



# EPI BRIEFING PAPER

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## Trans-Pacific Partnership, currency manipulation, trade, and jobs

### U.S. trade deficit with the TPP countries cost 2 million jobs in 2015, with job losses in every state

BY **ROBERT E. SCOTT** AND **ELIZABETH GLASS**

#### Summary

**T**he Trans-Pacific Partnership (TPP) agreement between the United States and 11 other Pacific Rim countries lacks an absolutely key component to keep it from doing potential damage to the U.S. economy. The missing piece of this trade and investment deal is a set of restrictions and/or enforceable penalties against member countries that engage in currency manipulation. Currency manipulation is one of the key driving forces behind the high and rapidly rising U.S. trade deficit with the 11 other members of the TPP. In 2015, the U.S. deficit with TPP countries translated into 2 million U.S. jobs lost, more than half (1.1 million) of which were in manufacturing. Without such provisions against currency manipulation, the TPP could well follow other trade agreements and leave even greater U.S. trade deficits in its wake.

Currency manipulation occurs when a country artificially depresses the value of its currency. Currency manipulation acts like a subsidy to the exports of the manipulating country, and a tax on U.S. exports to every country where U.S. exports compete with the currency manipulator's exports. In this way, currency manipulation increases U.S. imports, suppresses U.S. exports, and inflates U.S. trade deficits. As past EPI research has shown, currency-manipulation-fueled trade deficits have reduced U.S. gross domestic product (GDP), eliminated millions of U.S. jobs, driven down U.S. wages, and propelled the outsourcing of U.S. jobs to currency manipulators.

Many members of the proposed TPP, including Malaysia, Singapore, and Japan, are known currency manipulators. Others, namely Vietnam, appear to be following the lead of currency manipulators by, for example, acquiring excess foreign exchange reserves to depress the value of their currency. Currency manipulation explains a

substantial share of the large, persistent U.S. trade deficit with the 11 other TPP countries that has not only cost millions of U.S. jobs but also increased income inequality and put downward pressure on American wages. We can't afford a trade agreement that not only allows but would intensify these harmful trends:

- The \$177.9 billion U.S. goods trade deficit with the 11 other TPP countries reduced U.S. GDP by \$284.6 billion (1.6 percent) and eliminated 2 million jobs in 2015.
- The 2 million jobs lost due to the U.S. goods trade deficit with TPP member countries in 2015 included 418,900 direct jobs in commodity and manufacturing industries that competed with unfairly traded goods from TPP member countries.
- The currency-manipulation-fueled trade deficit with TPP countries in 2015 was also responsible for the loss of 847,200 indirect jobs in supplier industries, and an additional 759,700 “responding” jobs. These lost responding jobs are jobs that—in a U.S. economy still suffering from low demand—would have been supported by the wages of workers who would have had jobs were trade with the TPP member countries balanced.
- The U.S. trade deficit with TPP member countries in 2015 cost 1,057,200 manufacturing jobs (52.2 percent of the jobs lost due to the U.S. trade deficit with TPP member countries). Within manufacturing, by far the largest losses occurred in motor vehicles and parts, which lost 738,300 jobs (36.4 percent of total jobs lost). Other manufacturing industries with large losses include apparel (181,900 jobs lost or displaced, equal to 9 percent of total jobs lost) and computer and electronic parts (163,900 jobs, or 8.1 percent).
- The U.S. trade deficit with TPP member countries was also responsible for significant job losses outside of manufacturing in 2015. Industries that lost jobs include health care and social assistance (204,200

jobs, 10.1 percent); retail trade (142,800 jobs, 7 percent); accommodation and food services (101,800 jobs, 5 percent); finance and insurance (42,700 jobs, 2.1 percent); agricultural industries (41,600 jobs, 2.1 percent), and education services (37,300 jobs, 1.8 percent).

- Each of the 50 states and the District of Columbia lost jobs due to the U.S. trade deficit with TPP member countries in 2015. Net job losses were greatest in California, which lost 227,500 jobs (constituting 1.38 percent of total state employment). Michigan experienced the greatest jobs lost as a share of state employment (5.12 percent).
- In the 10 hardest-hit states (jobs lost as a share of all state jobs), the share of jobs lost due to the U.S. trade deficit with the TPP countries in 2015 ranged from 1.83 percent to 5.12 percent of total state employment.
- Seven of the 10 states with the highest job losses (as a share of total employment) are in the Midwest or Southeast, in states where manufacturing (especially of motor vehicles and parts) predominates: Michigan (214,600 jobs lost, equal to 5.12 percent), Indiana (103,800 jobs, 3.54 percent), Kentucky (53,700 jobs, 2.92 percent), Alabama (46,000 jobs, 2.32 percent), Tennessee (61,000 jobs, 2.19 percent), Ohio (112,500 jobs, 2.16 percent), and Mississippi (22,000 jobs, 1.86 percent). Other hard-hit states in the top 10 were Oklahoma (35,300 jobs, 2.10 percent), Wyoming (6,800 jobs, 2.34 percent), and Alaska (6,300 jobs, 1.83 percent), all of which have been hard hit by the collapse of the oil industry and related sectors.
- The U.S. trade deficit with TPP member countries in 2015 produced net job losses in all but two U.S. congressional districts. The 11th Congressional District in Michigan was the hardest-hit district in the country, ranked in terms of jobs eliminated as a share of total district employment, losing 26,200

jobs (7.66 percent of total employment). In the 20 congressional districts with the largest shares of jobs lost, net losses ranged from 11,400 to 26,200 jobs, and jobs lost as a share of overall employment ranged from 3.89 percent to 7.66 percent. Michigan had 10 districts in the top 20 job-losing districts, followed by Indiana (five districts); California (two districts); and Ohio, Alabama, and Tennessee (one district each).

