



# Offshoring (or Offshore Outsourcing) and Job Loss Among U.S. Workers

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## Summary

Offshoring, also known as offshore outsourcing, is the term that came into use more than a decade ago to describe a practice among companies located in the United States of contracting with businesses beyond U.S. borders to perform services that would otherwise have been provided by in-house employees in white-collar occupations (e.g., computer programmers and systems designers, accounting clerks and accountants). The term is equally applicable to U.S. firms' offshoring the jobs of blue-collar workers on textile and auto assembly lines, for example, which has been taking place for many decades. The extension of offshoring from U.S. manufacturers to service providers has heightened public policy concerns about the extent of job loss and the adequacy of existing programs to help unemployed workers adjust to the changing mix of jobs located in the United States so they can find new positions.

No comprehensive data exist on the number of production and services workers who have lost their jobs as a result of the movement of work outside U.S. borders. The only regularly collected statistics on jobs lost to the out-of-country relocation of work come from the U.S. Bureau of Labor Statistics' (BLS's) series on extended mass layoffs. Since 2004, BLS has asked firms with at least 50 employees that let go at least 50 workers in layoffs that lasted 31 or more days whether the firms moved the laid-off workers' jobs out of the United States. Given the series' exclusion of small companies and focus on large layoffs, it underestimates the number of jobs lost to offshoring.

Researchers have tried to fill this gap by determining which occupations possess characteristics that make them relatively vulnerable to being offshored (e.g., routine task content and able to be performed at a distance from customers due to advances in communications technology) and the number of persons employed in those occupations in a given year. Those studies usually have focused on occupations that provide services. One analysis by the BLS estimated that in 2007, 30 million people were employed in service-providing occupations it found to be potentially offshorable; they accounted for over one-fifth of total employment in that year. The service-providing occupations that BLS deemed most vulnerable to being offshored had quite different skill requirements: administrative support occupations (e.g., office clerks) typically have lower education or training requirements than professional and related occupations (e.g., computer programmers). One of the few studies that includes both production and services occupations similarly concluded that, whether measured by education or wages, jobs with offshorable characteristics run the gamut from less to more skilled. According to one of Blinder's estimates, about 29 million workers were employed in offshorable production and services occupations, or a little over one-fifth of total U.S. employment in 2004.

This approach may overstate the number of jobs that actually have been or will be lost to offshoring because it does not consider other factors that may affect employers' decisions about the location in which work is performed. Some observers note cases of firms bringing jobs back to the United States for such reasons as dissatisfaction with the quality of service being provided, narrowing of the wage gap between U.S. and some nations' workers, and increases in the cost of shipping goods to the United States. Others point to strategies that offshore outsourcers have used to work around some obstacles.

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## Introduction

Offshoring, also known as offshore outsourcing, initially referred to the practice of U.S. businesses contracting with firms beyond U.S. borders to provide services that would otherwise have been performed by in-house employees in white-collar occupations (e.g., computer systems designers and call center operators). However, sending abroad the jobs of workers in blue-collar occupations employed on textile and auto assembly lines, for example, has been taking place for decades. The extension of offshoring from U.S. manufacturers to service providers that became apparent in the past decade has heightened public policy concerns about the extent of job loss and foregone employment opportunities among U.S. workers. This concern is especially pertinent to policymakers at the present time because the unemployment rate remains high more than three years after the end of the December 2007-June 2009 recession.

