

An hourglass-shaped graphic with a globe inside. The top bulb is dark blue, and the bottom bulb is light blue. The globe is centered in the narrow neck of the hourglass. The top bulb has a dark blue cap, and the bottom bulb has a light blue cap.

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Foreign Outsourcing: Economic Implications and Policy Responses

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June 21, 2006

Abstract. The destructive aspects of foreign outsourcing are costly and distressing to those whose jobs are lost to increased imports. Therefore, matters of efficiency and equity are intertwined and one of the principal challenges for policymakers in the face of foreign outsourcing (and trade in general) is to find ways to ameliorate the associated harm, without sacrificing the economy-wide gains that such trade generates. Compensation for loss and adjustment assistance is thought by economists to offer the best chance for securing higher economic efficiency along with distributional equity.

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Foreign Outsourcing: Economic Implications and Policy Responses

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Summary

Foreign outsourcing—the importing of some intermediate product (i.e., a portion of a final product or some good or service needed to produce a final product) that was once produced domestically—is not a new phenomenon, nor is it one that is economically distinct from other types of imports in terms of its basic economic consequences. A steadily rising level of trade in intermediate products is one of the salient characteristics of U.S. trade and world trade for the last 30 years. It has been estimated that as much as a third of the growth of world trade since 1970 has been the result of such outsourcing worldwide. While foreign outsourcing may seem different from traditional notions of trade in that it involves exchange of a productive resource (capital or labor) rather than an exchange of a final good and service, the ultimate economic outcome is exactly the same: a net increase in economic efficiency through the elimination of economic inefficiencies that occur when countries use only the productive resources found within their borders. This gain is not likely to be achieved, however, without causing costly disruptions for the particular workers and sectors tied to the now-imported good.

Foreign outsourcing, trade in general, and trade deficits tend to change the composition of total output and the composition of total employment, but it is unlikely that economy-wide they lead to any change in the overall level of either. In some areas of the economy output falls and jobs are destroyed, but in other areas output is increased and jobs are created. There are two complementary reasons for this. First, the Federal Reserve using monetary policy can set the overall level of spending in the economy to a level consistent with full employment. With aggregate spending at the right level, full employment is possible with or without outsourcing, trade deficits, or trade in general. Second, according to basic economic principles any increase in the demand for an import will also lead to adjustments in the foreign exchange market that will induce an equal increase in the demand for the country's exports of goods or assets. The positive stimulus to employment of the increased export of goods is direct, that of the increased export of assets is indirect, but both tend to create jobs in other parts of the economy. Indirect evidence of this inherent “two-way” nature of trade and that increased outsourcing over the last 30 years has not likely led to a significant net diversion of employment or output abroad is found in the relatively stable patterns of employment and output between the domestic parent and foreign affiliates of U.S. multinational corporations. In addition, there is evidence of sizable foreign outsourcing to and job creation in the United States.

The destructive aspects of foreign outsourcing are costly and distressing to those whose jobs are lost to increased imports. Therefore, matters of efficiency and equity are intertwined and one of the principal challenges for policymakers in the face of foreign outsourcing (and trade in general) is to find ways to ameliorate the associated harm, without sacrificing the economy-wide gains that such trade generates. Compensation for loss and adjustment assistance is thought by economists to offer the best chance for securing higher economic efficiency along with distributional equity. This report will be updated as events warrant.

Contents

Introduction 1

Lost Jobs? 2

 Evidence from U.S. Multinational Companies 4

 Evidence from International Investment Flows 5

 Evidence from Employment Trends in the IT Sector 6

Trade, Outsourcing, and Wages 7

A Rising Level of Trade and Economic Well-Being 9

 Effects on the Export Side 9

 Effects on the Import Side 9

 Gains from Trade Over Time 11

 The Gains from Trade, Outsourcing, and the “Product Cycle” 12

Are Services Different? 13

Implications for Economic Policy 15

 Is Protection Appropriate? 16

 The Sectoral Burden of the Trade Deficit 18

 Under-Investment in the Economy’s Creative Powers 19

 Ameliorating Outsourcing’s Costs 21

Contacts

Author Contact Information 22

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Introduction

Foreign outsourcing—the importing of some intermediate product (i.e., a portion of a final product or some good or service needed to produce a final product) that was once produced domestically—is not a new phenomenon, nor is it one that is economically distinct from other types of imports in terms of its basic economic impact. A steadily rising level of trade in intermediate products is one of the salient characteristics of U.S. trade and world trade for the last 30 years. Lower transportation costs, improved international communication, and the reduction of government barriers to trade have helped propel the transformation to an ever more internationally fragmented production process in many industries. An obvious example of this is the automobile: no matter what the nameplate, the raw materials are produced in many different places, and parts are manufactured all over the world for final assembly often, but not always, in the destination country. It has been estimated that as much as a third of the growth of world trade since 1970 has been the result of such outsourcing worldwide.¹ In the United States, large shares of both exports and imports are intermediate products. In the recent years, just the capital goods category by itself has accounted for about 50% of nonagricultural goods exports and around 30% of nonpetroleum goods imports. And the greatest change, for the United States has occurred on the import side. Using capital goods as an example again, in 1970 such exports were about 40% of total exports, while imports had a share of only 11%.²

Outsourcing may seem different from traditional notions of trade in that it involves exchange of a productive resource (capital or labor) rather than an exchange of a final good and service, but it can be analyzed within the same framework as increased importing of a final product or increased trade in general. The central economic question to be answered is whether increased foreign outsourcing increases or decreases overall economic well-being. To answer that question will certainly require an accounting of the deleterious effects of foreign outsourcing on domestic workers and industries who once produced the now outsourced product, but it will also require an accounting of the gains to domestic consumers of the now imported product as well as any induced benefits to exporting industries. If benefits exceed costs, then measures to constrain outsourcing will tend to reduce overall economic well-being. But even if it is clearly a “net gain” foreign outsourcing brings into conflict the goals of increasing economic efficiency and maintaining an equitable distribution of those gains. This intertwining of economic efficiency and distributional equity will mean that policymakers may find it difficult to take advantage of the increase in economic efficiency that foreign outsourcing affords without also establishing policies to assure equitable treatment of those whose jobs are lost and whose lives are disrupted by this market churning force.

What economic analysis also highlights is the inherent “two-way” nature of trade, including foreign outsourcing. Something is given up and something is gained. More imports tend to beget more exports. If there are economic reasons for U.S. firms to outsource abroad, there are likely similar reasons for foreign firms to outsource to the United States. Jobs are created and destroyed. What is produced and what is traded for will not be determined just by relative wages, but rather the relative efficiency in the production of traded products. Low wages will likely attract certain types of production. However, because of differences among countries in their capacity for

¹ David Hummels, Jun Ishii, and Kei Mu Yi, “The Nature and Growth of Vertical Specialization in World Trade,” *Journal of International Economics*, vol. 54 (June 2001), pp. 75-96.

² Presidents Council of Economic Advisors, *Economic Report of The President* (Feb. 2004), p. 404.

innovation, in their technical prowess, and in their workers' skills and productivity, there will be many things that can be produced more efficiently in high-wage economies such as the United States. Over time an economy's relative advantages may change but there need be no general deterioration in what it gains from trade.

Perhaps foreign outsourcing is now more noticed because it is occurring with rising frequency in the service sector and adversely effecting a strata of the labor force that heretofore was more insulated than goods producing industries from the pressures of international competition. But the nature of the process is the same whether it is trade between individuals, regions, or countries; or trade of final goods or services; or trade of intermediate goods and services: increased economic well-being results from *producing what one does best and trading for the rest*. In this economic framework it follows that, for the nation, trade is ultimately not about competition, rather it is a process of mutually beneficial exchange.

As noted above and developed more fully below, the overall macroeconomic impact of foreign outsourcing will be a *net effect*, involving negative and positive impulses that create and destroy jobs. Unfortunately, there are no public data series that allows a ready tallying of the *net* impact of foreign outsourcing on the economy.³ Therefore, beyond the predictions of economic theory, analysis of this phenomenon must use indirect evidence. Since foreign outsourcing has already occurred on a relatively large scale in the goods-producing sector of the U.S. economy, this report takes the approach that this experience will be the best predictor of the economic effects of outsourcing's spread to the service sector. Further, it is assumed that the tools of economic analysis used to isolate and evaluate these past economic effects are appropriate for judging the probable economic effects of current and future outsourcing, wherever in the economy they might occur.