These stark figures highlight how much damage the U.S. economy and American workers have already suffered from growing trade deficits with TPP member countries.

And we have seen this picture before—it's similar to the economic impact that followed the North American Free Trade Agreement (NAFTA), but this time the stakes are higher and the costs more severe (Scott 2013). Prior to NAFTA, the United States sustained balanced trade with Mexico (Scott 2011). The U.S. trade deficit with Mexico took off only after NAFTA was adopted, further demonstrating the degree to which these unfair trade and investment agreements negatively affect the U.S. economy. With the TPP countries, the United States is already starting behind with a trade deficit of \$177.9 billion. As a result, the TPP trade and investment deal is likely to be significantly more costly to the U.S. economy.

In this context the United States should insist that currency manipulation be directly addressed in the core of the TPP agreement. Member governments of the TPP should also agree to rebalance trade and currency markets, including by divesting excess foreign assets in their portfolios, before any trade and investment agreement takes effect. They should also forswear the use of currency manipulation in the future, and submit to strong, binding currency disciplines in the event these commitments are violated.

## **Background: Currency manipulation, trade, wages, and job loss**

A considerable body of trade policy research has established connections between currency manipulation, trade deficits, job losses, and wages. These connections are heightened in an era of incomplete recovery from the Great Recession. This section provides a broad overview of the connections and introduces proposed new approaches for intervening when currency management unfairly threatens U.S. jobs and wages.

### ***The effect of exchange rates on imports and exports***

Exchange rates measure the value of a country's currency relative to other currencies (Nelson 2013). The nominal exchange rate is simply the rate at which one currency can be exchanged for another. Exchange rates are used to calculate the value of foreign goods, services, and assets in terms of U.S. dollars. Thus, consumers and businesses in the United States use exchange rates to compute the cost of Japanese and Korean cars in terms of U.S. dollars. In the same way, consumers and businesses in Japan and South Korea use exchange rates to calculate the cost of U.S. cars in Japanese yen or Korean dollars.

Exchange rates are determined by the relative supply and demand for currencies in foreign exchange (FX) markets. The current constellation of trade imbalances is primarily the result of governments that use intentional policies, especially official purchases of foreign assets (public financial flows), to influence exchange rates (Gagnon 2013). This is the basic tool of currency manipulators. They purchase foreign assets such as U.S. treasuries to increase demand for the U.S. dollar, which increases the value of the dollar relative to their own currency.

The price of all of a country's exports and imports are strongly influenced by the exchange rate; it is one of the most fundamental prices in the economy. Therefore, changes in the exchange rate can have a large impact on

the level of imports and exports, and on the trade balance. When a country's exchange rate declines, relative to other currencies (a depreciation or devaluation), its exports become cheaper in foreign markets, and imports from other countries become more expensive. Over time, devaluation will increase the level of exports and reduce the level of imports. (More on how currency manipulation affects employment levels can be found in Scott 2014c).

### ***How trade deficits affect jobs***

In turn, the levels of exports and imports have an effect on employment. Each \$1 billion in U.S. exports supports some American jobs. However, each \$1 billion in U.S. imports displaces the American workers who would have been employed making these products in the United States. The net employment effect of trade depends on the changes in the trade balance. An improving trade balance will, all else equal, support job creation, while growing trade deficits will result in growing net U.S. job displacement.

### ***How trade deficits affect wages***

For example EPI research has shown that growing U.S. trade deficits with China pushed American workers out of good jobs with excellent wages, primarily in manufacturing industries, into lower-paying jobs in nontraded industries, or into unemployment. Growing trade deficits with China between 2001 and 2011 resulted in the net loss of at least \$13,505 per displaced worker in 2011 alone. For all displaced workers, using education group averages, net wage losses totaled \$37 billion (Scott 2013).

Direct trade, job, and wage losses are just the tip of the iceberg when it comes to the cost of trade deficits, and globalization more broadly, for American workers. Using standard models to benchmark the cost of globalization for American workers without a college degree, Bivens (2013) estimated that in 2011, trade with low-wage countries lowered wages by 5.5 percent—roughly \$1,800 for a full-time, full-year worker without a college

degree. These losses were experienced by all American workers without a college degree, who make up about two-thirds of the labor force or roughly 100 million U.S. workers.<sup>1</sup>

### ***Adding the TPP to a low-demand economy would aggravate chronic trade deficits***

The United States has run chronic trade deficits for well over a decade. Since 2002, these deficits have been overwhelmingly driven by the conscious policy choices made by several of our major trading partners to manage the value of their currency for competitive advantage in U.S. and global markets. (Gagnon 2013; Bayoumi, Gagnon, and Saborowski 2014; Bergsten and Gagnon 2012; Krugman 2009; Scott 2014c). They buy dollar-denominated assets to boost the value of the dollar and depress the value of their own currencies.

More than 20 countries, led by China, have, together, been spending about \$1 trillion per year buying foreign assets in order to artificially suppress the value of their currencies (Scott 2014c). Several of this group—including Malaysia, Singapore, and Japan—are currently members of the TPP and several others—including South Korea, Taiwan, and China—have expressed interest in joining. In addition, Vietnam, which is part of the proposed TPP, has been accumulating foreign-exchange reserves over the past decade. Vietnam has seen its current account surplus, the broadest measure of its trade surplus with the world, rise to an estimated 4.9 percent of GDP in 2014 (IMF 2015 and 2016); in short it is behaving like the other currency manipulators in the TPP.