Despite U.S. firms having moved work outside the country for decades, the short- and long-run labor market implications of offshore outsourcing remain unclear. Some observers claimed that the business practice explained much of the “jobless recovery” from the 2001 recession. Others asserted that the historical link between economic growth and job creation remained intact and, therefore, that the labor market would eventually recover from the short-run downturn in the business cycle. The labor market did in fact recover from the 2001 recession, which provided support for estimates of offshoring alone having accounted for perhaps 3% of net job loss (gross job gains minus gross job losses) early in the 2000s.<sup>1</sup> Some within the public policy community have again asserted that offshoring is contributing to the slow rebound of the labor market from the 2007-2009 recession.<sup>2</sup>

While acknowledging that trade and other forms of globalization<sup>3</sup> can cause painful dislocations for those workers who must adjust to changes in the nation’s employment structure, many economists agree that it benefits the nation as a whole by enabling firms to sell a greater variety of higher quality products to U.S. consumers at lower prices and by expanding markets for U.S. firms as developing countries increase their demand for U.S.-made goods. Some question whether this scenario applies to services offshoring, however. Milberg et al. suggest that companies engaged in offshoring of service activities may be its chief beneficiaries, using the profits gained from lower input costs to increase dividends to shareholders, raise stock prices through buybacks, and undertake more mergers and acquisitions rather than reinvesting and promoting growth in the U.S. economy.<sup>4</sup>

Still others note that the movement of services jobs to other countries may have different implications for the labor market and public policy than the movement of production jobs.

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<sup>1</sup> The 3% figure was developed by William Dickens, senior fellow, Economic Studies, The Brookings Institution, and presented during a March 3, 2004, Brookings forum on offshoring.

<sup>2</sup> For example, as reported in *EPI News*, January 2011, “In a year when fewer than one million domestic jobs were created, International Economist Robert Scott [of the Economic Policy Institute] calculates that the growth in the U.S. trade deficit in 2010 created 1.4 million jobs overseas in 2010 and that many of those jobs were outsourced by American companies.”

<sup>3</sup> For more information, see CRS Report RS21857, *Foreign Direct Investment in the United States: An Economic Analysis*, by (name redacted).

<sup>4</sup> William Milberg, Melissa Mahoney, Markus Schneider, and Rudi von Arnim, “Dynamic Gains From U.S. Services Offshoring: A Critical View,” in *Global Capitalism Unbound: Winners and Losers from Offshore Outsourcing*, ed. Eva Paus (New York: Palgrave Macmillan, 2007), pp. 77-93.

Factory workers (e.g., textile machine operators) have predominantly had less than 12 years of schooling or attained at most a high school diploma. Administrative support and professional workers much more often have taken some college courses or obtained at least a bachelor's degree, according to data from the U.S. Bureau of Labor Statistics. The change in the skill (educational) level of jobs being moved abroad has led some to wonder whether the offshoring of service, unlike production, activities will result in college graduates facing a dwindling supply of entry-level jobs that have traditionally served as stepping-stones to higher skilled and higher paying positions.<sup>5</sup> They also question whether the existing trade adjustment assistance programs can satisfactorily meet the needs of comparatively well-educated office workers who lose their jobs to services offshoring.<sup>6</sup>

Congress historically has tried to promote U.S. job growth and assist workers who lose jobs through no fault of their own, whether job losses are caused by economic downturns (i.e., cyclical unemployment) or by shifts in the composition of jobs performed in the United States (i.e., structural unemployment). The notion that offshoring depresses job growth in the United States appears to underlie support among some policymakers for measures meant to encourage U.S. firms to expand employment domestically rather than abroad.<sup>7</sup> While some members of the public policy community also support the adoption by other countries of trade and labor policies intended to level the playing field for U.S. companies and workers in the international marketplace, still others advocate for limited government intervention as the best means of promoting economic growth.<sup>8</sup>

This report does not attempt to sort through all the issues raised above, some of which are addressed in the above-referenced CRS reports. Instead, it begins by briefly examining the development of outsourcing by U.S. companies to provide context for policymakers grappling with the business practices' latest iteration. It then synthesizes the information (both empirical and anecdotal) released since the early 2000s on offshore outsourcing's impact on U.S. employment to help policymakers evaluate the adequacy of the nation's retraining and income support programs for workers displaced by greater global economic integration.

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<sup>5</sup> Alan S. Blinder, "Offshoring: The Next Industrial Revolution?," *Foreign Affairs*, vol. 85, issue 2, March/April 2006, pp. 113-128; and Christopher Koch, "Backlash," *CIO Magazine*, September 1, 2003.