Lost Jobs?

Foreign outsourcing destroys jobs in those parts of the economy that once produced the now imported product, but economic analysis tells us that due to off-setting employment effects in other parts of the economy, foreign outsourcing (or imports in general) is unlikely to cause a *net* loss of jobs economy-wide. A steady churning of labor markets is a normal characteristic of a dynamic market economy like the United States. Foreign outsourcing and increased imports can contribute to that "churning," and in doing that can be expected to change the composition of total output and the composition of total employment, but they do not necessarily permanently reduce the level of either.

There are two complementary reasons for the relative steadiness of total employment and output in the face of foreign outsourcing and other disruptive market forces. First, the Federal Reserve, using monetary policy, can set the overall level of spending in the economy to a level consistent

³ Beginning in 2004 the Bureau of Labor Statistics has collected data on job loss due to transfer of work outside of the United States. These data are a measure of *gross* job loss and have shown that through early 2005 such lay-offs have occurred on a very minor scale of 3000 to 5000 workers per quarter. That represents about 2.0% of the total layoffs in each quarter and an extremely small share of the U.S. total labor force of over 140 million workers. For these data, see United States Department of Labor, Bureau of Labor Statistics, *Extended Mass Layoffs*, various issues. For further discussion of layoffs, see CRS Report RL30799, *Unemployment Through Layoffs and Offshore Outsourcing*, by Linda Levine.

with full employment.⁴ While deviations from full employment can occur, a well run monetary policy will minimize the incidence and duration of such episodes and help keep the total level of employment high in most years with or without outsourcing, trade deficits, or trade in general. To give some perspective on the relation between “job loss” and total employment, as well as the potential significance of foreign outsourcing in this dynamic process, consider that in any quarter of 2000, at the peak of the last economic expansion, with total employment at about 111 million, *gross* job losses tallied between 8.5 and 9.0 million. Nevertheless, the economy at that time was operating at the lowest rate of unemployment in 40 years. Over the whole course of that expansion gross job loss actually rose as the unemployment rate steadily fell. But with adequate economy-wide spending, it was possible to create job gains that more than offset job losses. In the somewhat more tepid labor market conditions of the current economic expansion, *gross* job losses per quarter between 2002 and 2005 have averaged around 7.4 million—compared with gross job gains in this period that have averaged about 7.8 million per quarter and, as a result, led to a rise in total employment during the 2002-2005 period. In either time period *gross* job losses occurred on a scale well beyond what is currently attributed to foreign outsourcing.⁵

Second, against the economic backdrop of adequate aggregate spending, any increase in the purchase of imports will tend to generate an equal increase in the sale of the country’s exports of goods or assets. This outcome follows from the fundamental economic requirement that imports must be paid for and exports are the only means for making that payment. The export sold does not have to be a currently produced good or service, it can also be the sale of an asset such as a deposits in a bank account, shares of stock, bonds, or real property, but in the end when tallied across transactions in goods and assets, a nation’s trade is always in balance in the sense that any imbalance in goods trade must be offset by a compensating imbalance in asset trade. Both types of export sales will have a positive effect on domestic output and employment, countering across the whole economy the negative effect of increased imports. In short, the U.S. deficit in trade is offset by the surplus in capital flows.

Consider, for example, a situation where a service once provided domestically is now imported from a country such as India. Since foreign suppliers do not spend dollars, the U.S. importer will have to buy the foreign currency needed from its foreign exchange market or pay in dollars and let the foreign supplier buy local currency from its foreign exchange market. Either way, to generate the foreign exchange the United States must export something. It can sell U.S. goods or services, or it can sell U.S. assets (i.e., bank deposits, stocks, bonds, real property, etc.). The positive stimulus of the increased export of goods is direct. When foreigners purchase U.S. goods, U.S. output and employment rise to offset the loss of service jobs to India. If exports increase less than the amount needed to offset jobs lost, the United States then must, in effect, borrow the money needed to pay for the increased imports through the sale of an asset. The stimulus from an increased export of assets is indirect. Because the sale of an asset is equivalent to an increase in

⁴ Economies always have some amount of unemployment. Each economy will tend to have a natural rate of unemployment around which the actual unemployment rate fluctuates. This natural rate will also represent the rate at which the economy is effectively at full employment because a lower rate of unemployment would not be sustainable due to the inducement of higher a rate of inflation. The natural rate is not zero because at any point in time there will be some people who are changing jobs and other people who normal market forces have temporarily displaced. More fluid the economy’s labor markets the lower its natural rate of unemployment is likely to be. For most of the last 30 years, the United States economy’s natural rate was judged to be in the 5.5% to 6.0% range. Since the mid-1990s the natural rate has likely fallen to the 4.5% to 5.0% range. Most often an appropriate level of aggregate spending is that consistent with employment at the natural rate.

⁵ U.S. Department of Labor, Bureau of Labor Statistics, *Business Employment Dynamics*, various issues.

the flow of saving available to the U.S., it exerts a downward push on domestic interest rates, stimulating interest-sensitive activities such as spending on consumer durables and residential construction, and raising output and employment in these sectors.⁶ Therefore, whatever negative effects increased imports have on output⁷ and employment are offset by the positive economic effects of increased exports of goods or assets.⁸ The composition of output and employment will change in response to these changed demands, but so long as the Federal Reserve can maintain aggregate spending at the an appropriate level, total output and employment will not change. (As already highlighted above, the ultimate steadiness of total employment in the face of increased imports does not mean that there are not likely to be important short-run disruptions as displaced workers adjust to the new market conditions; and the manner of that adjustment is likely to be an area of pivotal importance to workers and policymakers.)

Given the typical high incidence of intermediate products in export and import flows, we will probably find that outsourcing into and out of the United States both rise as trade increases. But this is not a necessary condition because while all foreign outsourcing are imports not all imports are foreign outsourcing. We might import an intermediate product and pay for it by exporting a final product. The general impact on employment and output are the same in either case, however.

Evidence from U.S. Multinational Companies

Multinational companies (MNCs) account for a very large share of the U.S. economy. In 2001, the MNC's domestic parents produced about 25% of U.S. gross domestic product (GDP) and employed over 23 million workers or about 20% of the nonbank work force. MNCs are even more important in U.S. international trade, being involved in nearly 60% of total goods exports and about 40% of total goods imports. Because of their central economic role, if a rising level of international trade and foreign outsourcing were diverting a large number of domestic jobs overseas, it would be evident in the pattern of employment between the MNC's domestic parents and foreign affiliates. No large scale diversion of employment has occurred, however.⁹

For the period that stretches from 1977 through 1993, MNC employment declined in both parents and foreign affiliates and the rate of decline was faster in the latter. From 1994 to 2001, MNC employment rose in both the parents and the foreign affiliates. This time employment in the affiliates grew slightly faster, but not so much faster as to indicate any major shift. Be mindful

⁶ Of course, asset sales represent borrowing to sustain *current* domestic spending by transferring to foreigners a claim on some amount of the *future* output of the United States. The repayment of the loan will manifest as a future trade surplus and a net outflow of U.S. exports of goods and services and, thereby, lead to reduction of future domestic spending below what it otherwise would be.

⁷ The focus of this discussion is the circumstance when an import is a direct substitute for domestic output. Imports, however, are not always substitutes for domestic output. An import can be seen by consumers as a distinct product and primarily generate an increase in total demand rather than a substitute for some domestic product. An imported good can be an essential component necessary for the expansion of domestic output. An import can satisfy a domestic demand that can not be readily supplied by domestic producers due to capacity constraints. And imports from one country can be a substitute for imports formerly obtained from another country.

⁸ Export related jobs generally pay on average 7% to 13% higher wages than jobs in input-competing industries. So, most often, better jobs are being created than those that are being destroyed. However, the new jobs are not necessarily going to be filled by those whose jobs were destroyed. See Andrew B. Bernard and J. Bradford Jensen, "Exporters, Jobs, and Wages in U.S. Manufacturing," *Brookings Papers on Economic Activity: Microeconomics*, no. 47 (1995), pp. 67-112.

