects.”

The implications of higher oil prices are also significant. Growth in China and India has been robust. As their middle classes grow, increased spending on transportation (automobiles) and power could put upward pressure on global oil prices. America’s urban geography and transportation system are premised on abundant and inexpensive gasoline. Oil is also the most important reason for the strategic significance of the Middle East, because even though that region’s share of US oil imports has declined from its 60 percent peak in 2005, the United States in 2011 still imported about 50 percent of its oil, and the prospects are that it will continue to import a substantial share for the foreseeable future.<sup>25</sup> The price of oil influences politics among both US allies and adversaries. The impact of developing-country growth on oil prices influences both America’s domestic lifestyle and its foreign policies.<sup>26</sup>

This study, therefore, explores concerns about developing-country growth raised by the public and by economists. What impact has trade had on jobs in the United States? Has growth in developing countries reduced US welfare by providing increased competition in export markets and sparking higher oil prices? Has it significantly increased wage inequality and depressed wages? This study attempts to answer these questions and draw policy implications. In the sections below we summarize our arguments and findings and then make some qualifying comments about the scope of the study.

## Study Findings

This study challenges many of the perceptions about US trade with emerging-market economies. In several cases, these perceptions are derived from theoretical preconceptions or the use of data that point to conclusions that, while plausible, turn out to be either incomplete or wrong. Several of the findings in the study contradict widely held public views about the effects of trade with emerging-market economies on US employment and demonstrate that trade has often been assigned a role in America’s economic difficulties that far exceeds its impact.

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24. For discussions of trade adjustment assistance, see Kletzer and Litan (2001) and Rosen (2008).

25. For projections, see EIA (2012).

26. Developing-country growth will also affect the United States through its impact on global CO<sub>2</sub> emissions. For discussions of this issue, see Cline (1992), Victor (2004), Hufbauer, Charnovitz, and Kim (2009), and Houser et al. (2008).

In contrast to the view that trade is the dominant source of declining US manufacturing employment, for example, we argue that the trend is driven by the combination of a shift in domestic demand away from spending on goods and faster productivity growth in manufacturing—a trend that is evident in all industrial countries, even those with large trade surpluses. While the rising trade deficit after 2000 does correspond with an absolute decline in the level of manufacturing employment, rising productivity implies that the imputed job content of the manufacturing trade deficit did not change over the decade. Even if the United States had recorded balanced trade over the past two decades, the share of manufacturing employment would have fallen considerably.

In contrast to the view that imports and offshoring have been an important source of aggregate employment loss, especially during the most recent recession, we find that the association between employment growth and import growth has been strikingly positive and that trade has actually boosted US employment in downturns because the country's recessions have originated domestically.

These findings do not mean that some imports have not been disruptive. While its impact on net employment growth has been modest, international competition *has* been a source of job and wage loss for individual workers that should not be minimized. At times this loss has damaged communities, put downward pressure on local and occupational wages, and been especially costly for workers who are displaced. But again, in contrast to widely held views, trade accounts for just a small part of overall worker displacement in an economy that is quite volatile.

We also cast doubt on several of the claims made by some economists. We do not find that manufacturing competition with developing countries has reduced US living standards. On the contrary, such trade has improved America's nonoil terms of trade and increased its product choices. Developing-country growth provides US exporters with larger markets and US producers with cheaper and more varied inputs, albeit with some exceptions, as most developing countries are not yet major competitors for US exports. In addition, while some imports have been disruptive, close substitutes for many of the finished and intermediate products the United States imports are no longer produced at home. US producers are thus not adversely affected by these imports, while US buyers enjoy lower prices and more choice. Although international trade has resulted in lower and lost wages for some workers, trade with developing countries over the past decade has not exacerbated economywide US wage inequality along the lines of skill or education. The core reason why trade has improved welfare without worsening wage inequality is that the United States and developing countries have become specialized in very different products and processes, which makes much of their growth complementary rather than competitive.

The classical models used by Samuelson and Krugman are elegant and their predictions powerful and plausible, but the frameworks oversimplify the

world by assuming that (1) products, factors, and industries are standardized and homogeneous, in other words, that competition is perfect; (2) factors of production are completely mobile within countries; and (3) the United States and developing countries still produce the same products. In reality, most products are differentiated by variety and quality, factors of production are often used only for specific tasks, many shocks primarily impact particular communities, and many products exported by developing countries are no longer produced in the United States. These differences help explain why our findings contradict the economists' predictions.