As Bivens (2016) notes, the threat posed by allowing currency manipulation to go unchecked is heightened in the current context of a U.S. economy not fully recovered from the Great Recession. Despite efforts by the Federal Reserve to bring the economy back to full employment, the U.S. economy has been stuck well below potential

for more than eight years. Worse yet, there is widespread evidence that the shortfall in demand that has delayed a full recovery from the Great Recession could last for years to come (Bivens 2016 citing Krugman 2013; Summers 2014).

Economic history shows that such prolonged downturns are quite possible in advanced economies: Japan has been stuck below potential output for decades, and Western Europe is experiencing a double-dip recession because it failed to adequately boost aggregate demand. In the United States, fiscal policy has been notably contractionary since 2011, and the Fed has just raised short-term interest rates for the first time in more than a decade. The Fed's mistaken rate increase in the face of chronic demand shortfalls means that we are now going in the wrong direction on both fiscal and monetary policy. Thus, a prolonged period of policy-induced, chronic demand shortfall or "secular stagnation" now seems likely in the United States and much of the developed world. For these reasons, more sensible exchange rate policies are needed now more than ever. (Bivens 2016)

Given that the economy is not at full employment and that there is no automatic mechanism that can return it there quickly due to our fiscal and monetary choices, trade flows can have a powerful influence on aggregate demand. Thus, ending the currency manipulation that has thrown U.S. trade flows out of whack is a crucially important goal for macroeconomic stabilization in coming years.

### ***Responses to currency manipulation are gaining traction***

Several policy alternatives for ending currency manipulation have already been proposed in Congress, including the Ryan-Murphy Currency Reform and Fair Trade Act (H.R. 2378), which would "clearly define currency manipulation as an illegal subsidy and authorize the Commerce Department to address currency manipulation in countervailing duty (CVD) complaints" (Scott

2014c, 16). In 2010, the House of Representatives approved the Ryan-Murphy act, but the Senate failed to pass a complementary measure (S.1027) in the 111th Congress (OpenCongress.org 2009). In 2011, the Senate was successful in passing the Currency Exchange Rate Oversight Reform Act (S.1619). Together, these bills would address currency manipulation by imposing tariffs on countries with undervalued currency.

Similar legislation was introduced in both houses of Congress in 2013, including the Currency Reform and Fair Trade Act (H.R. 1276) in the House and the Currency Exchange Rate Oversight Reform Act (S. 1114) in the Senate. Both bills have gained considerable bipartisan support in both houses of Congress and would produce the economic and political pressure needed to hold currency manipulators accountable.

In addition to legislative action, taxing or offsetting the acquisition of foreign assets and foreign exchange by currency manipulators is an effective policy tool for stopping currency manipulation. In the case of China, the world's biggest currency manipulator and possible future member of the TPP, Gagnon and Hufbauer (2011) suggest that "the U.S. government should tax the income (the interest payments) earned on Chinese holding of U.S. financial assets." This form of taxation is especially potent considering that China was holding \$3.4 trillion in foreign exchange assets as of the end of December 2015 (Bloomberg 2016), about two-thirds of which are made up of U.S. Treasury bonds and other U.S. government assets.

Finally, trade agreements such as the TPP have the capacity to address currency manipulation by setting important precedents for international trade and financial regulations. Bipartisan majorities in both houses of Congress recognized the opportunity to make progress on currency manipulation through the Trans-Pacific Partnership. In June 2013, more than half of the U.S. House of Representatives signed a letter to President Obama urging that the TPP agreement include "currency disciplines" that

would “bolster our ongoing efforts to respond to these trade-distorting policies” (Congress of the United States 2013). In September 2013, 60 senators signed a similar letter (United States Senate 2013) calling for “strong and enforceable foreign currency manipulation disciplines” in the “TPP and all future trade agreements.” Despite these clearly expressed desires on the part of majorities in both houses of Congress, enforceable currency disciplines were not included in the core of the proposed TPP agreement. The only progress made on addressing currency manipulation was a side pact among finance officials from the 12 countries that included promises to avoid “unfair currency practices and refrain from competitive devaluation,” and to provide a range of data on foreign-exchange holdings. But that agreement will not be subject to the TPP’s enforcement mechanisms. By not pushing to include penalties against currency manipulators in the core of the agreement, the United States has missed an opportunity to establish fair trade standards, protect American workers, and address the high and rapidly growing trade deficit.

In addition to including high standards designed to prohibit currency manipulation by TPP member countries in the future, more should have been done to eliminate existing currency manipulation as a precondition for membership, as noted by Scott (2015). Members of the TPP should have also agreed to rebalance trade and currency markets, including through divestiture of excess foreign assets in government portfolios, *before* any trade and investment agreement takes effect. They should also have forsworn the use of currency manipulation in the future, while also agreeing to submit to strong, binding currency disciplines in the event that these commitments are violated.

To quantify that missed opportunity, this report adds to the research on the costs of currency manipulation. Bergsten and Gagnon (2012) have estimated that currency manipulation by more than 20 countries had increased global trade (current account) surpluses of intervening

countries by between \$400 billion and \$800 billion per year. They have also estimated that the “largest loser is the United States, whose trade and current account deficits have been \$200 to \$500 billion per year larger as a result” (Bergsten and Gagnon 2012, 2). Building on this research, Scott (2014c) found that eliminating currency manipulation could create between 1.0 million and 5.8 million U.S. jobs.