⁹ Raymond J. Mataloni Jr., "A Note on Patterns of Production and Employment by U.S. Multinational Companies," *Survey of Current Business*, vol. 84, no. 3 (Mar. 2004), pp. 52-56.

that a foreign affiliate's employment share can increase for reasons unrelated to outsourcing and may not reduce U.S. employment. Reasons for this would include expanding foreign markets not easily serviced by exports, faster economic growth abroad, or lower productivity in the foreign affiliate. That the parents in this time period were also increasing their output share suggests that the differences in the rates of employment growth largely reflected slower productivity growth in the affiliates.¹⁰

The natural "two-way" nature of trade suggests that for a complete view of trade's employment effects we also consider the behavior of foreign MNCs in the United States. A U.S. company can destroy jobs by diverting production abroad, but a foreign company can create jobs by diverting production to the United States. Economic reasoning tells us that if it is more efficient to produce some products abroad, it is also likely that it is more efficient to produce other products in the United States. Therefore, we might expect there to be outsourcing into and out of the U.S. economy. What we observe is that over the 1977-2001 period, employment *in* the U.S. by *foreign* MNCs grew by 4.7 million, exceeding the 2.8 million increase in employment in the foreign affiliates of U.S. MNCs.¹¹ Again, employment shifts can occur for reasons other than outsourcing, but if outsourcing is a phenomenon of some significance for foreign and domestic companies, then these data could indicate that the United States was more likely to be the destination than the departure point for foreign outsourcing.

Evidence from International Investment Flows

The flow of investment spending on plant and equipment between the United States and other economies could also be an indirect indicator of a pattern of diversion of capacity and jobs to foreign locations. If, because of lower labor costs or other factors, foreign locations are increasingly the preferred site for the production of many goods and services, then we might expect that there would also be a pronounced tendency for American companies to expand productive capacity abroad so as to take advantage of these situations. For reasons similar to those outlined above, foreign investment does not have to lead to a diversion of domestic employment, but if foreign outsourcing by U.S. companies was occurring on a large scale there might also be a skewing of foreign investment flows in the same direction. The evidence in this regard points to a pattern of balance, not a net diversion to foreign locations.

While the image of the American company destroying jobs by closing its domestic operations in favor of some offshore location comes quickly to mind for many people, it is an incomplete image of what has been occurring in the U.S. economy for many years now. A more accurate image and one wholly consistent with the typical "two-way" nature of international economic exchange is one that also includes large inflows of foreign investment into the United States.

These types of investment flows are termed "direct investment" and their level and direction are tallied by the U.S. Commerce Department each year.¹² The data reveal that over the course of the

¹⁰ See Robert Lawrence, *Globalization and Trilateral Labor Markets* (New York: The Trilateral Commission, 1996); and "Summary Estimates for Multinational Companies," *BEA News*, Apr. 2004.

¹¹ See Mataloni *op. cit.* For a closer look at the nature and extent of outsourcing, see CRS Report RL32292, *Offshoring (a.k.a. Offshore Outsourcing) and Job Insecurity Among U.S. Workers*, by Linda Levine.

¹² For a more extensive examination of these patterns, see CRS Report RL32461, *Outsourcing and Insourcing Jobs in the U.S. Economy: Evidence Based on Foreign Investment Data*, by James K. Jackson; and CRS Report RS21857, *Foreign Direct Investment in the United States: An Economic Analysis*, by James K. Jackson.

1992-2000 economic expansion, the United States increased its direct investment in the rest of the world by \$885 billion, while foreign investors increased their direct investment into this country by \$926 billion. The similar size of these flows suggests that in this time period to the extent that such flows correlate with foreign outsourcing into and out of the United States, this country had been as likely to be the destination of foreign outsourcing as it is the departure point. In the current economic expansion, during the period of 2002-2004 for which data are currently available, the pattern has changed somewhat, with the United States increasing its direct investment in the rest of the world by about \$400 billion, whereas foreign investors increased their direct investment in the United States by about \$200 billion. But as the expansion continues, inbound direct investment will probably increase relative to outbound direct investment, in part because growth in the United States is expected to outpace that in the rest of the world.

In addition, data for capital expenditures by U.S. multinational companies show that the shares of such spending between the parent and the foreign affiliates have been relatively steady suggesting no increase in preference for foreign over domestic locations for expansion of production capacity.¹³

Evidence from Employment Trends in the IT Sector

A widely cited study by Forrester Resources projects that 3.3 million U.S. sector jobs will have moved offshore by 2015. Yet, Jacob Kirkegaard of the Institute for International Economics (IIE) has done a close examination of the employment trends since 1999 in those occupations deemed at risk of moving offshore in the Forrester study. Some of the findings of the IIE study are as follows:

- The vast majority of the jobs lost from 2000 to 2002 in the “at risk” occupational categories were in the manufacturing sector and losses were, therefore, more likely the consequence of recession and productivity advance than foreign outsourcing.
- The majority of those occupations affected by foreign outsourcing pay less than the average U.S. wage and are as likely to face elimination through technological advance as outsourcing.
- The IT occupations that have seen declines are concentrated in low-skill occupations.
- High paying IT occupations have generally expanded since 1999.
- More than 70,000 computer programmers have lost their jobs since 1999, but more than 115,000 higher paid software engineers have gotten jobs since 1999.

These findings again suggest that to the extent that foreign outsourcing has affected these “at risk” occupations, it is part of a “two-way” process involving job destruction and job creation and that the jobs created may be better jobs than those destroyed. Therefore, while some are hurt, it is not clear that the overall impact is a negative one.¹⁴

¹³ Direct investment is part of the net international invest position of the United States and the data are available from U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business* (July 2003).

¹⁴ John F. Kirkegaard, “Outsourcing—Stains on the White Collar” photocopy, Institute for International Economics, 2003.

Trade, Outsourcing, and Wages

Another common concern with a rising level of trade and the foreign outsourcing that accompanies it, is the belief that it must put downward pressure on the wages of domestic workers. Outsourcing is commonly seen as a process driven by the search by companies for low-wage environments, that ultimately places American workers in effective competition with a vast pool of lower-wage foreign labor, and exerts downward pressure on worker wages. This competition, it is argued, will result in the so-called “race to the bottom” between domestic and foreign workers.

For many, the reality of the deleterious effect of trade on wages was given credence by the observed slowdown in the growth of real wages and the widening wage inequality between skilled and less-skilled workers that occurred concurrently with the growth of trade over the last 25 years. Further, there are credible economic reasons that increased trade and foreign outsourcing could have an adverse effect on the distribution of income. The adverse distributional effect could manifest itself as a deterioration of the position of labor relative to capital and a falling average wage, or as a deterioration of the position of one class of labor (less skilled) relative to another (more skilled) and increased inequality of wages.

The effect of trade on wages in the U.S. economy has been the focus of numerous studies over the last 10 years, and the conclusions that may be drawn from these efforts are as follows:

- As regards the slow growth of the average real wage from the mid 1970s to the late 1990s, increased trade is not seen as being the cause of that sluggish performance, rather the identified reason was slow productivity growth. Labor’s share of the economic pie was not getting smaller; the economic pie just was not growing as fast.¹⁵ That the level of wages is most often reflective of the level of worker productivity also explains why higher wage American workers are not necessarily at a disadvantage to lower wage foreign workers. The critical comparison is of unit labor costs, not of the level of wages. The high productivity that is the basis of a high wage means that unit labor costs can be lower in the high-wage economy than in the low-wage economy because productivity in low-wage economies is commensurately low as well.
- As regards trade and increased wage inequality, the research indicates that trade was a contributing factor, but a minor one, accounting for perhaps 10% to 20% of the observed increase in wage inequality. It would seem then that from the standpoint of the economy as a whole, trade with low-wage economies has not triggered a “race to the bottom.”

A likely important reason for the small effect of trade on wages for the U.S. economy was that trade with low-wage countries was still relatively small, amounting to less than 5% of GDP in 2005. In fact, among U.S. trade partners the average wage level in manufacturing relative to the U.S. manufacturing wage level grew from 60% in 1975 to 76% of the U.S. level in 2000¹⁶. This

¹⁵ This conclusion is also confirmed by the absence of any deterioration in labor’s share of national income, which has remained at about 70% throughout the post-World War II era.

¹⁶ U.S. Department of Labor, Bureau of Labor Statistics, “A Perspective on U.S. and Foreign Compensation Costs in Manufacturing,” *Monthly Labor Review*, vol. 125, no. 6 (June 2002), pp. 36-49.

has occurred because many trading partners who were once low-wage economies have, with open trade and steady economic growth, become high-wage economies. As the once poor have moved up the income ladder, they have also withdrawn from the production of goods that use low-skill and low-wage labor intensively and these products are then imported from the newer emerging economies. China has picked up this task, as other East Asian economies have withdrawn, and, in turn, as these economies did when Japan shifted away from this type of production. So U.S. trade with low-wage economies is not rising to a significant degree; rather, it is shifting location.