Oil is an exception to the favorable impact on the terms of trade of developing-country growth. There is evidence that supports Summers' argument that the purchases of developed and developing oil-importing countries compete with each other, and large differences in world oil prices can be occasioned by relatively small changes in the world oil supply-demand balance. In this regard, demand generated by developing-country growth has played a role in boosting oil prices. But again there are misperceptions that exaggerate the impact of countries such as India and China. The primary responsibility for the shortfall between supply and demand that caused oil prices to soar between 2000 and 2008 actually rests with the developed countries, whose oil production failed to keep up with their demand. The contribution of the United States to higher global prices over this period was actually as important as that of China. Since 2008, China's role has increased, while that of the United States has declined, but upward pressures on prices from advanced economies still account for two-thirds of the price rise between 2000 and 2011. There is also evidence that with anticipated increases in US domestic energy supplies, this concern will become less important over time.

In our view, the maxim that a rising tide raises all boats will remain appropriate for some time in the future as a guide for US international economic policy in general and trade policy in particular. In the decades ahead, firms in developing countries could become more formidable competitors for US exporters, but by and large these pressures are not yet present. This does not mean that import competition has not been disruptive, and that it might not continue to induce some displacement and specific wage loss in the future. However, in the aggregate, Americans benefit from growth in developing countries, and the effects on economywide wage inequality in the United States are relatively modest.

In sum, the United States would not be better served by erecting new barriers at home or viewing foreign growth as damaging to its economic interests. Indeed, growth in developing economies is part of the solution to America's current economic difficulties, and not the major reason for its problems. The ability of developing countries to meet the optimistic growth projections that are commonly made is by no means assured. But since this growth provides larger markets for US exports and improves America's terms of trade, it helps the United States address its adjustment challenges.

Despite these relatively optimistic conclusions about emerging-market-economy growth, policy challenges most certainly remain for the United States. There is considerable scope for improved policies that diminish international imbalances, reduce foreign barriers to US exports, limit US oil imports, protect US intellectual property, revitalize the country's industrial base, and provide US firms and workers with the tools they need to adjust and compete.

## **Study Outline**

The three chapters in part I focus on the public's concerns about trade and jobs. We do not contest the validity of those concerns. Indeed, we discuss how increased imports could inhibit recovery, especially through higher oil prices; present evidence that some import competition has led to job dislocation and wage losses; and quantify the employment content of the trade deficit in manufacturing. But we also argue that public understanding is lacking and has overlooked more important reasons behind unemployment, job loss, and deindustrialization.

## **Total Employment**

Chapter 1 discusses aggregate employment—that is, “total jobs.” Public accounts and analyses by some think tanks reflect the presumption that increased imports (or larger trade deficits) lead automatically to aggregate job loss. But this presumption is not always warranted. While trade flows obviously do affect employment, the relationships between trade and employment are complex. Trade flows are not independent “causes” of change but rather are outcomes of a number of factors, making it perilous to make causal inferences and quantitative estimates about the impact of “trade” using data after the fact.

From the standpoint of employment creation, all import growth is not created equal. Some import growth does reflect offshoring and the loss of sales by domestic firms to foreign producers, but imports can also result from more domestic growth and indeed can facilitate it. Thus, concerns that imports reduce employment may sometimes be warranted. But more commonly, because domestic spending has been the primary driver of import growth, faster growth in imports in recent US history has generally been associated with increased employment.

Similarly, larger US trade deficits typically have been the result of an expansion in domestic spending and production, rather than associated with economic contraction. Increased trade deficits do not necessarily indicate that trade is, on balance, reducing aggregate employment. Nor does the emergence of larger trade deficits during an expansion preclude recovery. The specific reasons for the larger deficits need to be understood. Even when deficits are growing, it is quite possible that they simply are the result of a recovery in domestic spending that leads to more imports, and that increased export growth is actually further boosting employment.

Over the past two decades, fluctuations in import volumes have not been the major driver of aggregate changes in employment. Neither the rapid rise in imports from developing countries nor the declining share of employment in manufacturing prevented the US economy from achieving virtually full employment in the late 1990s and mid-2000s. Employment growth has actually been strong in the years following major trade agreements such as NAFTA, the founding of the WTO, and China's WTO accession. This suggests that, whatever their individual net employment effects, these agreements have had only a modest impact on overall unemployment.

When unemployment reflects insufficient aggregate demand, trade *can* have an impact on aggregate demand and thus employment. For example, with the need for smaller budget deficits constraining fiscal policy during the US expansion for the foreseeable future, increased exports and import substitution can play a role in restoring full employment. Exports can be stimulated by foreign growth, and that stimulus can give rise to additional domestic multiplier effects on spending. A weaker dollar can assist both exporters and domestic firms that compete with imports. Lower world oil prices and increased oil conservation can keep more purchasing power at home. Thus forces operating through trade can make a contribution to recovery.

## **Displacement**

Chapter 2 considers lost jobs and wages. Several studies have found that import competition from developing countries has led to worker dislocation. Some also report that import competition has damaged local economies and exerted downward pressure on local industrial and occupational wages. In addition, displaced workers draw unemployment benefits. Many experience significant wage losses once they find new employment, some workers draw disability benefits, and others permanently withdraw from the labor force. However, increased imports do not always lead to job loss. Studies report cases where no job loss is found and cases where the association between imported inputs and domestic production has actually been positive.