<sup>6</sup> For more information on these programs, see CRS Report R42012, *Trade Adjustment Assistance for Workers*, by (name redacted) and CRS Report R41922, *Trade Adjustment Assistance (TAA) and Its Role in U.S. Trade Policy*, by (name redacted) and Laine Elise Rover.

<sup>7</sup> See, for example, CRS Report RL31444, *Firms That Incorporate Abroad for Tax Purposes: Corporate "Inversions" and "Expatriation"*, by (name redacted) and CRS Report 97-765, *The Buy American Act: Requiring Government Procurements to Come from Domestic Sources*, by (name redacted).

<sup>8</sup> See, for example, CRS Report RL34091, *Globalization, Worker Insecurity, and Policy Approaches*, by (name redacted).

## The Development of Domestic and Offshore Outsourcing in Production and Services Activities

The overseas relocation of manufacturing work predates by decades the recent wave of services offshoring.<sup>9</sup> Major U.S. companies, initially responding to heightened competition from Japanese and European multinational corporations, opened facilities abroad during the 1970s and 1980s that turned out goods formerly produced by comparatively well paid, often unionized U.S. factory workers (e.g., assembly-line workers in the auto industry).

In addition, U.S. companies reacted to the back-to-back recessions of the early 1980s by focusing on their core missions and contracting out activities that specialized domestic enterprises could perform more efficiently (e.g., janitorial services). Firms also restructured their operations by outsourcing jobs to employees of temporary help agencies, professional and business services establishments (e.g., accounting firms), and independent contractors located in the United States. The persistence of these changes over time indicates that domestic outsourcing of formerly in-house functions is a permanent reorganization of how work is performed in the United States.

The 2001 recession prompted U.S. employers to achieve further efficiencies by taking advantage of technological innovations that minimize the importance of physical distance between companies. The now widespread dissemination of technologies that enable relatively low cost, good quality, and high speed transmission of voice and data communications has allowed U.S. firms to extend offshoring beyond the jobs of workers that produce goods to the jobs of workers that provide services (e.g., writers of software code, processors of credit-card receipts, interpreters of CT scans of U.S. hospital patients, and preparers of corporate financial analyses for U.S. investors).<sup>10</sup> Jobs at risk of being offshored thus are both those held by information technology (IT) workers and IT-enabled workers.

Events also transpired in other countries that enhanced their ability to export services—particularly IT services—to the United States and other developed countries. One such event was addressing the so-called Y2K crisis: U.S. firms, in response to a tight supply of computer programmers in the late 1990s, turned to companies principally located in India to make the code fixes needed to avert problems with computer systems when the year 2000 arrived; the domestic firms that utilized these programmers reportedly were pleased with the quality of their work.<sup>11</sup> Another development was the educational systems of low-wage foreign nations graduating an abundant supply of well educated (sometimes English-speaking) individuals.<sup>12</sup> In some cases, the

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<sup>9</sup> Jagdish Bhagwati, Arvind Panagariya, and R.N. Srinivasan, “The Muddles Over Outsourcing,” *Journal of Economic Perspectives*, vol. 18, no. 4 (fall 2004), pp. 93-114. (Hereinafter cited as Bhagwati, Panagariya, and Srinivasan, *The Muddles Over Outsourcing*.)

<sup>10</sup> Pete Engardio, Aaron Bernstein, and Manjeef Kripalani, “The New Global Job Shift,” *Business Week*, February 3, 2003 (hereinafter cited as Engardio et al., *The New Global Job Shift*.); and Duke University Offshoring Research Network and The Conference Board, *2007-2008 ORN Survey Report*, Research Report 1445-09-RR, 2009.

<sup>11</sup> Jeffrey Marshall, “Outsourcing Overseas: Savings Road Leads to India,” *Financial Executive*, September 2002.