Economies of scale are also a factor that likely helps hold up industrial wages in the face of low-wage foreign competition. Scale effects are thought to be a significant force in many industries and, when present, would tend to increase worker productivity and decrease unit labor costs. It is also possible that the increase of competition itself spurs companies to higher levels of efficiency that also lowers unit labor costs and helps preserve a higher wage level.

Another reason for the small impact of trade on wages in the United States is that as the once low-wage economies transform to high-wage economies, two events occur: one, they tend to produce less of the goods typically produced by low-wage workers; and two, they tend to increase their demand for the products produced by low-wage workers. The two effects exert upward pressure on the wages of these workers, including any producing similar products in the United States. This outcome is consistent with the evidence that for the United States the relative price of unskilled, labor-intensive, import competing goods rose in the 1980s and 1990s.¹⁷

Of course, it cannot be ruled out that if trade with relatively low-wage economies does grow in importance, the negative effects on U.S. worker wages of such trade would grow in significance. Yet, there is probably an upper bound to this effect, for it is possible that in the future with only relatively moderate differences between home and foreign production costs, *complete specialization* would occur. That is, the United States would no longer produce much of what is imported from low-wage foreign economies. Since the United States would then no longer have industries that use low-wage labor intensively, there would be no downward pressure on domestic wages caused by such trade. To the extent that this pattern of trade allows for a fuller realization of economies of scale and lowers product prices, domestic workers' real wages could be increased. The change in the location of U.S. imports from low-wage economies noted above suggests that a sizable amount of such specialization may have already occurred. Reviewing the period 1994 through 2003, the Council of Economic Advisors concludes that for United States the increase in share of total U.S. imports accounted for by imports of goods from China has been largely offset by a decrease in the share of goods imports from other Pacific Rim countries. The value of imports from both sources has increased considerably. Still, many of the export jobs in non-China Asia are migrating to China, so the distributional effects of this change fell on workers in China and the Pacific Rim economies rather than workers in the United States.¹⁸

Also we know that industries that export pay wages that are, on average, higher wages than industries that compete with imports. Therefore, as a rising level of trade and outsourcing creates

¹⁷ Jagdish Bhagwati and Vivek Dehejia, "Freer Trade and Wages—Is Marx Striking Again," in Jagdish Bhagwati and Marvin Kosters, eds., *Trade and Wages: Leveling Wages Down?* (Washington: AEI Press, 1995), pp. 36-75.

¹⁸ This also suggests any restriction placed on China's imports to the United States would not increase domestic output, rather it would increase the output of the Pacific Rim economies whose exports to the United States would increase as they become a replacement for restricted Chinese goods. For a discussion of this and other aspects of trade with China, see *The Economic Report of the President* (Washington: GPO, 2004), pp. 65-68, and CRS Report RL32165, *China's Currency: Economic Issues and Options for U.S. Trade Policy*, by Wayne M. Morrison and Marc Labonte.

jobs in exporting industries, and destroys jobs in import-competing industries there is a tendency for the average industrial wage to rise. It is also useful to keep in mind that the U.S. economy is still largely domestic in orientation, with perhaps as much as two-thirds of the labor force working and having wages determined in activities largely unaffected by trade.

A Rising Level of Trade and Economic Well-Being

For the economist, the central economic question to be answered in regard to foreign outsourcing, or increased international trade in general, is not its particular impacts on employment or wages. Those effects are not to be ignored, but they are symptoms of a larger process. The answer economic analysis attempts to provide is whether that larger process ultimately makes the United States richer or poorer. As economic growth abroad expands the number of competitive sources of production, will substituting foreign for domestic output generate *gains from trade* and raise overall economic well-being? Whether such foreign outsourcing is occurring in the service producing sector or the goods producing sector, there will be the same array of possible positive and negative effects on the economy. Because importing must be accompanied by exporting, the possible effects on the economy can be grouped into two general categories: economic effects related to exporting and economic effects related to importing.

Effects on the Export Side

- If increased foreign production is of goods that the United States also exports then domestic exporters will face more competition and their product prices will fall. A fall of export prices raises the effective cost of imports and *decreases our gains from trade*.
- Rising foreign production also raises income of foreign producers and workers. Higher income increases the demand for U.S. exports (goods or assets) and pushes up their price. A rise of export prices lowers the effective cost of U.S. imports *and increases our gains from trade*.

Effects on the Import Side

- Domestic households get foreign goods at a lower price. Lower prices also raise the real income of households allowing them to purchase more of all goods. Lower import prices *increase the gains from trade*.
- Domestic businesses get foreign-produced inputs at a lower price, reducing production costs and increasing profitability. If the good the domestic firm produces is an intermediate good itself, this effect will reverberate to other domestic companies that use it as an input. The real income of stock-holders increases and *is a gain from trade*. Increased capital inflows from increased export of assets allows companies to undertake higher levels of investment raising output, employment and wages. This is also *a gain from trade*.
- Domestic import-competing products will face more competition and their product price will fall. Output and employment along with wages and profits in the affected industry will likely fall. This is *a cost of increased trade* (and what popular concern about foreign outsourcing most often focuses on).

The net effect of these several impacts of increased trade or outsourcing can, in theory, be positive or negative. In most circumstances, however, the strong expectation of economists is that gains outweigh losses and that trade's disruptive reshuffling of the economy's productive resources does ultimately result in an increase in overall economic well-being.¹⁹ That increased trade, whether for intermediate or final products, will likely raise economic well-being is confirmed by the preponderance of evidence.²⁰

The gains from trade are, however, most often a *net gain*, because some will be hurt by this process. Trade, like other market forces, generates increased wealth through a process of "creative-destruction" which entails what is most often a disruptive re-shuffling of workers and capital. New opportunities for enrichment are created and resources are drawn towards them. But other activities that are less efficient are destroyed and resources are pulled away from them. Because there are net gains, it is also in principle possible for the losers to be compensated and still leave the winners better off than they were prior to the increased trade. In practice, however, there may be reason to question how equitable the compensation forthcoming is. It is likely that a general acceptability of increased trade will hinge on this equity issue.

In most instances the crux of debates about trade are not about the value of trade to the overall economy, but over who will receive the benefits and who will bear the costs of trade. If a U.S. worker, without his employer's knowledge, were able to sub-contract (out-source) his work to a foreign worker for a fraction of his own wage he would likely do so. While still earning his full wage, the use of his freed time in other endeavors would make him better off. His employer and the ultimate consumers of the final product bear the cost in the form of lower profits and higher product prices than would be the case if the most efficient way of production was used directly. Of course, if his employer learned of the relative efficiency advantage of the foreign worker, she would most likely contract directly with that foreign worker (outsource) and lay off the domestic employee. The gains and costs of trade are still the same as in the first circumstance, but now they have been redistributed to the benefit of the domestic employer and her customers and to the detriment of the displaced employee. Economics cannot tell us which distributional outcome is preferred, but it does tell us that outsourcing the task increases overall economic well-being.

Equity concerns notwithstanding, the expectation of enrichment through trade has propelled successive rounds of trade liberalization in the post-war era, a process the United States has consistently played a leadership role in sustaining. Trade has expanded rapidly as has economic well-being of most trading nations, and the increase in well-being is found to increase with a country's degree of openness—the more open to trade, the greater the gain.²¹ The gains from trade are mutual, occurring even if the trading partners have an absolute advantage or disadvantage in the production of all traded goods and services. As such, a country does not *compete* with its trading partners, it engages in mutually beneficial exchange with them. Increased foreign outsourcing is a symptom of these expanded opportunities for trade and mutual enrichment. As the United States has benefitted from increased trade and outsourcing associated with the post-war industrial resurgence of Europe and Japan, so would it likely benefit through

¹⁹ The gains from trade can emerge from comparative advantage, economies of scale, and inducements to innovation and the generation of faster economic growth. See for example, Max W. Corden, "The Normative Theory of International Trade," in *The Handbook of International Economics*, vol. 1 (Amsterdam: North Holland, 1984).