Whether negative or positive, these effects need to be viewed in perspective. Import competition is by no means the most important source of displacement or wage pressures in the economy. A growing majority of US workers experience little direct international competition. Moreover, the US labor market is quite volatile for many reasons that have little to do with trade. Indeed, by all accounts, job losses due to imports have accounted for a small percentage of gross job losses in the United States. This does not mean that the jobs lost because of trade are insignificant, or that the pressures on those remaining employed in the tradable sector are not substantial. But it suggests the need for policies that assist worker adjustment to all forms of displacement rather than displacement focused narrowly on trade.

## Manufacturing Employment

Chapter 3 explores declining manufacturing employment. Remarkably, given today's powerful forces of globalization, the US labor market is actually becoming more closed. The long-run decline in the manufacturing share of employment has been so pronounced that even when the increase in tradable services is taken into account, a smaller share of Americans in 2010 worked in industries that are exposed to international competition than in 1990. This deindustrialization of the United States is not due only to trade. Indeed, it is primarily “made in America” and reflects in part American spending decisions. Relatively rapid productivity growth has led to lower prices for goods, but US demand has been insufficiently responsive to prevent the declining trend in manufacturing employment. The driving force behind the shrinking employment share in manufacturing is thus quite similar to the earlier forces that reduced employment in agriculture. Faster productivity growth allowed the United States to meet its growing need for food (and the needs of many foreigners) while at the same time redeploying workers to other parts of the economy and allocating smaller shares of spending to food. The same is true for manufactured goods.

To explain the decline in manufacturing's employment share, popular accounts typically stress the effects of the emergence of China and India, offshoring through global supply chains, and US trade deficits. But these accounts overlook the far more powerful forces that have been operating for some time, long before imports from emerging-market economies were a concern. Between 2000 and 2010, the share of manufacturing in total employment did decline by about 0.4 percentage points per year. But this is almost exactly the same annual rate of decline in the share over the prior 40 years from 1960 to 2000. Likewise, the decline in manufacturing employment between 2000 and 2010 is precisely what would have been predicted given the sluggish behavior of aggregate employment and the relationships between manufacturing and aggregate employment changes that were typical prior to 2000.

But what about the manufacturing trade deficits? We estimate that in 2010, the manufacturing employment content of the US manufacturing trade deficit was equal to 22 percent of overall manufacturing employment. But surprisingly, we find that the manufacturing job content of the manufacturing trade deficit has not changed much over the past decade as a whole. In both 1998 and 2010, the manufacturing employment equivalence of the manufacturing trade deficit was about 2.5 million jobs. This is a surprise, because measured in current dollars the manufacturing trade deficit more than doubled over this period. But the explanation is faster manufacturing labor productivity growth. While the nominal manufacturing trade deficit was two and a half times as large in 2010 as it was in 1998, (nominal) output per worker soared, so the job content of each dollar of deficit fell.

Reducing or closing the trade deficit through increased exports could provide a boost to employment in manufacturing or at least delay its decline, but it would be like taking a few upward steps on an escalator moving downwards. There is a limit to the extent the deficit could fall (or even turn into a surplus), and thus the respite is likely to be temporary. The decline in manufacturing employment shares in other countries with large trade surpluses has been very similar to that in the United States. Eventually, as their experience indicates, the long-run relationships will again dominate and the descending trend will likely resume.

## Head-to-Head Competition

In part II the study turns to the concerns about competitiveness and inequality. In chapter 4 we undertake a detailed investigation using highly disaggregated trade data to (1) explore concerns about US competitiveness and (2) set the scene for our consideration of the economists' concerns about the aggregate welfare and distributional impacts of trade with developing countries. The argument voiced by Samuelson (2004) that emerging-market economies are becoming increasingly competitive with US exports seems to be supported by the large trade deficits the United States has been running in high-tech products. The argument by Krugman<sup>27</sup> that unskilled-labor-intensive exports from developing countries have put downward pressures on the relative wages of unskilled US workers seems to be supported by the declining prices of manufactured imports from developing countries. But both concerns implicitly reflect the assumption that goods produced in the United States and developing countries are close substitutes. To the contrary, chapter 4 shows that there are distinctive patterns of international specialization and that developed and developing countries export fundamentally different products, especially those classified as high-tech.

Although they have become more similar over time as judged by export shares, the United States and developing countries specialize in product categories that for the most part do not overlap. Moreover, even when exports are classified in the same category, there are large and systematic differences in unit values (average prices) that suggest the products made by developed and developing countries are not very close substitutes—developed-country products are far more sophisticated. This finding cannot be dismissed as simply the result of developing countries producing more intermediate products in each category—in other words, as simply reflecting global supply chains. We find it holds as well in categories that include only finished goods. These differences in prices are not apparent for all types of products, however. Export prices of developed and developing countries of primary-commodity-intensive products are typically quite similar. Think steel or copper. Prices of standardized (low-tech) manufactured products exported by developed and developing

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27. Krugman, "The Trouble with Trade; Keep Our Markets Open but Protect Those Who Get Hurt."

countries are somewhat similar. Think clothing. By contrast, the medium- and high-tech manufactured exports of developed and developing countries differ greatly. Think autos, pharmaceuticals, and electronics.