<sup>12</sup> Richard B. Freeman, “The Challenge of the Growing Globalization of Labor Markets to Economic and Social Policy,” in *Global Capitalism Unbound: Winners and Losers from Offshore Outsourcing*, ed. Eva Paus (New York: Palgrave Macmillan, 2007), pp. 23-39.

number of persons with IT and accounting skills reportedly exceeded the immediate needs of their local economies (e.g., China, Eastern Europe, India, and the Philippines).<sup>13</sup> With English the language of the computer industry worldwide, IT services can be provided from many non-English-speaking, comparatively low-wage nations (e.g., Argentina, Brazil, Bulgaria, China, the Czech Republic, Hungary, Jordan, Lithuania, Mexico, Slovenia, Russia, and Ukraine).

Taken together, these developments have allowed U.S.-based companies

to increasingly fragment tasks across borders in both manufacturing and information and business services. Firms no longer just ship goods between countries. They can now also locate intangible production tasks, such as research, design, management, and IT support across a number of different countries.<sup>14</sup>

Relatedly, research suggests that the extension of task fragmentation to service activities accounts for the greater relative contribution of offshoring to increased wage dispersion (inequality) in the United States in recent decades.<sup>15</sup> Technological change and deunionization appear to have accounted for relatively more of the so-called polarization of wages<sup>16</sup> that occurred during the 1980s and 1990s.

## **Job Losses and Offshore Outsourcing**

No database exists that provides a comprehensive answer to the question of how many workers have lost their jobs to offshoring. The only data available on jobs lost to the out-of-country relocation of work come from the U.S. Bureau of Labor Statistics' (BLS's) series on extended mass layoffs. Since 2004, BLS has asked firms with at least 50 employees that let go at least 50 workers in layoffs that lasted 31 or more days whether the firms moved the laid-off workers' jobs out of the United States. Given the series' exclusion of small companies and focus on large layoffs, it underestimates jobs lost to offshoring and is better at picking up losses at manufacturers than at service providers. Not surprisingly, then, the BLS series has consistently found that relatively few job losses result from the movement of work away from the United States. In the third quarter of 2012, when more than 100,000 workers were separated in extended mass layoffs, firms told BLS that they let go fewer than 1,600 workers in actions involving the movement of work and that less than 1% of these workers had their jobs moved to another country.<sup>17</sup>

As a result of the dearth of data, some have stepped in to provide more information on the extent of offshoring today and in coming years. Forrester Research, Inc. was the source of perhaps the

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<sup>13</sup> Engardio et al., *The New Global Job Shift*; Larry Greenemeier, "Offshore Outsourcing Grows to Global Proportions—U.S. Companies Extend Their Search Beyond India for IT Help Overseas," *InformationWeek*, February 11, 2002; and Drew Robb, "Offshore Outsourcing Nears Critical Mass—The IT Talent Shortage in the United States is Driving More Companies to Use Overseas Developers," *InformationWeek*, June 12, 2000.

<sup>14</sup> Lindsay Oldenski, *The Task Composition of Offshoring by U.S. Multinationals*, Georgetown University, Working Paper, September 2012, p. 2.

<sup>15</sup> Sergio Firpo, Nicole M. Fortin, and Thomas Lemieux, *Occupational Tasks and Changes in the Wage Structure*, Institute for the Study of Labor (IZA), IZA Discussion Paper No. 5542, Bonn, February 2011.

<sup>16</sup> See, for example, David H. Autor, Lawrence F. Katz, and Melissa S. Kearney, "The Polarization of the U.S. Labor Market," *American Economic Review*, vol. 96, no. 2 (2006), pp. 189-194.