²⁰ See, for example, Edward E. Leamer and James Levinsohn, "International Trade Theory: The Evidence," in *The Handbook of International Economics*, vol. 3 (Amsterdam: North Holland, 1995); and Jeffery Frankel and David Romer, *Does Trade Cause Growth?*, National Bureau of Economic Research, Working Paper no. 5476, June 1999.

²¹ See for example, Charles I. Jones, *Introduction to Economic Growth* (New York: Norton, 1998), pp. 134-138.

increased trade associated with the ongoing economic development of China, India and other emerging economies.

Gains from Trade Over Time

The gains from trade are not a static phenomenon, however. While at any point in time an increase in trade (outsourcing) increases economic well-being, over time the size of the gain could rise or fall as the relative economic circumstances of trading partners change. Therefore, it can be telling of the economy's international trade performance and its view of how it is faring from increased trade to consider whether there has been any long-term trend in the nation's share of the gains from trade. More specifically, this is a question about whether, over time, the U.S. economy's *terms of trade* has tended to rise or fall as economic growth has occurred in the rest of the world, and foreign outsourcing has grown in significance.

The terms of trade is a ratio of average export price to average import price and as such is a measure of the export cost of acquiring imports. An increase in this ratio—an improving terms of trade—means that any given *volume* of export sales will now exchange for a larger *volume* of imports, indicating an increase in the gains from trade. A rising trend would indicate that a country's trade performance has improved relative to other trading countries, reaping an increasing share of the gains from trade, and real income benefits for the economy. Similarly, a decrease in the ratio of export prices to import prices—deteriorating terms of trade—raises the export cost of acquiring imports and reduces the gains from trade. A falling trend would be indicative of deteriorating trade performance, decreasing share of the gains from trade, and decrements to real income.²²

Over time it is likely that economic growth, at home and abroad, will tend to show either a bias towards the production of goods a country exports or a bias towards production of the goods a country imports. If export biased, there is a more than a proportionate increase in the worldwide supply of goods that compete with U.S. exports, inducing a deterioration of the U.S. terms of trade over time, to the benefit of our trading partners. In contrast, if growth in the rest of the world is import biased, there is a more than proportionate increase in the worldwide supply of the goods the U.S. imports, inducing an improvement in the U.S. terms of trade over time, to the detriment of our trading partners.

Increased foreign outsourcing is clearly a manifestation of economic growth in the rest of the world and in recent years this has included the expanded participation of lower income developing economies in the internationally fragmented production processes that now propel a large and growing share of international trade. As was discussed in the “Introduction” section of

²² A deteriorating terms of trade does not mean that trade, overall, is harmful and that we would be better off without trade. It has merely become less beneficial. In most circumstances there will be no absolute decline in real income, rather the rate of growth of income will be slower than it otherwise would have been. Also, the terms of trade will not fully reflect the gains from trade that come from the realization of economies of scale. This is of some significance for trade between mature economies that have similar factor proportions (i.e., the United States, Europe, Japan, and Canada) and has most likely steadily risen in importance for such economies. This can be taken as, at least, a partial offset to any loss in the gains from trade indicated by a falling terms of trade. Nevertheless, movement in the terms of trade would still be indicative of changes in the gains from trade coming from rising trade with low wage economies that would still have very different resource endowments (i.e., relatively large supplies of low-skill labor and relatively small supplies of capital and high skill labor). Nor will the terms of trade fully reflect the benefit to consumers that come from access to, not just more goods, but a wider variety of goods.

this report, foreign outsourcing is not a new phenomenon, but one that is occurring with a steadily rising incidence in goods producing industries for the last three decades. At the peak of the last business cycle in 2000, it is likely that a very large share of total U.S. non-agricultural merchandise trade, exports plus imports, is of some form of intermediate product and represents some form of foreign outsourcing.²³

Has this increase in foreign outsourcing affected the U.S. economy's terms of trade? Has there been any tendency for the U.S. share of the gains from trade rise or fall as a result of outsourcing? Relative to its peak in the mid-1960s, the terms of trade declined at about 1.0% per year through 1980. But while significant, this fall was moderate in scale. This deterioration most likely reflects the recovery and return to competitive posture of the many high-income economies from the devastation of World War II. These are largely economies that have resource endowments similar to that of the United States and who with economic recovery from the war could be expected to increasingly compete against U.S. exports in world markets. This growth was certainly *export biased* and accordingly has pushed down the average price of U.S. exports.

Since the 1980s the U.S. terms of trade has fluctuated, but, overall, has not shown a trend, up or down: up in the early 1980s, down in the late 1980s and early 1990s, and then up again through the late 1990s to the present. It is, of course, in this more recent trendless period that the use of foreign outsourcing was steadily climbing and the period when trade with low-income, low-wage economies was also on the rise. Yet, the trendless path of the U.S. terms of trade over this period suggests that these events were not inducing any significant persistent effect on the economy's gains from trade. Growth in the rest of the world and the outsourcing that went with it in this period was, on balance, without a bias towards the goods the United States exports or imports. At this point there does not seem to be a strong reason to expect the spread of outsourcing to the service sector to change this outcome.

The Gains from Trade, Outsourcing, and the "Product Cycle"

The idea of the product cycle provides a useful way of understanding how an economy's gains from trade over time emerges from a continually changing industrial landscape and how foreign outsourcing may influence that outcome. It has been long observed by economists that the production of many tradable products will move from country to country over the life of the product.²⁴ Innovations have their greatest value and are more likely to occur in high-wage economies, for the reason that labor in these countries is relatively scarce and costly and innovations most often offer a means to economize on this expensive resource. In the early life of a product, production occurs on a small scale using relatively high skill workers. The relatively high price of the new product will also offer relatively high returns to the specialized capital stock needed to produce the new product. At this stage the factor endowments of high-income countries such as the United States will make them the most efficient location for production. As the product matures, with expanding foreign and domestic sales, a settled technology, the capability

²³ Due to a lack of a comprehensive data series, the size of trade in intermediate goods is judged from data on merchandise trade by end-use category which does identify trade in capital goods and industrial supplies. Because other types of intermediate products, such as automotive parts and components, are not picked up in these two categories, it is most likely that such an estimate will understate the scale of trade in intermediate products. See table B-104 in *Economic Report of the President*, February 2004.

²⁴ Raymond Vernon, "International Investment and International Trade in the Product Cycle," *Quarterly Journal of Economics*, vol. 80 (1966), pp. 190-207.

for standardized production, and a falling market price, it will become possible and more efficient to produce the product or significant portions of the product on a mass scale using relatively low wage labor. At this stage in the product's life it is likely that production will be pulled toward economies that have resource endowments relatively rich in low-wage labor, such as China.

Foreign outsourcing, therefore, can be seen as a manifestation of this process of technological diffusion to other economies. This process is not only relevant to the production of goods. As a portion or all of the production of a service lends itself to standardization and international exchange, the incentives to capture efficiency gains by moving the site of production towards lower wage economies will increase.

In the framework of the "product cycle," the United States is most likely to be operating at the innovation stage of this cycle. Therefore, to a significant degree its gains from trade will be determined by the dynamic balance between the economy's rate of innovation and the rate of technological diffusion. While not a necessary outcome, the rate of innovation will likely be correlated with the growth of new ideas for products and processes in the United States, and the rate of technical diffusion correlated with the growth of cost reducing incentives afforded by foreign outsourcing. Unless the economy can generate a pace of innovation to match the pace of diffusion, its terms of trade will fall, and its share of the gains from trade will decline. (Such a decline would not be an argument for not engaging in trade as that would reduce the gains from trade altogether, but it would be an erosion of economic well-being and explain a perception by some that the economy is getting less out of trade than it once did. As observed above, there has been no trend decline in the terms of trade over the last twenty years.)

It can be argued that the advance of globalization has accelerated the rate of diffusion, the seeming rise in foreign outsourcing is a symptom of that acceleration, and the spread of outsourcing to services is the most recent manifestation of this process. What this suggests is that preserving or increasing the economy's gains from trade in the face of globalization will require an acceleration of the pace of innovation in goods and service producing activities. While market forces may respond positively to the incentives for innovation offered by expanding trade, a case can be made that this is an area subject to substantial market failure, and because of that the optimal amount of innovation will not be forthcoming.