High-tech products are characterized by a greater scope for product differentiation, enabling US producers in these sectors to better insulate themselves from foreign competition from emerging-market exporters. Further, as we demonstrate, the average quality of developing-country exports is low compared to exports from high-income countries, particularly in high-tech products. Therefore, not only are the prices of developing-country exports on average low, but the quality of these exports is relatively low too. Moreover, the average gap in quality between the exports of developing countries as a group and US exports has not narrowed over time.

These findings shed light on the paradoxical finding, exemplified by computers and electronics, that US-manufactured imports from developing countries are concentrated in US industries that employ relatively high shares of skilled American workers. They help explain why America's nonoil terms of trade have improved and suggest that recently declining relative import prices from developing countries may not all produce significant wage inequality in the United States. Finally, the findings suggest that inferring competitive trends based on trade balances in products classified as high-tech or advanced technology can be highly misleading.

## **Trade and Welfare**

Part III then explores whether trade with developing countries has improved US welfare. As outlined in chapter 5, in the core trade models, these gains depend on the volume of trade and the rate at which the United States can exchange the goods and services it exports for the goods and services it imports—the terms of trade, which are the ratio of export to import prices. Samuelson's basic point is that foreign growth could reduce US welfare by having an adverse impact on its terms of trade and reducing the volume of trade (Samuelson 2004). In principle, as Samuelson proves, the impact of foreign growth on the terms of trade is ambiguous. He shows in a Ricardian model that the United States will enjoy additional gains with productivity growth in foreign export industries. This expands trade and improves America's real rate of exchange. But if foreign productivity growth occurs only in industries that compete with their imports from the United States—import-biased growth—then the United States could lose because foreigners emerge as competitors in export markets and substitute their domestic products for imports. In this case, America's export prices fall relative to its import prices and trade contracts.

As Samuelson himself stresses, and as has long been recognized in the international trade literature, the proposition that foreign growth has an ambiguous impact on domestic welfare emerges in conventional trade theory frameworks other than the one he uses. This means that empirical investigation is required to resolve the issue. But we can make presumptions on a

priori grounds. John Hicks (1953) conjectured, for example, that in their early stages of development, countries are most likely to experience rapid productivity growth in the industries in which they have a comparative advantage. Such “export-biased” growth will improve the terms of trade of their more developed trading partners. Hicks plausibly suggested that the negative case for the rich countries, in which developing-country growth is biased toward their imports, is likely to occur only when they come closer to developed-country income levels. This view that specialization patterns will be correlated with incomes emerges in many other frameworks that explain patterns of trade based on factor endowments (richer countries have relatively more skilled labor and capital), technology (richer countries are more advanced), and demand patterns (richer-country tastes lead them to develop high-end products).

After laying out the theory in chapter 5, we explore the behavior of the US terms of trade. There is considerable support for Hicks’ conjectures. From 1950 until the late 1960s, when today’s developed countries started relatively far behind the United States, the US terms of trade had a strong upward trend. In the 1970s, as he predicted, the improvement was more than reversed as Japan and Europe converged more closely to US productivity levels. More recently, countries such as China and Mexico, which currently have around one-fifth of US productivity levels, have become increasingly more important US trading partners. Again, as Hicks would have anticipated, a trend of improving terms of trade has been apparent. Between 1993 and 2010, the US manufacturing (and nonoil goods and services) terms of trade steadily improved primarily because the relative prices of US manufactured imports from developing countries declined. Between 1995 and 2009, Germany also experienced a strong rising trend in its manufacturing terms of trade, while Japan experienced such a trend through 2005.

Looking at the data, the fact that the (nonoil) US terms of trade have improved is suggestive. But to attribute causation to growth in emerging-market economies, we need to control for other influences. This has been done by Chang-Tai Hsieh and Ralph Ossa (2011) in a simulation study that finds a positive impact of Chinese productivity growth on the United States.

Using new methods for estimating trade gains developed by Costas Arkolakis, Arnaud Costinot, and Andrés Rodríguez-Clare (2010), we are able to estimate the welfare contribution of US manufacturing trade in finished and intermediate goods. The approach takes account of the costs not only of reduced specialization but also of reduced available product variety and of losses from reducing output in relatively more productive firms. We find that by 2008 these annual gains from US manufactured goods trade amounted to \$337.8 billion, or about \$1,000 per person. About half of these gains—an amount equal to 1.2 percent of US GDP—was accounted for by manufactured trade with emerging-market economies, and a quarter—or about \$250 per person—to trade with China alone. We also find that the implied gains have grown steadily since the mid-1990s.