<sup>17</sup> BLS, *Extended Mass Layoffs—Third Quarter 2012*, November 8, 2012.

first and most commonly cited statistics on offshoring of service sector jobs.<sup>18</sup> According to its forecast that appears to have been based on discussions with experts, a total of 3.4 million service-sector jobs might move abroad between 2003 and 2015. Half of the total (1.7 million) was projected to be relocated outside the United States within the first 7 years of the 12-year period, and half over the following 5 years. This indicates that Forrester expected employers to increasingly transfer service activities overseas. Although 3.4 million jobs may sound like a large number, Bhagwati et al. point out that Forrester's forecasted loss of some 300,000 jobs per year on average through 2015 represents a very small share of the jobs typically created and destroyed each year in the United States.<sup>19</sup>

Researchers have mostly focused on determining which jobs are susceptible to being moved abroad and then on estimating U.S. employment in these potentially offshorable activities in a given year. One such empirical analysis was undertaken in the early years of services offshoring by Bardhan and Kroll. They estimated that more than 14 million jobs in 49 service occupations, representing about 11% of total U.S. employment in 2001, have attributes that could allow them to be sent overseas (e.g., no in-person customer servicing required; an IT-enabled work process that can be accomplished via telecommuting; jobs that can be routinized; a fairly wide gap between a job's pay in the United States compared to in a destination country; and a destination country having few language, institutional, and cultural barriers).<sup>20</sup> The occupational groups identified as being vulnerable to offshoring include office support (e.g., data entry and payroll clerks), auditors and tax preparers, computer programmers and software engineers, medical transcriptionists and paralegals, and technical writers. They are concentrated in such industries within the service sector as information, finance and insurance, and professional and business services.

A study released by the Brookings Institution built upon the work of Bardhan and Kroll, Forrester Research, and others to develop projections of the share of jobs in 246 metropolitan areas that might be lost due to services offshoring over the 2004-2015 period. The researchers concluded that offshoring may not greatly affect employment in most metropolitan areas, with just 2.2% of the jobs in these 246 areas likely to be offshored between 2004 and 2015.<sup>21</sup> The analysis suggested that five metro areas might lose somewhat more jobs (between 3.1% and 4.3%) by 2015: Boulder, CO; Lowell, MA; San Francisco, CA; San Jose, CA; and Stamford, CT. Another 23 areas might have between 2.6% and 3.0% of their jobs offshored. Those metropolitan areas estimated to be most vulnerable to services offshoring tend to be very populous, having 1 million or more inhabitants (e.g., Dallas, TX; Minneapolis, MN; and Washington, DC). They also tend to be located in the Northeast (e.g., Bergen-Passaic, NJ; Boston, MA; and Hartford, CT) and West (e.g., Denver, CO and San Jose, CA). In addition, they generally have high concentrations of IT

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<sup>18</sup> John C. McCarthy, *Near-Term Growth of Offshoring Accelerating*, Forrester Research, Inc., May 14, 2004. The service-providing sector includes professional and business services, information (including telecommunications), financial activities, and health services.

<sup>19</sup> Bhagwati, Panagariya, and Srinivasan, *The Muddles Over Outsourcing*.

<sup>20</sup> Ashok Deo Bardhan and Cynthia A. Kroll, "The New Wave of Outsourcing," *Fisher Center Research Report*, University of California-Berkeley, fall 2003 (hereinafter cited as Bardhan and Kroll, *The New Wave of Outsourcing*); and Cynthia A. Kroll, "State and Metropolitan Area Impacts of the Offshore Outsourcing of Business Services, and IT," *Fisher Center Research Report*, University of California-Berkeley, 2005. See also, C. Alan Garner, "Offshoring in the Service Sector: Economic Impact and Policy Issues," Federal Reserve Bank of Kansas City's *Economic Review*, third quarter 2004.

<sup>21</sup> Robert Atkinson and Howard Wial, *The Implications of Service Offshoring for Metropolitan Economies*, The Brookings Institution Metropolitan Policy Program, February 2007.



jobs (e.g., Boulder, CO; Huntsville, AL; and Lowell, MA) or IT-enabled back-office jobs such as data-entry keyers and telemarketers (e.g., Des Moines, IA; Omaha, NE; and Wilmington, DE).