The creation of innovations is largely a process of generating new ideas. To the extent that new ideas lead to profitable outcomes and those profits can be secured by a private enterprise, the market economy will generate new ideas and foster technological change. An inherent attribute of ideas, however, is that they are *non-rival*, as in, my using the idea does not preclude someone else from using it. Further, ideas will often have the attribute of *limited excludability*, meaning the owner of the idea will find it difficult or impossible to charge a fee for its use. These attributes will likely cause a divergence of private benefit and social benefit in the idea production process. (What the creator of the idea can expect to gain will be less than what the overall economy can expect to gain.) In this situation, less than the socially desirable level of idea generation will occur. In this circumstance public policy can improve on the free market outcome if it can foster more idea production.

Are Services Different?

Trade in services is nothing new to the U.S. economy. In 2005, \$380 billion in services were exported, an increase of over \$230 billion since 1990. Service exports now account for about 30%

of the value of all U.S. exports. And the United States has consistently run a trade surplus in services.²⁵ That surplus stood at \$58 billion in 2005, and it can be expected to grow in response to faster economic growth abroad and a significantly more favorable exchange rate than has prevailed in recent years. For example, Global Insight projects a U.S. services trade surplus of over \$120 billion by 2008, occurring along with a steady rise in the level (exports and imports) of U.S. trade in services.²⁶

In the *business, professional, and technical services* sub-component of U.S. services trade, an area where outsourcing could be expected to be most likely, the U.S. had exports of nearly \$62 billion against imports of about \$23 billion, yielding a surplus in 2004 of about \$39 billion, up from about \$16 billion in 2000. This pattern of trade makes clear the “two-way” nature of services trade and that if the incidence of foreign outsourcing, in both directions, is proportional to the size of export and import flows, then the U.S. is likely to have more often been the *destination* rather than the departure point for the foreign outsourcing of services. This would also suggest that the United States has a large economic stake in the rising level of services trade.

Employment data for the service sector also suggest significant economic viability. Unlike the hard hit goods producing sector where recession and a laggard recovery have since 2000 caused substantial employment losses, employment in service producing industries held up far better. In that sector employment fell only about 1.0% in the 2001 recession and in contrast to the goods producing sector, has increased employment since then so that by early 2005 the level exceeded the previous peak.²⁷

It is also clear, however, that until recently services had not faced the degree of international competition that has prevailed in the goods-producing sectors. The need for more person-to-person interaction and the relatively high cost of international communication made many services difficult to trade. Now, however, because of the increasing ease, quality, and ever lower cost of international communication afforded by information technology advances, the possibilities for the trade of services have greatly expanded, and in response the level of international competition in services is rising fast.

In this expanding arena for trade, it is likely that the United States, being the world’s largest producer of services, will have a comparative advantage in many areas of service production, but not all areas, and not in all aspects of the production of any given service. Therefore, more foreign competition is likely to change the structure of many services industries. We can expect to see a substantial increase in the share of what was once done in-house being outsourced (and becoming a service import), as firms exploit more and more the efficiency advantages afforded by foreign production of many standardized tasks. Likely many other tasks will be outsourced to the United States. Again, trade and foreign outsourcing in services will, as it seems to have been in the wider economy, likely be a “two-way” process.

What the service sector can expect from increased foreign outsourcing has already been experienced by the manufacturing sector over the last 30 years. That sector has certainly been greatly transformed, nevertheless manufacturing has maintained a healthy presence in the U.S.

²⁵ Services trade data can be found in U.S. Department of Commerce, *The Survey of Current Business*, various issues.

²⁶ *U.S. Economic Outlook*, Global Insight (Lexington: April 2004), pp. 60-66.

²⁷ See Bureau of Labor Statistics, monthly national employment survey.

economy. Despite increased foreign outsourcing, through the last business cycle peak in 2000, the manufacturing sector had

- increased real output 144% since 1970.
- maintained a relatively steady share (17%) of real final demand since the 1980s.
- Despite a declining *share* of the civilian workforce, maintained a relatively steady *level* of employment (17 million) for the period 1980-2000.
- Received large net inflows of foreign investment.
- Increased export sales \$400 billion (about 125%) between 1990 and 2000, despite an unfavorable exchange rate during most of this period.

Since 2000, the manufacturing sector has struggled with falling output and employment. However, most of the negative effects the U.S. manufacturing sector has endured, particularly since 2000, are seen by economists to be the consequence of economic forces other than foreign outsourcing and a rising level of trade. Of greatest significance are changes in consumer expenditure patterns that place a rising importance on the consumption of services relative to goods (a change common to most industrial economies), rapidly rising productivity (something unambiguously good for the overall economy), and the burden of *trade deficits* on goods producing industries (distinct from the rising level of trade).²⁸

Implications for Economic Policy

The substantive economic conclusion of this report is that foreign outsourcing is international trade in a somewhat different guise. Like other market forces, it causes disruptions that are costly to some, but its ultimate effect on the economy is the same as any type of trade—an increase in overall economic well-being. Because foreign outsourcing has already occurred on a large scale in the goods producing sectors of the economy over the last 30 years, its impacts are reasonably evident and seem to confirm this judgement. What often seems to be missing in popular concern over foreign outsourcing is an appreciation for the mutual or “two-way” nature of the process. The U.S. economy outsources to foreign economies and foreign economies outsource to the U.S. economy, jobs are created and destroyed, and overall economic welfare increases through this exchange.

If foreign outsourcing on balance raises economic well-being, policies aimed at arresting that activity would have a net economic cost. There are, however, other avenues for policy response that most economists think could be generally beneficial. One avenue is to work to expand overseas markets through further removal of foreign trade barriers against American exports. A second avenue would be to use policy to boost the benefits of trade by correcting deficiencies in the economy’s ability to create new products and processes that could become attractive exports. A third avenue is to use economic policy to remove any unwarranted bias against the economy’s tradable goods sector caused by an elevation of the incentives toward foreign outsourcing that arise from the economic forces generating the trade deficit. A fourth avenue would be to use

²⁸ See CRS Report RL32350, *Deindustrialization of the U.S. Economy: The Roles of Trade, Productivity, and Recession*, by Craig K. Elwell and CRS Report RL32179, *Manufacturing Trends: Long-Term Context for Today’s Policy Issues*, by Stephen Cooney, Bernard A. Gelb, and Robert Pirog.

policy to address the hardships and inequities arising from trade and foreign outsourcing by extending compensation and more effective tools for adjustment to those who are hurt by the disruptive effects of foreign outsourcing and other market forces.

Is Protection Appropriate?

If international trade, including outsourcing, is economically enriching, using policy to arrest the phenomenon by imposing barriers to such exchanges will prevent the nation from fully realizing the economic gains from trade and, therefore, must reduce economic welfare. Economics has long taught that protection of import-competing industries with tariffs, subsidies, or other devices to shelter a domestic activity from international competition leads to an over-allocation of the nation's scarce resources in the protected sectors and an under-allocation of resources in the unprotected tradable goods industries. Standard economic theory indicates that reducing the flow of imports will also reduce the flow of exports because fewer exports are needed to pay for fewer imports. Clearly, the exporting sector must lose as the protected import-competing (outsource-competing) activities gain.

But more important, the overall economy that consumed the imported goods would suffer because the more efficient production process—available through international trade—would not be used to the optimal degree. This would increase the price and reduce the array of goods available to the consumer from what they would otherwise be. Therefore, economic analysis indicates that the ultimate cost of the trade barrier is not a transfer of well-being between sectors, but a permanent net loss to the whole economy arising from the barrier's distortion toward the less efficient use of the economy's scarce resources. These costs would be magnified if the trading partners disadvantaged by these actions retaliated against U.S. exports. There is ample evidence that the economic cost of protection is high. The U.S. International Trade Commission has estimated the economy-wide cost of existing U.S. trade barriers to be about \$12.4 billion. And this is probably a conservative estimate, because it is difficult to fully account for the costs associated with lost product variety and productivity. Therefore the full cost of protection is thought by economists to likely be significantly higher than that estimate.²⁹ A study by Hufbauer and Elliott found that across 21 industries the economic cost per protected job ranged from \$100,000 to more than \$1million and averaged about \$170,000. In each case the cost of protection was far higher than the protected workers average annual earnings and far higher than what any likely worker adjustment program would cost.³⁰

A 2004 study of eight industrial nations, including the United States, provides estimates of the economic cost of existing trade barriers.³¹ It was found that despite considerable lowering of trade barriers during the period after World War II, sizable barriers still existed (in 1999). It was also found that removal of the remaining trade barriers among these eight countries would lead to an increase in global GDP of more than \$500 billion (in 1997 dollars), or 2.1% of global GDP. The gain to the United States alone was estimated to be about \$77 billion (in 1997 dollars), or about 1% of GDP. Highlighting the greater gain associated with a multilateral lowering of trade barriers,

²⁹ See U.S. International Trade Commission, *The Effects of Significant U.S. Import Restraints*, Publication 3201(Washington: 1999).