## Impact of Trade Deficits

As in most classical trade models, Samuelson (2004) assumes that trade is balanced. However, to test the validity of his concern, we also need to take account of the fact that the United States has been running larger trade deficits. This is necessary because the trade balance is likely to be associated with an independent and systematic influence on the terms of trade. As explained in chapter 6, if consumption patterns are biased toward domestic goods and services, and/or many goods and services are not tradable, adjustment of US trade balances back to levels sustained in the early 1990s, for example, is likely to require lower terms of trade. The relevant question to ask is what the US terms of trade would be if the *current* trade balance were to return to the levels of the early 1990s.

We use three methods to answer this question. First, we simply chart the relationship between the trade balance and the terms of trade. Using data from 1990 through 2003, we find a negative association that is consistent with our theoretical expectations: a decline in the trade balance is associated with an improvement in the terms of trade of goods and services. After 2003, the relationship shifts downward and lower terms of trade are consistent with any given trade balance. However, this shift is entirely due to oil. Once oil is excluded, after 2004, the relationship of the (nonoil) terms of trade for any given (nonoil) trade balance in goods and services actually shifts *upward*, leaving the US economy with an 8.5 percent higher nonoil terms of trade in 2009 than 1990, even after adjusting for the increase in the trade deficit. This is contrary to what we would expect if Samuelson's concerns about import-biased growth in developing countries were increasingly relevant. Instead, the data point to strong export-biased growth in foreign countries.

Second, we cite simulation studies that have used theoretically grounded structural models to explore the implications for the terms of trade of restoring balance to the current account. These studies indicate that, although quite substantial changes in the real exchange rate (and relative US wages) are required to eliminate a deficit equal to 5 percent of GDP, the terms of trade changes are relatively small—on the order of 5 to 7 percent. An implication of these simulation results is that restoring balance to the 3.6 percent of GDP current account deficit in 2010 would not offset the nonoil terms of trade gains in recent years.

Third, we come to a similar conclusion when we use our own model based on estimated trade equations to simulate the impact of a restoration of the US nonoil trade balance from 2007 to 1990 levels. According to these estimates, to induce a lower deficit would require a depreciation of 15 percent in the real dollar exchange rate. Nonetheless, after taking account of the pass-through of this depreciation into export and import prices, this would still leave the United States with a 5 log-point (percent) improvement in the nonoil terms of trade over 1990 levels.

Thus, the three approaches we present reinforce each other. They indicate that the US nonoil terms of trade have improved since the early 1990s, even after adjusting for the impact of larger trade deficits. Contrary to Samuelson's concerns, therefore, foreign growth has contributed toward improvements in US welfare, as measured by the nonoil terms of trade.

The estimates of the structural trade model also point to additional sources of welfare gains for the United States. China's peg to the dollar over much of the post-2000 period has disciplined the pricing behavior of other exporters and restrained their ability to pass on their higher dollar costs to US consumers when their currencies appreciate. An important consequence arising from this is that an appreciation of the renminbi could lead to a more sizable decline in the US terms of trade as other developing countries raise their own export prices.

We find that growth in foreign income raises US export volumes, but also raises US import demand in the form of new varieties. The net effect on the trade balance, however, is positive. Developing-country growth has therefore contributed toward faster US export growth, an increase in the variety of imports available to Americans, and higher terms of trade associated with any given trade balance.

## **Oil Prices**

Despite the improvement in the manufacturing terms of trade, the aggregate US terms of trade in 2008 were lower than in the mid-1990s. As discussed in chapter 7, higher oil import prices account for the difference. We analyze the contributions of supply and demand in both developed and developing countries in driving oil prices higher between 2000 and 2008, when they averaged \$95 a barrel. While attention has been focused on the contribution of demand growth in China and other emerging markets, the role of slow production growth in developed countries was far more important. Ex ante demand by Organization for Economic Cooperation and Development countries increased by 6.7 percent between 2000 and 2008, but their oil production declined by 9 percent. This shortfall explains 81 percent of the price rise over the same period. The increase in net Chinese demand can explain 34 percent of the price rise, but increased supplies in other developing countries offset 15 percentage points, so that overall developing countries accounted for just 19 percent of the rise. The net-supply shortfalls created by the United States alone, where production fell by 6 percent over the period, were actually quite similar to those created by China. Even taking into account reduced oil demand by developed countries due to the global slowdown in 2008–09, we still find that the developed countries are responsible for two-thirds of the price increases between 2000 and 2011.