Jensen and Kletzer developed a different geographically based approach to estimate the share of tradable (offshorable) and nontradable (nonoffshorable) jobs in manufacturing and nonmanufacturing (e.g., agriculture, mining, construction, services) industries. About 9.4% of total U.S. employment in 2000 was found to be in offshorable industries, according to one of their estimates.<sup>22</sup> Both manufacturing and professional services industries were estimated to have above-average percentages of vulnerability to offshoring: over 12% of employment in the case of manufacturing, and almost 14% in the case of professional services.

Subsequently, Jensen and Kletzer took a different approach that has become popular among researchers. They examined the task content of 457 service occupations to rank their relative vulnerability to being offshored. The measures of task content they used include whether the job requires face-to-face contact with others, is telecommutable or involves an IT-enabled work process, and involves routine or complex activities.<sup>23</sup> Jensen and Kletzer estimated that the following occupational groups had a large share of employment within their most offshorable category: computer and mathematical; architecture and engineering; legal; life, physical, and social sciences; business and financial operations; and office/administrative support. Jensen and Kletzer's most offshorable category accounted for 27.4% of all employment in services occupations in 2005. They also found that a service occupation's relative degree of offshorability was positively associated with its level of educational attainment; that is, service occupations having a larger percentage of bachelor's degree holders were ranked as more vulnerable to offshoring.

BLS undertook an examination of the vulnerability to offshoring of service-providing occupations as well. Out of 515 service occupations, BLS estimated that 160 may be susceptible to transfer offshore. More than one-half of these offshorable occupations are in various professional and technical categories, with virtually all computer and mathematical science occupations being to some degree susceptible to offshoring. In 2007, there were some 30 million jobs in these 160 offshorable service-providing occupations; they accounted for over one-fifth of total employment in that year. Despite their vulnerability to being offshored, employment in these occupations grew slightly faster than overall service-providing employment in the 2001-2007 period. Wage growth was comparatively greater in these offshorable occupations between 2001 and 2007 as well. However, the 33 service-providing occupations found to be most susceptible to offshoring experienced below average employment and wage growth during the period. The skills and education of this most vulnerable group range widely:

Fifteen are office and administrative support occupations [e.g., bookkeeping, accounting, and auditing clerks], with relatively low education or training requirements. Another 11 are professional and related occupations [e.g., computer operators, programmers, and support specialists], which generally possess higher educational requirements.<sup>24</sup>

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<sup>22</sup> J. Bradford Jensen and Lori G. Kletzer, "Tradable Services: Understanding the Scope and Impact of Services Offshoring," in *Offshoring White-Collar Work—Issues and Implications*, ed. Lael Brainard and Susan M. Collins (Washington, DC: The Brookings Institution, 2005), pp. 75-116.

<sup>23</sup> J. Bradford Jensen and Lori G. Kletzer, "Measuring Tradable Services and the Task Content of Offshorable Services Jobs," in *Labor in the New Economy*, ed. Katharine G. Abraham, James R. Spletzer, and Michael Harper (Chicago: University of Chicago Press, 2010), pp. 309-335.

<sup>24</sup> Roger J. Moncarz, Michael G. Wolf, and Benjamin Wright, "Service-providing Occupations, Offshoring, and the (continued...)"

Blinder also took an occupational approach and created an index of offshorability for hundreds of blue-collar, white-collar, and service occupations based on the degree to which the jobs required personal interaction that necessitated workers to be in close proximity to customers. He estimated that a majority of occupations (533) and employed persons (92.6 million in 2004) are *nonoffshorable*—that is, they are completely immune to offshoring (see category IV in **Table 1**). Conversely, Blinder estimated that a minority of U.S. occupations (about 200) and workers (almost 30 million) fall in the highly offshorable and offshorable categories. He considered the two categories, which included 22.2% of U.S. workers in 2004, too conservative an estimate of potentially offshorable jobs in light of technological and other advances expected to arise in the coming years. Blinder added to the conservative estimate those occupations in category III he ranked as most susceptible to being offshored to create a moderate estimate totaling 25.6% of all U.S. workers. His aggressive estimate includes all of category III and totals almost 40 million workers or 29.0% of all U.S. jobs. Blinder stated that “Contrary to conventional wisdom, the more offshorable occupations are not low-end jobs, whether measured by wages or by education. The correlation between skill and offshorability is almost zero.”<sup>25</sup> This conclusion supports the above-described research on offshoring of services occupation by BLS economists, which along with Blinder’s study seemingly run counter to the results of Jensen and Kletzer discussed above. The different measures of offshorability the analysts developed may explain their different results.