What role could rewriting the terms of the TPP to end currency manipulation by TPP members play? Consider that Bergsten and Gagnon’s list of currency manipulators includes several important members of the TPP (Japan, Malaysia, and Singapore), and several countries that have expressed interest in joining the agreement at some point (China, South Korea, and Taiwan). In addition, although TPP member Vietnam is a low-income country (and was thus excluded from Bergsten and Gagnon’s list), it is following the lead of other currency manipulators and acquiring excess foreign exchange reserves and achieving a large trade surplus.<sup>2</sup> While some have argued that China and other countries are not presently manipulating their currencies, nothing in the agreement would prevent these countries from engaging in massive interventions again in the future, thereby nullifying any potential benefits of tariff and nontariff trade barrier reductions and other provisions included in the TPP.<sup>3</sup>

Also, there are significant risks that currency manipulation by China and other TPP neighbors would increase pressure on many of the TPP countries to either initiate or increase the degree to which they engage in currency manipulation, and thereby nullify the benefits of the TPP to the United States. Artificial reductions in the values of the currencies of our TPP trading partners would increase U.S. trade deficits and job losses, and reduce GDP growth.



## Estimating the impact of currency manipulation by TPP member countries on the United States

Currency manipulation is the most important cause of the large and growing U.S. goods trade deficit with the group of countries in the Trans-Pacific Partnership. Coupled with the fact that the United States is the largest and most reliable trading partner for many of the TPP countries, this is a recipe for U.S. pain at others' gain. But for the subsidies provided by currency manipulation, Japanese automakers, for example, would have found it difficult or impossible to achieve their dominance in wide segments of the U.S. market. And currency manipulation has made it difficult or impossible for U.S. firms to penetrate the markets of currency manipulators for many products, due to the effective tax imposed on U.S. products by currency manipulation.

As shown in **Table 1**, the U.S. goods trade deficit with TPP member countries reached \$177.9 billion in 2015. Using a simple macroeconomic model developed by Bivens (2014), we estimate the effects of this trade deficit on U.S. GDP and employment, including respending effects. (The approach is also based, in part, on the models developed in Scott 2014b.) The macroeconomic model estimates the amount of labor (i.e., number of jobs) required to produce a given volume of exports and the labor displaced when a given volume of imports is substituted for domestic output. Within that model, we use an input-output (IO) model to determine the distribution of jobs supported by exports and the jobs eliminated by imports in the U.S. economy. (See the appendix methodology section below for further details on the model structure and data sources used in this study). By providing estimates of the direct and indirect labor requirements of producing output in a given domestic industry, the model tells us each industry's share of the overall jobs lost.<sup>4</sup> The IO employment model is based on the Bureau of Labor Statistics' (BLS) employment requirements matrix (ERM), which includes 195 U.S.

industries, 77 of which are in the manufacturing sector (see the appendix for details on model structure and data sources). This paper assumes that currency manipulation is the primary cause of the U.S. goods trade deficit with Japan, Malaysia, Singapore, and Vietnam; deficits with these four countries make up the majority of the U.S. trade deficit with the TPP countries overall.

Jobs eliminated by the U.S. goods trade deficit with TPP member countries directly decrease total employment in trade-related industries, especially those in manufacturing. The IO model also estimates the number of "indirect" jobs supported or eliminated in supplier industries, including those in manufacturing, and in related service sectors. Finally, wages that would have been earned by the jobs people would have held had trade with the TPP member countries been balanced would have supported additional rounds of "respending," which would have a multiplier effect on output (GDP) and employment.

### A breakdown of the jobs eliminated by the U.S. trade deficit with the TPP countries

Using data on U.S. imports from and exports to the 11 other TPP member countries in 2015, coupled with the models developed in this paper, we estimate the total impact of TPP trade on U.S. GDP and the total number of jobs lost. The \$177.9 billion U.S. goods trade deficit with the 11 other TPP countries reduced U.S. GDP by \$284.6 billion (1.6 percent) in 2015, as shown in Table 1. This analysis includes both the direct effect of the trade deficit on U.S. GDP (-\$177.9 billion), and the multiplier or respending effect (\$106.7 billion or 60 percent, not shown in Table 1).

The U.S. trade deficit with the 11 other TPP countries eliminated 2 million jobs, as shown in **Table 2**, which reports the number of direct, indirect, and respending jobs lost (aggregated over all industries). The trade deficit between the United States and the 11 other TPP member countries in 2015 directly eliminated 418,900 jobs. In

TABLE 1

### U.S. trade with TPP countries and effect on GDP, 2015 (billions of dollars)

<i>Exports</i>	\$680.1
<i>Imports</i>	\$858.0
<i>Trade balance</i>	-\$177.9
<i>U.S. GDP</i>	\$17,937.8
<i>U.S. GDP lost as a result of TPP trade deficit</i>	-\$284.6
<i>U.S. GDP lost to TPP as a share of GDP</i>	-1.6%

**Note:** The GDP effect of the trade deficit is estimated by multiplying the trade deficit by 1.6 because, following Bivens (2014), \$1 billion in gained/lost GDP will result in \$1.6 billion of economic activity.

**Source:** Authors' analysis of Bivens (2014), U.S. Census Bureau (2013), U.S. International Trade Commission (USITC 2016), Bureau of Labor Statistics (BLS 2016a and 2016b), and BLS Employment Projections program (BLS-EP 2014a, 2014b, and 2015). For a more detailed explanation of data sources and computations, see the appendix.

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TABLE 2

### Number of jobs eliminated by U.S. goods trade deficit with TPP countries, 2015

<i>Direct + indirect jobs</i>	1,266,100
<i>Direct jobs</i>	418,900
<i>Indirect jobs</i>	847,200
<i>Responding jobs</i>	759,700
<i>Total jobs lost</i>	2,025,800

**Source:** Authors' analysis of Bivens (2014), U.S. Census Bureau (2013), U.S. International Trade Commission (USITC 2016), Bureau of Labor Statistics (BLS 2016a and 2016b), and BLS Employment Projections program (BLS-EP 2014a, 2014b, and 2015). For a more detailed explanation of data sources and computations, see the appendix.