Holding oil supply constant, faster growth in emerging-market economies does lead to higher oil prices and has adverse effects on US welfare. However, the size of the effect that operates through this mechanism is modest. Each

1 percent faster growth in emerging-market economies as a whole reduces US real incomes by less than one-tenth of a percent by inducing higher oil prices. Further, emerging-market-economy growth in the future is only one of many factors that will affect oil prices. Future outcomes are extremely sensitive to both supply growth and conservation trends. Scenarios projected by the US Energy Information Agency, for example, suggest that increased global supplies or reduced demand of just 0.8 percent per year could reduce oil prices in 2035 to \$50 in 2009 dollars—that is, by 75 percent compared with what they would otherwise be (EIA 2011). There is growing evidence that over time this concern will diminish in importance as the US becomes more self-sufficient in energy (IEA 2012).

## **Wage Inequality**

The study then turns to the topic of wages. While improvements in the US terms of trade from trade with developing countries are good for national welfare, they may nevertheless be associated with rising wage inequality within the United States. Chapter 8 explicates the theory. Orthodox trade theory that assumes labor is mobile and homogeneous assigns a key role to changes in the relative prices of skilled- and unskilled-labor-intensive traded goods in wage determination. Cheaper exports produced by developing countries could, according to this theory, increase wage inequality throughout the US economy by reducing the prices of unskilled-labor-intensive traded goods produced in the United States. It could also make unskilled workers absolutely worse off.

This theory has served as the basis for many studies of the effects of trade on the relative wages of US workers with easily identifiable general skills such as those workers with college rather than high school degrees. However, to link changes in relative imported goods prices directly to changes in economywide relative wages requires assuming that imports and domestic products are perfect substitutes, and that labor is homogeneous and mobile. We found reasons in chapter 4 to question the perfect substitute assumption, and if the United States and developing countries do not compete directly in making products similar to imports, for example, lower-priced imports from developing countries could actually raise the real wages of less skilled US workers by increasing their purchasing power.

It is also possible, however, that even if the US economy were fully specialized, specialization patterns could change and wage inequality could rise if some relatively unskilled-labor-intensive production were shifted from the United States to emerging markets. This occurs because the relative wages of unskilled workers need to fall to induce other industries to employ them. However, with both incomplete and complete specialization, if wages reflect specific attributes of workers, the adverse impact on workers competing with imports might not be fully reflected in the wages of workers elsewhere in the economy.

## Wage Inequality: Evidence

Chapter 9 considers the evidence behind the issues raised in the previous chapter. We note that in the 1980s, increased wage inequality was pervasive, with skill premiums rising all along the wage distribution. Orthodox theory that linked rising wage inequality to increased price competition from developing countries in low-skill US industries offered a potential explanation. Since the mid-1990s, however, applying the standard two-factor theory confronts major challenges. The nature of wage inequality has changed. In particular, while wages at the very top of the distribution have continued to grow relatively rapidly, those at the bottom have not always fared poorly relative to those in the middle.

The composition of imports from developing countries has also changed and is no longer concentrated in low-skill US industries. Indeed, appendix 9A shows that US manufacturing imports from developing countries are no more concentrated in low-skill US manufacturing industries than US imports from developed countries. The computer and electronics industry (NAICS 334) is emblematic of this paradox.<sup>28</sup> Developing countries account for three-quarters of US imports in the sector, yet the US industry employs very high shares of skilled workers and the pace of its productivity growth and price declines reflect rapid technological change. Viewed through the prism of conventional trade theory in which specialization is assumed to be incomplete, the computer and electronics sector is an anomaly. But assuming intraindustry specialization allows us to explain that the products from developing countries are different and less skill-intensive than those still made in the United States.

As with our consideration of aggregate welfare, we use several different methods to consider the impact of trade on recent US wage inequality. All indicate that it has not been large. First, we cite estimates that use measures of the skilled- and unskilled-labor content of US exports and imports (the so-called net factor content of trade). These do not indicate that displacement due to trade has disproportionately affected unskilled US workers and in fact indicate almost no impact. However, these estimates have been criticized for being too aggregated to detect increased specialization within industries.

We then cite estimates that employ a simulation model that uses assumed skill intensities and is therefore not subject to such “aggregation bias.” This approach suggests that trade with emerging-market economies might have increased the skill premium between 1995 and 2006 by about 2 percent. These models are informative, as they can indicate the impact of developing-country trade on wage inequality that operates either through the conventional price channel or by changing specialization patterns.

While small, the 2 percent estimate obtained from the model is likely to be an upper bound because the model (1) assumes that all import growth occurs in products that compete directly with US production, whereas many imports are no longer produced locally, and (2) ignores the share of the value added in

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28. NAICS stands for the North American Industry Classification System.

imports from developing countries that, because of global supply chains, actually comes from more advanced countries (e.g., Japanese and US components in Chinese imports).

Third, we explore industry price and productivity data and find no evidence that the prices, adjusted for the productivity of unskilled labor products, have fallen. Fourth, we (and others) reach similar conclusions by using the two-stage approach that first estimates the impact of changes in product prices associated with trade due to offshoring and then considers the changes in the skill premium that are mandated by such price changes. All told, therefore, there is little support for the conventional (Stolper and Samuelson 1941) theory in recent US data. Based on our own econometric estimates and numerous studies using a variety of methods, we conclude that imports from developing countries have not mandated increases in wage inequality along the lines of skill.