**Table 1. Occupational Categories by Degree of Offshorability**

| Category     | Degree of Offshorability | Occupations   |                       |                               |
|--------------|--------------------------|---|-----------------------|-------------------------------|
|              |                          | Examples  | Number of Occupations | 2004 Employment (in millions) |
| I            | Highly offshorable       | computer programmers and systems analysts; telemarketers; bookkeeping, accounting, and auditing clerks                                  | 59                    | 8.2                           |
| II           | Offshorable              | computer software engineers; accountants; machine operators, team assemblers and production worker helpers; bill and account collectors | 151                   | 20.7                          |
| III          | Hard to offshore         | general and operations managers; stock clerks and order fillers; shipping, receiving, and traffic clerks                                | 74                    | 8.8                           |
| IV           | Non-offshorable          | business operations specialists; health and safety engineers; music directors; photographers; postal service mail sorters               | 533                   | 92.6                          |
| <b>Total</b> |                          |   | <b>817</b>            | <b>130.0</b>                  |

**Source:** Alan S. Blinder, “How Many US Jobs Might be Offshorable?,” *World Economics*, vol. 10, no. 2 (April-June 2009).

(...continued)

Labor Market,” *Monthly Labor Review*, December 2008, pp. 76-77.

<sup>25</sup> Alan S. Blinder, “How Many US Jobs Might be Offshorable?,” *World Economics*, vol. 10, no. 2 (April-June 2009), p. 69.

Blinder and Krueger used three alternative survey methods to try to determine how many of the jobs that workers held in 2008 were vulnerable to being moved overseas. All three methods found that about one in four U.S. jobs are potentially offshorable.<sup>26</sup> This is about the same as Blinder's moderate estimate based on an entirely different approach (see the immediately preceding paragraph). The analysis of Blinder and Krueger suggests that offshorability is especially prevalent in factory and administrative support occupations, and on an industry basis, in manufacturing, finance, information, and professional services.

There are others who believe fears about services offshoring have been overblown. One explanation for why perhaps only one-tenth of the potential market for offshoring global IT and business processes work was realized through 2006 is that "executives have a lot to learn about using offshore talent to boost productivity.... The management challenge will grow more urgent as rising global salaries dissipate the easy cost gains from offshore outsourcing."<sup>27</sup> Some, therefore, are cautious about the future pace of moving abroad potentially vulnerable U.S. jobs. For example, Deloitte Consulting concluded that

outsourcing will lose "holy grail" status. In the future, companies will not outsource because it is the latest management fad.... Organizations will carefully define core, strategic, and "thought-leadership" functions and will keep those inhouse to retain knowledge, confidentiality, and control over key functions. Some organizations will decide to outsource only short-term.... Many organizations will also engage in large scale re-insourcing thereby further eroding the outsourcing market.<sup>28</sup>

Dell, for example, returned some help services to the United States due to customer dissatisfaction.<sup>29</sup> Other U.S. firms reportedly had to employ IT service providers located in the United States to fix software produced abroad.<sup>30</sup> Still other companies have begun returning call center operations and legal support work to the United States, specifically to firms located in rural low-cost areas.<sup>31</sup>

With regard to manufacturing, some have credited "reshoring" for part of the sector's employment rebound since the 2007-2009 recession's end. Among U.S. manufacturers that responded to recent surveys, Perry found that about one-fifth had brought production back from overseas in 2011. He attributed what he regards as a nascent trend to "China's shrinking manufacturing wage and cost advantages" as well as "long delivery times and rising shipping costs for overseas production; quality control issues; the physical separation of design and production personnel; and a lack of safeguards on intellectual property outside the United States."<sup>32</sup> Perry provided more than 10 companies as examples of those that have returned

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<sup>26</sup> Alan S. Blinder and Alan B. Krueger, *Alternative Measures of Offshorability: A Survey Approach*, National Bureau of Economic Research, Working Paper 15287, Cambridge, MA, August 2009.