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In addition to the direct jobs lost, the U.S. trade deficit with the TPP country group eliminated an additional 847,200 indirect jobs in supplier industries, including jobs in manufacturing, commodity, and service industries. Finally, wages lost because of direct and indirect

job cuts from the trade deficits with the TPP member countries would have supported an additional 759,700 responding jobs. The direct, indirect, and responding jobs displaced by the U.S. trade deficit with TPP member countries totals 2,025,800 jobs lost.

**Note:** Tables 3 through 8 are available at the end of this report.



## ***Job losses and gains by industry***

U.S. imports from and exports to the 11 other TPP member countries in 2015 were used to estimate the distribution of net jobs (direct, indirect, and responding) eliminated by the U.S. trade deficit with the TPP member countries by industry for the 45 unique industries (plus eight aggregate sectors) in the U.S. Census Bureau sector plan (U.S. Census Bureau 2009). Our analysis compares jobs lost or gained with 2011 employment data as a baseline to estimate jobs lost or gained as a share of industry employment (U.S. Census Bureau 2013).

**Table 3** provides a snapshot of the U.S. goods trade balance with the TPP countries in 2015. The United States had trade surpluses with the TPP countries in some industries and deficits in most others. Most of the surpluses occurred in the category of manufactured products referred to as “industrial supplies,” in which the United States had an overall surplus of \$46.7 billion in 2015. The largest surpluses occurred in chemicals (\$25.3 billion), petroleum and coal products (\$19.1 billion, predominantly refined petroleum products), and plastics and rubber products (\$5.9 billion).<sup>5</sup> On the other hand, the United States was a net importer of crude oil and gas (-\$58.0 billion) from the TPP in 2015. Thus, the United States has become a specialist in the production of basic chemical products and refined petroleum products that are used in other countries to make final products (for example, toys and tires) that are then re-exported back to the United States.

Completing the picture of manufacturing trade with the TPP, the United States has a small trade deficit in non-durable goods of -\$16.2 billion, which includes trade surpluses in textiles (\$3.3 billion) and food products (\$1.8 billion), and a sizeable deficit in apparel, -\$13.3 billion. The surplus in textiles reflects, in part, the NAFTA rules of origin, which favor fabric that originates within North America in NAFTA apparel trade. Rules of origin have been substantially weakened in many sectors in the TPP, and it is unclear if the United States will retain its net

trade advantage in textile products if the TPP is approved and implemented.

By far the vast majority of the U.S. trade deficit with the TPP countries is in the durable goods industries (-\$151.3 billion, 85.0 percent of the total TPP deficit). This deficit, in turn, is dominated by the trade deficit in motor vehicles and parts (-\$118.7 billion), computer and electronic parts (-\$27.8 billion), and primary metals (-\$13.0 billion). Large trade deficits in these sectors explain a large share of the jobs lost due to trade with the TPP countries, as shown in **Table 4**. It is important to note that durable goods industries such as motor vehicles, computer and electronic parts (including communications, audio, and video equipment), and primary metals industries (including basic steel and steel products) provide large numbers of good jobs with high wages and excellent benefits, especially for workers without a college education. These are the sectors that have been hardest hit by the TPP trade deficit, as shown below.

Overall, the U.S. trade deficit with the 11 other TPP members eliminated 1,057,200 jobs in manufacturing (52.2 percent of jobs lost across all industries), by far the largest number of jobs lost in any major industry, as shown in Table 4. Within manufacturing, the largest losses occurred in motor vehicles and parts, which lost 738,300 jobs (36.4 percent of total jobs lost). Other manufacturing industries with large losses include apparel (181,900 jobs, 9 percent) and computer and electronic parts (163,900 jobs, 8.1 percent). Trade with TPP member countries did contribute to employment in a few manufacturing industries including chemicals (105,400 jobs created); machinery (66,900 jobs); fabricated metal products (55,700 jobs); plastics and rubber products (40,200 jobs); printed matter and related products (21,800 jobs); and petroleum and coal products (20,900 jobs).

In the case of petroleum and coal products, chemicals, plastics, and rubber, while high-wage jobs were created in these industries, the products derived from petroleum

and natural gas are also associated with the generation of large amounts of toxic byproducts which have resulted in increased air and water pollution that is most concentrated at domestic production sites. Over the last 10 years, the United States has, in effect, imported pollution and exported chemical products for the production of manufactured goods in other countries. These developments are a byproduct of the rapid development of oil and gas fracking in the United States, which has dramatically increased the supply and reduced the prices of natural gas and related petroleum byproducts.

The U.S.–TPP trade deficit was also responsible for significant job losses outside of manufacturing, in agricultural industries (41,600 jobs); mining (182,800 jobs); utilities (8,400 jobs); wholesale trade (26,700 jobs); retail trade (142,800 jobs); transportation and warehousing (17,900 jobs); information (19,000 jobs); finance and insurance (42,700 jobs); real estate and rental and leasing (16,500 jobs); professional, scientific, and technical services (10,700 jobs); administrative and support and waste management and remediation services (6,900 jobs); education services (37,300 jobs); health care and social services (204,200 jobs); arts, entertainment, and recreation (23,000 jobs); accommodation and food services (101,800 jobs); other services (except public administration) (70,700 jobs); and public administration (15,700 jobs). These jobs losses reflect the combined effects of both indirect jobs loss and respending effects, which reduced the demand for services.