³⁰ See Gary Clyde Hufbauer and Kimberly Ann Elliott, *Measuring the Costs of Protection in the United States* (Washington: Institute for International Economics, 1997).

³¹ Scott Bradford and Robert Z. Lawrence, *Has Globalization Gone Far Enough? The Cost of Fragmented Markets*. (Washington: Institute for International Economics, 2004).

this study also estimated the gains to each of the eight countries if each removed their trade barriers unilaterally. In this circumstance, the GDP increase for the United States is pared to \$30 billion, or 0.4% of GDP. In general, the welfare gains to the United States are smaller than those of the other eight countries. This is thought to occur for three reasons: (1) U.S. trade barriers were already lower than those in the other countries; (2) trade represents a comparatively smaller share of economic activity in the U.S. economy; and (3) because of the very large size of the U.S. market there are increases in import prices, causing some deterioration of the terms of trade and an associated decrement to economic welfare.

The argument may be made that some form of protection is needed to counter the unfair trade practices of some trading partners. Such practices do occur, and in those instances some form of retaliatory policy may be appropriate.³² But it is very unlikely that such unfair trade practices are the principal force driving the ongoing expansion of world trade and the associated growth of foreign outsourcing. If most unfair trade practices were gone tomorrow, it is likely that trade would still be rapidly rising and that most of its associated pressures and problems would still be with us.

A more credible explanation is that the expansion of world trade is propelled by the prospect of economic enrichment and enabled by an increasingly open world trading system that allows each nation to use its resource endowments in more efficient ways. It is differences in those endowments and how they are used that makes trade mutually beneficial. Yet, it is often those differences that give rise to perceptions of unfairness. What is an acceptable or unacceptable practice will not be considered here. But is probably unreasonable to expect our trading partners to be identical to the United States in their economic and social practices. From an economic perspective it makes sense that the level of labor and environmental standards would be correlated with a nation's level of income. At their current stage of development, many poor countries, with very low levels of productivity, simply can not afford the economic and social practices and institutions of a rich economy like the United States. With economic growth, which trade helps achieve, they may be able to. This is certainly the path that today's rich nations followed.³³

The clear direction of U.S. trade policy in the post-World War II era has been to reduce trade barriers, not erect them. And it is widely recognized that this process has been beneficial to the United States and the world economy.

With that gain will likely also come more foreign outsourcing, but we can reasonably expect that outsourcing to the United States would also rise as exporting opportunities improve along with importing opportunities. Given that existing foreign barriers are most often higher than existing U.S. barriers, removing those barriers is likely to have a relatively stronger beneficial effect on the United States, particularly since many of the remaining barriers are against trade in services, an area where the United States is likely to be very competitive.

³² For a discussion of the options available, see CRS Report RL32371, *Trade Remedies: A Primer*, by Vivian C. Jones.

³³ Some industries, or at least components of some industries, are vital to national security and possibly may need to be insulated from the vicissitudes of international market forces. This determination is best made on a case-by-case basis since the claim is made by many who do not meet national security criteria. Such criteria may also vary from case to case.

The Sectoral Burden of the Trade Deficit

Analysis indicates that trade deficits do not cause a net loss of output or employment for the overall economy, but they do shift the composition of output and employment and that shift in composition will have an adverse effect on some domestic industries that produce tradable goods or services. This bias could tend to raise the incidence of foreign outsourcing.

The U.S. trade deficit has risen more or less steadily since 1992. In 2005, it had grown to a record size of \$805 billion and was equivalent to 6.4% of GDP. Trade deficits are a macroeconomic phenomenon that reflects a short-fall of domestic saving relative to the domestic investment that needs to be financed. (This is precisely the same thing as the economy spending beyond current output.) This imbalance can be reconciled by a net inflow of foreign capital that acts to augment the flow of saving available and allows the higher level of investment to occur. The capital inflow pushes up the exchange rate which induces a like sized net inflow of goods and services—a trade deficit. The rising exchange rate has induced this net inflow of goods by making imports more attractive to domestic buyers and the economy's exports less attractive to foreign buyers. Domestic exporting and import competing industries will find themselves somewhat worse off as a result. In the current context, job-creating export industries will do less of that, and a rising tide of imports will mean more outsourcing is occurring.³⁴ This is a distributional effect, however, for as some sectors lose others gain. The capital inflow that is the necessary counterpart of a trade deficit serves to increase the flow of saving available to the economy and has favorable effects on output and employment in activities typically financed by saving flows such as business investment and residential construction.

Therefore, removing this bias against the tradable goods sectors should be judged against the benefit to the overall economy of the capital inflow that animates this process. Most recently, the trade deficits of the 1993—2000 period allowed the U.S. economy to undertake rates of investment that otherwise could not have occurred. The payoff is faster economic growth. In the 1980s, however, large U.S. trade deficits were used to support public and private consumption and arose in part from public policies that increased the federal budget deficit. In this case there is no payoff from faster growth. It also raises the issue of whether the public policies involved were on balance good or bad. At present, an expanding economy along with large federal budget deficits may be a recipe for perpetuating large trade deficits more along the lines of the 1980s experience than that of the 1990s.

If a smaller trade deficit is judged the appropriate goal, economic policy can be used to reach it. If it is also judged prudent not to achieve this reduction at the expense of domestic investment, then the economy's rate of saving will have to be raised. (This is the same thing as saying the economy's rate of consumption will have to be reduced.) Economic policy's ability to affect the private saving rate is problematic, but macroeconomic policy can certainly change the public saving rate. Government budget deficits are a subtraction from the nation's saving and budget surpluses are an addition to the nation's saving. Therefore policies that move the budget away from deficit and toward surplus, other things unchanged, will tend to reduce the trade deficit. This will occur, of course, as a depreciating exchange rate works to change the composition of domestic output, stimulates export sales, and dampens import spending, and in the process likely

³⁴ The exchange rate induced bias is likely to be particularly relevant when the decision to produce at home or abroad is not constrained by the need for large scale capital investments that are less likely to be influenced by the more near-term effects of the exchange rate, and hinges largely on relative labor costs.

boosts the output and employment of the U.S. tradable goods sectors.³⁵ This will not stop the rise in the level of trade, nor eliminate outsourcing, but it can remove some of the bite of that process on the tradable goods industries.

Under-Investment in the Economy's Creative Powers

The presence of a *market failure* in idea production can be corrected by an appropriate amount of public support for the idea creation process. Such support could include public funding of *research and development* (R&D), both basic scientific research (where the prospect of market failure is the greatest) and enterprise-specific research; public funding for investment in human capital,³⁶ particularly education in the sciences and engineering; and public support for mechanisms to establish and enforce property rights, such as patent and copyright administration. The intent would be that these actions would boost the economy's ability to create new products and better jobs and produce a more appealing counterweight to the destructive effects of technological diffusion and increased imports and foreign outsourcing. As jobs are destroyed by foreign outsourcing in one part of the economy, it is hoped that the boost to the idea production process would improve the attractiveness of U.S. exports on the world market, leading to an acceleration of the flow of exports and foreign outsourcing *into* the United States, and boosting the rate of creation of better jobs in other parts of the economy.

Of course, these are activities that the U.S. government supports now.³⁷ But the open question is whether such support is well targeted and undertaken at an adequate scale. This is not an easy question to answer. As regards spending on R&D by private firms, there is a considerable amount of economic evidence that the social rate of return to R&D for a variety of research projects often greatly exceeds the private rate of return, suggesting that too little research is being undertaken. (At optimal scale research projects would be undertaken to the point where the social rate of return has been pushed down to the level of private return.) By some estimates, the level of investment undertaken by firms could be as little as 25% of the level what is economically optimal.³⁸

Can economic policy entice firms to increase their R&D spending? The *patent system* is one manifestation of government's attempt encourage inventive behavior by providing "property rights" over new ideas. This is a well developed set of laws in the United States and it is

³⁵ The trade deficit would be reduced if foreign lenders curtailed their accumulation of U.S. assets. In this case, however, there would be no increase in U.S. saving. So in this circumstance the adjustment must occur through higher domestic interest rates and lower domestic investment. The favorable effect of the smaller trade deficit on trade sensitive sectors would be counterbalanced by the adverse effect on domestic interest sensitive sectors. The dollar depreciation seen since early 2002 is most likely being driven by a shift away from dollar denominated assets by foreign investors. Because the economy is now operating with considerable slack, the adverse effects of this capital outflow have been negligible. For a fuller discussion, see CRS Report RL31032, *The U.S. Trade Deficit: Causes, Consequences, and Cures*, by Craig K. Elwell.