<sup>27</sup> Peter Engardio, "The Future of Outsourcing," *Business Week*, January 30, 2006, p. 58.

<sup>28</sup> Deloitte Consulting, *Calling A Change in the Outsourcing Market: The Realities for the World's Largest Organizations*, April 2005, p. 25.

<sup>29</sup> Khozem Merchant, "Tough Call for the US Cost-Cutters," *Financial Times*, December 22, 2003.

<sup>30</sup> Olga Kharif, "The Hidden Costs of IT Outsourcing," *BusinessWeek online*, October 27, 2003; and Ryan B. Patrick, "Signs of Offshore Backlash Growing," *Computerworld*, January 8, 2004.

<sup>31</sup> Joan Engebretson, "Call Center Business Still Viable One for Rural America," *Connected Planet*, March 10, 2011; and Sheri Qualters, "Outsourcing Pioneer Blazes a New Trail: Bringing Work Back from India," *The National Law Journal*, July 7, 2011.

<sup>32</sup> Mark Perry, "Manufacturing In Our Favor," *Business Horizon Quarterly*, spring 2012, p. 21.

production and jobs to the United States (e.g., Caterpillar, National Cash Register, Wham-O, Otis Elevator, and Buck Knives).

Nonetheless, at least three factors that could have put the brakes on offshoring early in the last decade failed to do so. Offshore providers of IT services, for example, were able to allay U.S. firms' fears about security shortly after the terrorist attacks of September 11, 2001.<sup>33</sup> Despite 9/11, U.S. airline carriers have continued their "increased outsourcing of maintenance jobs overseas—to places like Singapore, Brazil, the Dominican Republic—not only for international aircraft but even for planes on purely domestic routes."<sup>34</sup> In addition, concern periodically has arisen among U.S. outsourcers over unrest in some regions (e.g., disputes between India and Pakistan as well as in the Middle East). Global providers of software services have responded by placing more of their clients' work in a variety of countries, including the "near-shore" markets of Canada and Mexico.<sup>35</sup> Some individual U.S. employers also reportedly believe that moving work to nearby Canada, which has fewer cultural differences with the United States than India or the Philippines for example, likely reduces their customers' potential antipathy to offshoring.<sup>36</sup> And, despite the cost of labor rising in some Asian nations (e.g., India), there are many others whose low wages continue to draw U.S. jobs (e.g., Vietnam).<sup>37</sup>

In summary, a comprehensive regularly collected data series does not exist on the number of U.S. workers who have lost their jobs to offshore outsourcing. Empirical analyses have focused on determining those jobs with characteristics that make them susceptible to movement beyond U.S. borders. This approach may overstate the number of jobs that actually have been or will be lost to offshoring because it does not consider other factors that may affect employers' decisions about the location in which work is performed.

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<sup>33</sup> Julie Gallagher, "Redefining the Business Case for Offshore Outsourcing," *Insurance & Technology*, April 2002.

<sup>34</sup> Al Kamen, "In the Loop," *Washington Post*, February 27, 2004, p. A21.

<sup>35</sup> "Gartner Dataquest Says IT Outsourcing Industry to Advance with Increased Demand in Offshore Outsourcing," *Business Wire*, January 30, 2003.

<sup>36</sup> Ian Austen, "Canada, the Closer Country for Outsourcing Work," *New York Times*, November 30, 2004.

<sup>37</sup> John S. McClenahan, "Outsourcing: Hedge the Low-Wage Worker," *Industry Week*, July 1, 2006.

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