### ***Job losses and gains by state and congressional district***

Estimates of job losses by industry form the foundation for the estimates of job losses and gains by state and congressional district. Estimates of employment by state and congressional district for each of the 45 unique industries in the model were obtained from the U.S. Census Bureau (2013). These were used to estimate employment shares by state and congressional district for each industry. These shares were used to estimate total jobs lost or

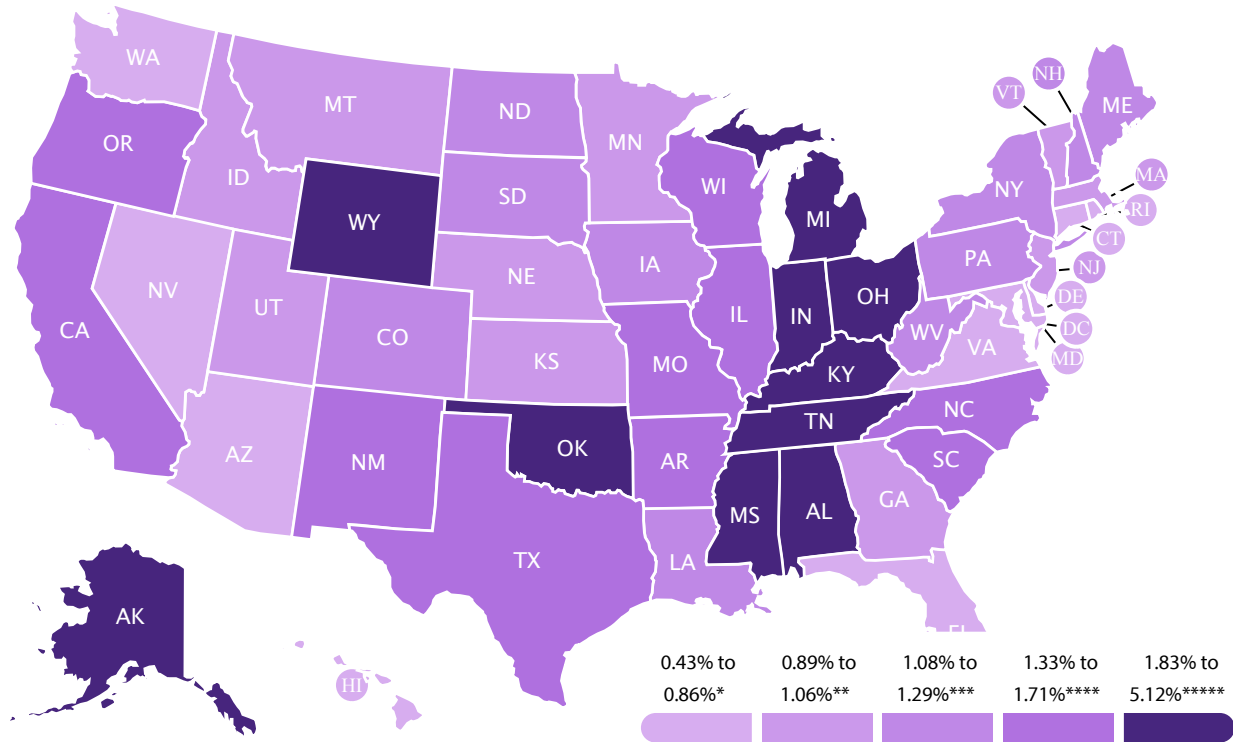
gained per district, with 2011 employment used as the baseline for estimating jobs lost as a share of total state or district employment. Thus, states and congressional districts that have high shares of employment in industries with a large exposure to trade with the TPP member countries (such as motor vehicles and equipment, apparel, or computer and electric parts) were the biggest losers from the trade deficit between the United States and TPP member countries in 2015.

The U.S. trade deficit with the 11 other TPP member countries in 2015 produced net job losses in all 50 states and the District of Columbia. Jobs lost by state, ranked by jobs lost as a share of total state employment, are reported in **Table 5a**. (**Table 5b** ranks the states by net jobs displaced and **Table 5c** lists them alphabetically). Michigan lost the most jobs as a share of total state employment, with 214,600 jobs lost (5.12 percent of total state employment in 2011). Seven of the 10 states with the highest job loss shares are in the Midwest or Southeast census regions, all states where manufacturing predominates. After Michigan they include Indiana (103,800 jobs or 3.54 percent), Kentucky (53,700 jobs, or 2.92 percent), Alabama (46,000 jobs, 2.32 percent), Tennessee (61,000 job, 2.19 percent), Ohio (112,500 jobs, 2.16 percent), and Mississippi (22,000 jobs, 1.86 percent). Rounding out the top 10 states losing the largest shares of jobs were Wyoming (6,800 jobs, 2.34 percent), Oklahoma (35,300 jobs, 2.1 percent), and Alaska (6,300 jobs, 1.83 percent). The distribution of job losses in the 50 states and the District of Columbia is shown in the map in **Figure A**. In the online version of this report, the map is clickable, and contains additional data on job losses due to the U.S. trade deficit with the 11 other TPP member countries in 2015.

This study also estimates trade-related employment changes by congressional district for the 114th Congress (elected in 2014), using congressional district boundaries from the 2010 Census. The distribution of job losses in the 435 congressional districts and in the District of

FIGURE A

**Net U.S. jobs eliminated by U.S. trade deficit with TPP countries, by state, 2015 (as a share of total state employment)**



- \* 10 least-impacted states, plus D.C.
- \*\* 10 next-least-impacted states
- \*\*\* 10 midde-impacted states
- \*\*\*\* 10 next-most-impacted states
- \*\*\*\*\* 10 most-impacted states.

**Source:** Authors’ analysis of Bivens (2014), U.S. Census Bureau (2013), U.S. International Trade Commission (USITC 2016), Bureau of Labor Statistics (BLS 2016a and 2016b), and BLS Employment Projections program (BLS-EP 2014a, 2014b, and 2015). For a more detailed explanation of data sources and computations, see the appendix.