However, this does not mean that trade has had no impact on wages. Instead, as the studies we surveyed in chapter 2 suggest, the effects appear to be better captured by models that explore the effects on the specific returns to working in particular firms, industries, occupations, and regions than by models that assume labor is homogeneous and fully mobile. Trade with developing countries has therefore had some adverse effects on particular workers, but it does not appear to have played an important role in recent economywide inequality that reflects skills, education, or reduced incomes of all low-skilled workers in the United States.

## **Policy Implications**

Chapter 10 concludes and draws some policy implications. We note that the large emerging-market economies are expected to continue to converge toward US per capita incomes. Nonetheless, for the next two decades, even forecasts that are optimistic about their prospects imply that income levels in China and India will still lag far behind those of the United States. So while these economies are likely to compete head to head with the United States in export markets at some time in the future, their growth for the foreseeable future is likely to be concentrated in the kinds of goods and services the United States imports. Moreover, even if China and India do compete head to head with the United States, the beneficial impact of increased varieties could offset some or all of the downward pressures on the US terms of trade. This pattern of growth should provide the United States not only with larger export markets but also improved terms of trade at any given trade balance.

Growth along such lines could be especially helpful, given America's adjustment and employment challenges. The United States economy has to grow faster than its long-run potential for several years to absorb its high levels of unemployment. Yet at the same time it has to increase national saving by reducing the federal budget deficit and consumer debt. As Americans spend less of their incomes, more of the demand for their production has to

come through exports. This implies a key role for trade with emerging-market economies in facilitating American adjustment.

If Americans save more, the replacement demand for US goods and services can be generated in a number of ways. These include exporting to larger foreign markets, reducing foreign current account surpluses, producing cheaper or more innovative US goods and services, and facilitating more open foreign markets. Consensus projections suggest that even if the other advanced economies can achieve their full potential growth rates, the emerging-market economies will contribute almost 70 percent of global growth over the next 20 years. This growth should stimulate US exports and reduce the need for adjustment by making US goods and services cheaper (through devaluation) or more attractive (through innovation). In addition, numerous countries, especially China, have large current account surpluses. Reducing these surpluses involves increased spending relative to incomes, which also boosts US exports.

There is no free lunch. Americans will have to reduce their spending relative to their incomes. But in addition, real exchange rate depreciation is likely to be required to facilitate this adjustment (Cline and Williamson 2012). Our regression analysis in background work for this study indicates that most of the adjustment in the value of the trade balance to exchange rates comes through increased export values. We have also found that, for the most part, US exports compete with exports from other developed countries. This implies that movements in the dollar with respect to other developed-country currencies (the euro, yen, sterling, and Canadian dollar) are especially important. However, adjustment in China and other developing countries toward smaller current surpluses would also boost US exports and is likely to be accompanied by appreciation of their currencies.

In addition to the pain of belt-tightening associated with reducing foreign borrowing, US living standards could be further reduced by the adverse impact of a weaker dollar on America's buying power. Fortunately, however, this study and others that we cite have found that the required terms of trade and real wage declines that are likely to be associated with dollar depreciation are modest. For example, we estimate that restoring the trade deficit in goods and services to its 1990 levels would reduce the terms of trade by just 5 percent and lower real incomes by about one-tenth of a percent of GDP.

Rather than stimulating US exports and reducing imports through a weaker dollar, it would be preferable and less costly if US goods and services were to become more attractive to foreigners. If the United States can stimulate demand for American products through increased innovation and quality improvements, the exchange rate adjustments required to achieve any given trade balance will be smaller. This underscores the important role that can be played by improvements in regulatory, tax, and other policies that enhance innovation and make the United States a more attractive location for production.

Industrial policies and exchange rate adjustments are substitutes. The United States should not be stampeded into adopting new industrial policies

on the grounds it has no alternative but to copy others. Instead, the benchmark against which such policies should be judged is whether they can do better than the default adjustment mechanism that operates through changes in exchange rates and lower relative prices for US goods and services. This requires concentrating on cases where the government is likely to be able to compensate for market failures.

An active US trade policy can reduce the costs of adjustment by lowering foreign barriers to US exports and enhancing the protection of US intellectual property abroad. On average, the tariffs faced by American exporters are among the highest faced by any country because other countries have been more active in negotiating access and granting preferential market access to each other. The Trans-Pacific Partnership and efforts to capture some gains from the Doha Round through partial or plurilateral agreements merit serious attention (Hufbauer and Schott 2012).