³⁶ Raising the skill level of workers would also improve the flexibility of the labor force. Carrying with them more than just job specific skills would facilitate a quicker adjustment of workers to economic change.

³⁷ For a discussion of current federal programs, see CRS Issue Brief IB10088, *Federal Research and Development: Budgeting and Priority-Setting Issues, 108th Congress*, by Genevieve Knezo.

³⁸ See Zvi Griliches, "The Search for R&D Spillovers," *Scandinavian Journal of Economics*, (1991), pp. 29-47; Bruce Smith and Claude Barfield, *Technology, R&D, and the Economy* (Washington: Brookings Institution, 1996); and Charles I. Jones and John C. Williams. "Measuring the Social Return to R&D," *The Quarterly Journal of Economics*, vol. 63, no.4 (Nov. 1998), pp. 1119-1136.

questionable whether initiatives on this front will encourage much more R&D. There is the prospect that improvement in the establishment and enforcement of property rights *internationally* could have a positive effect on domestic R&D activity. The functioning of the patent system, however, likely involves an economic trade-off. There is an economic gain from inducing more R&D by companies, but the knowledge that is produced will not be widely disseminated for the term of the patent. Given the cumulative nature of knowledge production, this restriction on the flow of knowledge will tend to slow the rate of production of knowledge generally. Another policy device that attempts to coax more R&D out of business firms is the *R&D tax credit*.³⁹ While the evidence indicates that the research tax credit does raise R&D spending by firms, many economists have significant doubts about how well the tax credit does at targeting and inducing R&D projects with large social benefits. Why not use direct grants by government to firms to undertake R&D projects that offer large social benefits relative to private return? The information requirements for operation of an efficient grant program are likely well beyond what government could hope to muster. The economic risk is that a program of direct grants would, by distorting the pattern of investment and by encouraging rent-seeking behavior, generate more inefficiency than efficiency.

The dollar spending levels by industry and government have increased, but as a percent of GDP, industry's share has risen and that of government has fallen since the 1980s. It is government spending on R&D that largely provides support to basic research; this is an area in which the incidence of market failure in idea production is probably the greatest.

Basic research is currently supported through the budgets of many government agencies, including the National Science Foundation, National Institutes of Health, NASA, the Department of Energy's Office of Science, and the Department of Defense. Much of the actual research is done at major universities across the country.⁴⁰

One policy issue for basic research is determining the appropriate level of government funding. The rate of accumulation of technical knowledge is likely to rise with the level of resources devoted to it, but the speculative nature of basic research makes it all but impossible to judge what the economically optimal size of government spending on such research would be. The absolute level of inflation-adjusted government spending on basic research has increased from about \$1.4 billion in 1953 to about \$39 billion in 2004. The intensity of government-funded basic research, however, has fallen, decreasing from about 0.7% of GDP in 1953 to about 0.2% of GDP in 2004. International evidence has shown that there is a positive correlation of the intensity of government-funded basic research and economic growth. Nevertheless, the understanding of linkage between basic research and economic growth is not well specified, making it difficult to predict the precise pay-off in economic growth from a given increase in spending on basic research. This, in turn, makes it difficult to say what the optimal level of such spending should be.

A second policy issue with government-funded basic research is the mix of that funding across areas of scientific inquiry. The share of government research spending in health-related areas has risen steadily for the last 30 years and has increased dramatically over the last 10 years. Funding for life-sciences now accounts for 60% of the government's basic research expenditures. In

³⁹ See CRS Report RL31181, *Research and Experimentation Tax Credit: Current Status and Selected Issues for Congress*, by Gary Guenther.

⁴⁰ For an overview of current federal programs supporting R&D, see CRS Issue Brief IB10088, *Federal Research and Development: Budgeting and Priority-Setting Issues*, by Genevieve Knezo.

contrast, inflation-adjusted funding for basic research in the physical sciences has not risen over the last 30 years and accounts for only 10% of the government's budget for basic research. Some argue that this disparity in funding is inconsistent with the often interdisciplinary nature of major innovations and is a movement away from the balanced basic research portfolio that is most likely to yield the maximum long-run return. This argument is not that research funds should be reallocated away from health areas, but rather that there should be a more balanced increase across all areas of basic research.

Ameliorating Outsourcing's Costs

Labor market disruptions are not new problems, and most advanced industrial economies have developed policies to provide some degree of support for those displaced by recession or the ever present churning of market forces including trade. Because equity goals are as likely to be of as much concern to citizens and policymakers as are efficiency goals, an economic response of foreign outsourcing can not be easily separated from consideration how those hurt in this process will be treated. To the economist, the policy challenge is to craft initiatives that equitably compensate and assist those who are displaced, while also securing the efficiency gains from increased trade. At the most general level, the economist would argue for a transfer of some of the gains from trade from the "winners" to the "losers." Because increased trade generates benefits in excess of costs such a transfer can, in principle, compensate those hurt by trade and still leave the wider economy better off than it would be without trade and outsourcing. Finding and implementing policies to effect such a transfer remains an area of controversy.

It can be argued that in the United States and other industrial economies, the post-World War II economic order was built upon an explicit or implicit "social bargain." Workers would accept the periodic disruptions associated with the market economy's cyclical and destructive traits that are inherent to its rapid creation of wealth and rising economic well-being, if those disruptions were cushioned by government provision of various types of economic support to see them through these rough spots. Public support rather than workers themselves buying insurance against the risk of job loss is thought the preferred method because the "market failure" caused by the problem of "adverse selection" will prevent the private market from providing an adequate level of coverage.⁴¹ While the social policies may have changed in form and extent over the years, these worker support policies remain an integral piece of the modern industrial economy.⁴²

The level of economic support an unemployed or displaced worker receives can be seen as a form of social insurance against the "risk" of job loss and its associated costs that a fluctuating and ever churning market economy exposes workers to.⁴³ The argument can be made that if the velocity of market "churning" has increased in recent years due to the combined or individual effects of a rapidly rising level of international trade, accelerating productivity advance, or more

⁴¹ For further discussion of the issue of public versus private provision of unemployment insurance, see CRS Report RL32194, *Job Loss: Causes and Policy Implications*, by Marc Labonte.

⁴² For current legislative issues about unemployment insurance, see CRS Report 95-742, *Unemployment Benefits: Legislative Issues in the 108th Congress*, by Julie M. Whittaker. For more information on adjustment assistance and retraining programs, see CRS Report RL31250, *The Worker Adjustment and Retraining Notification Act (WARN)*, by Linda Levine; and CRS Report 97-536, *Job Training Under the Workforce Investment Act (WIA): An Overview*, by Ann Lordeman.

⁴³ This concept of risk encompasses both the likely incidence job loss, the duration of unemployment, and the level of possible adjustment costs.

quickly shifting consumer demand, then the volatility of the labor market and the risk of unemployment that each worker faces have also increased.

Some argue that higher level of risk would warrant a higher level of economic support. This does seem to be the case among Organization for Economic Cooperation and Development (OECD) countries for exposure to the risk associated with international trade, where there is a fairly strong correlation between market openness and levels of government support expenditures.⁴⁴ In addition to the level of support, consideration of the form of that support, particularly the incentives for quick re-employment, may be important. In this regard, policy areas that might merit closer examination include wage-insurance, portability of health and retirement benefits, and incentives for ongoing enhancement of worker skills that could have value to a wider spectrum of employers.⁴⁵

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⁴⁴ See Dani Rodrik, *Has Globalization Gone Too Far?* (Washington: Institute for International Economics, 1998), pp. 49-66.

⁴⁵ For more discussion of policy responses to open trade see Gary Burtless, Robert Z. Lawrence, Robert E. Litan, and Robert J. Shapiro, *Globaphobia: Confronting Fears about Open Trade*. (Washington D.C., The Brookings Institution: 1998).