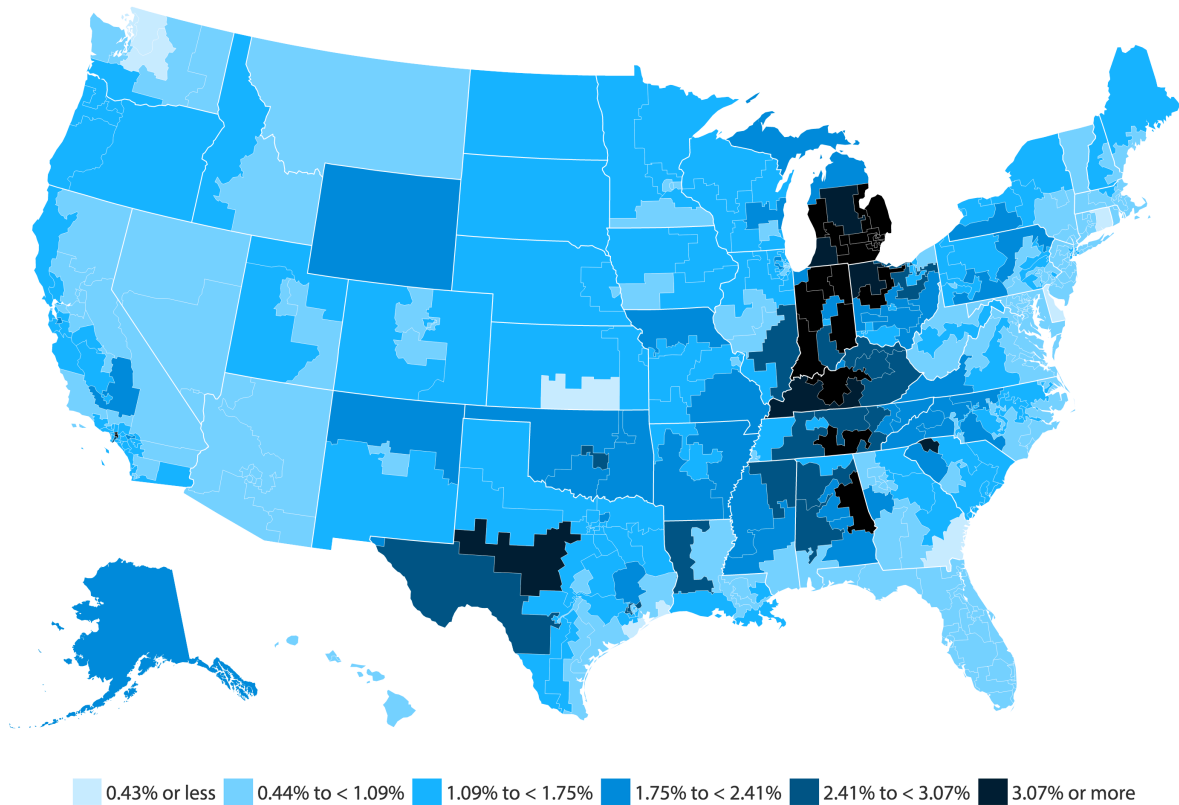
Columbia is shown in the map in **Figure B**. In the online version of this report, the map is clickable, and contains additional data on job losses due to the U.S. trade deficit with TPP countries.

Our analysis compares jobs lost with 2011 employment data as a baseline to estimate job losses as a share of district employment. The data show that the U.S. trade

deficit with the TPP member countries resulted in net job losses in all but two U.S. congressional districts, and displaced 26,200 jobs in a single U.S. congressional district (Michigan’s 11th Congressional District, located in Detroit’s northwest suburbs in parts of Wayne and Oakland counties). The 20 congressional districts with the largest shares of jobs lost are shown in Table 6. Each of the top 20 districts lost between 11,400 and 26,200 jobs.

FIGURE B

## Net U.S. jobs eliminated by U.S. trade deficit with TPP countries, by congressional district, 2015 (as a share of total district employment)



\* Subcategory and overall totals may vary slightly due to rounding.

**Source:** Authors' analysis of Bivens (2014), U.S. Census Bureau (2013), U.S. International Trade Commission (USITC 2016), Bureau of Labor Statistics (BLS 2016a and 2016b), and BLS Employment Projections program (BLS-EP 2014a, 2014b, and 2015). For a more detailed explanation of data sources and computations, see the appendix.

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Job losses as a share of district employment among the top 20 U.S. congressional districts ranged from 3.89 percent to 7.66 percent (for the 11th Congressional District in Michigan). Of the states with top 20 job-losing districts, the hardest-hit state was Michigan (with 10 districts in the top 20, followed by Indiana (five districts); California (two districts); and Ohio, Alabama, and Tennessee (one district each). Complete lists of jobs lost or

gained by congressional district for all 435 congressional districts and for the District of Columbia are included in **Table 7**. The table provides net jobs affected and jobs affected as a share of total district employment. The only two congressional districts that experienced net job gains as a result of trade with the 11 other TPP member countries are the 14th Congressional District in Texas (100 jobs gained) and the 4th Congressional District in

Kansas (200 jobs gained). **Table 8** displays this information alphabetically by congressional district.

## Other problems with the TPP

Many researchers have raised concerns over the negative impacts of the Trans-Pacific Partnership. This paper does not include an exhaustive review but cites as an example Capaldo, Izurieta, and Sundaram (2016), who noted that studies claiming that the TPP would have a positive impact on the U.S. and global economy are based on unrealistic assumptions, including no change in the U.S. trade balance with the TPP countries and full employment.