The US position is changing in the world, and over time the country's ability to influence events will diminish. Sharing leadership will not be easy, but retreat or relying purely on bilateral approaches is likely to be increasingly less effective. An emphasis on the multilateral trading system is particularly important, given the patterns of growth that are likely in the future. The WTO is the major vehicle for improving US access to large emerging-market economies and ensuring that these countries adhere to the trade rules.

Even if the United States is successful in creating new jobs through policies to boost exports, challenges will remain at home. Even if the United States does reduce its trade deficit and raise manufacturing employment, the impact is likely to be a one-off change that will not permanently offset the declining trend in the manufacturing employment share. Ultimately, Americans need to be trained and educated for the jobs of the future. And absent a change in American spending patterns, these are increasingly unlikely to involve the production of goods.

Growth in emerging markets may be beneficial overall, but it will continue to be associated with increased import penetration and job displacement in the United States. This highlights the need for policies that assist displaced workers through improved unemployment and healthcare benefits, training and reemployment assistance, and wage-loss insurance for workers who find new jobs at lower wages. Income inequality has increased in the United States, but trade with developing countries is a modest contributor. The appropriate policy response in any case is not trade protection but income redistribution through taxes and transfers.

Finally, the United States is vulnerable to higher oil prices, and especially to the macroeconomic effects of large oil import volumes. Stimulating conservation as well as the production of energy supplies both at home and abroad deserves policy attention. Variable import levies or taxes that raise and maintain a high domestic price for oil could play a vital role in reducing that dependence.

## Scope of the Study

Rapid growth in emerging-market economies affects the United States through many channels besides trade. Some relate to politics and the environment, others are economic and relate to the diffusion of ideas, capital flows, people, and finance. But in this study, for reasons of tractability (and competence), we focus on trade.

We are aware that there are major political implications that also need to be weighed in a more complete account of the effects of emerging-market-economy growth. Economists typically focus on measures of absolute welfare, but relative incomes have important effects on power and influence. When historians speak of Britain's decline, they do not mean it became poorer, but rather that it failed to maintain its lead as others became richer. As populous nations such as China and India grow, rival, and even surpass the United States in economic size, they could dramatically affect the global balance of power and America's leadership role.<sup>29</sup> We have already seen the transformation of the G-8 into the G-20 as the steering committee of the world economy, and in the coming decades global governance will undoubtedly continue to evolve toward giving emerging-market economies a greater say.

In addition, there are serious implications for the environment. Developing-country growth will have a major impact on greenhouse gas emissions, and friction over costs and obligations is bound to grow. Without meaningful action by developing countries, costly conservation efforts by developed countries might do little to prevent global warming. The great challenge in this area, therefore, is how to reconcile developing-country growth with effective action on climate change.

These other serious challenges notwithstanding, we concentrate in this study on economic effects, and even in this regard we are constrained. We emphasize trade. Four important economic effects will not be evaluated.<sup>30</sup> The first is technological diffusion. There are benefits from directly adopting the ideas and innovations of others. Developing countries have traditionally enjoyed what have been called "the benefits of relative backwardness" by adopting innovations made in the West. But if those countries increasingly create knowledge, the United States will benefit from a reverse flow through the diffusion of foreign discoveries and innovations. A second economic effect is international capital flows. Foreign growth can boost the profits of US-owned firms located in emerging-market economies. It also increases the returns to US citizens who invest in these countries and who share in the value

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29. See Subramanian (2011) for a discussion of these implications. A similar debate over the implications of Japan's rise occurred in the late 1980s—see Kennedy (1989) and Nye (1991). Fallows (2010) is an excellent recent discussion of the Chinese challenge to the United States.

30. See Subramanian (2011) for a broader economic perspective on the implications of Chinese growth.

added in their exports.<sup>31</sup> In addition, such growth can lead to increased foreign investment in the United States, which could increase capital formation and improve technology and thereby raise US output.

A third effect comes through migration. The United States has derived great benefits by being a magnet for migrants seeking a better life. Faster growth abroad could reduce these flows, especially if more educated foreigners find better opportunities at home. And finally, the United States has enjoyed supremacy—“an exorbitant privilege” in the words of Charles de Gaulle—as the center of the global monetary system with the dollar playing a central role as a reserve currency. Developments in foreign financial centers could erode this position.

We thus concentrate in this study on the economic effects of developing-country growth that operate directly through trade. Wherever possible we focus on trade in both goods and services. But in some cases, because of data availability and the context of the arguments being considered, we concentrate even more narrowly on the manufacturing sector. In addition, we operate for the most part at a fairly aggregated level, using growth and other measures for emerging-market economies as a whole, and thereby submerging some distinctions among these countries that could lead to a more nuanced approach. We, however, pay particular attention to China and India.

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31. In fact, this was another concern expressed by Lawrence Summers, who noted that as US multinationals earn more of their profits abroad, they become detached from their interests in the United States. Lawrence Summers, “America Needs to Make a New Case for Trade,” *Financial Times*, April 27, 2008.