For example, Capaldo, Izurieta, and Sundaram disprove the claim by Petri and Plummer (2016) that the TPP would increase real, annual income in the United States by \$131 billion per year, or 0.5 percent of GDP. In fact, after incorporating more realistic assumptions into their model, Capaldo, Izurieta, and Sundaram estimate that the TPP would reduce economic growth in the United States by 0.54 percent after 10 years.<sup>6</sup> They also find that though all 12 member countries would incur job losses from the TPP, the United States would be hardest hit, with 448,000 job losses. These job losses are the product of changes in the structure of trade, with the United States producing more capital-intensive goods and fewer labor-intensive goods. This changing structure, as policies to raise profits in some industries (pharmaceuticals, software, and other intellectual property) “push labor shares lower, redistributing income from labor to capital in all countries,” would increase income inequality across the member countries (Capaldo, Izurieta, and Sundaram 2016, 2).

It is important to note that Capaldo, Izurieta, and Sundaram maintain the assumption of stable trade balance among the TPP countries, for consistency with Petri and Plummer’s model. Thus, the estimate of 448,000 jobs lost is a lower bound on likely outcomes. In reality, the TPP would likely result in growing trade deficits and job

losses for the United States for the reasons shown here. This would increase the downward pressure on wages in the United States as more good jobs in manufacturing are destroyed.

## Conclusion

The failure to include provisions to stop currency manipulation alone casts the Trans-Pacific Partnership as a fatally flawed trade and investment deal. U.S. trade deficits with the 11 other members of the proposed agreement eliminated 2 million U.S. jobs in 2015, and reduced U.S. GDP by nearly \$300 billion (1.6 percent). Even if the trade balance with the TPP remains stable, as assumed by the most optimistic proponents of the agreement, growing imports of labor-intensive products would over the next decade eliminate more than 400,000 U.S. jobs, reduce U.S. GDP by an additional one-half percent, and lead to growing income inequality in the United States and other members of the proposed agreement. Under a more likely scenario, the TPP would do that and more—fueling increased outsourcing, growing trade deficits, and even greater downward pressure on the incomes of working Americans.

Currency manipulation is the most important cause of large and growing U.S. trade deficits with the TPP countries. Majorities of both houses of Congress demanded that President Obama include in the core of the TPP “currency disciplines” that could be enforced with trade sanctions. But the president refused to even discuss those issues in the TPP negotiations. Currency manipulation by members of the TPP and by neighboring countries such as China, South Korea, and Taiwan (who all may soon be invited to join the deal) would likely nullify any benefits the U.S. might achieve from the TPP, which will reinforce the negative consequences of the deal for working families and manufacturing communities in the United States and other member countries. Congress should reject this agreement. The president can and should have done better for American workers, com-

munities, and domestic businesses based in the United States.

## About the authors

**Robert E. Scott** is director of trade and manufacturing policy research at the Economic Policy Institute. He joined EPI as an international economist in 1996. Before that, he was an assistant professor with the College of Business and Management of the University of Maryland at College Park. His areas of research include international economics and trade agreements and their impacts on working people in the United States and other countries, the economic impacts of foreign investment, and the macroeconomic effects of trade and capital flows. He has a Ph.D. in economics from the University of California-Berkeley.

**Elizabeth Glass** is a trade and manufacturing policy research assistant at the Economic Policy Institute. She provides research support on a variety of trade-related issues including currency manipulation, industrial policy, and employment. Prior to joining EPI in 2015, she worked with a number of international development organizations on international education policy and economic development research. She holds an M.A. in international economic development from The New School.

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## Appendix: Methodology

This analysis uses a simple macroeconomic model developed by Bivens (2014) to estimate the effects of the U.S. goods trade deficit with the TPP countries in 2015 on U.S. GDP and employment, including respending effects (based, in part, on the models developed in Scott 2014b). It then uses an input-output model based on Bureau

of Labor Statistics (BLS) data to allocate jobs displaced by the U.S.-TPP trade deficit (derived from the macroeconomic model) to industries, states, and congressional districts. This combined macroeconomic/IO model uses data from 2015 to estimate the impacts of the trade deficit in that year. This appendix identifies the specific data sources and comparisons used.

### *The macroeconomic model*

The effect of the U.S.-TPP trade deficit on GDP and jobs is determined by economic multipliers surveyed by Bivens (2014). As he notes, “the most pressing economic challenge for the U.S. economy remains the depressed labor market” (Bivens 2014, 1). The share of prime-age adults (age 25–54) remains barely above the level at the official end of the recession in 2009, and well below the peaks of the last two business cycles. In this economic environment, changes in spending for domestic goods have large multiplier effects on the economy. Bivens estimates that in the current economic environment, increases in infrastructure spending have a large, macroeconomic multiplier impact on the domestic economy through the wages earned and spent by workers employed by such spending. According to Bivens, that infrastructure spending is associated with a multiplier effect of 1.6 on the domestic economy (Bivens 2014, Table 5 at 21). This paper assumes that changes in trade flows also have a multiplier effect of 1.6, and that reductions in domestic spending caused by the U.S.-TPP trade deficit impact the economy in a way that is symmetric with increases in spending associated with increased infrastructure investment (that is, the multiplier works the same way for both increases and decreases in domestic spending).

The overall number of jobs eliminated by this reduction in output (GDP) is estimated from a simple rule of thumb also developed by Bivens (2014, Table 5 at 21), based on historical relationships between output and employment in which each 1 percent increase in GDP supported would increase total employment by 0.9 per-

cent (approximately 1.3 million jobs in the economy in 2015). Likewise, an identical reduction in GDP would eliminate the same number of jobs in the U.S. economy.

This study examines the impacts of total trade in goods with the 11 other TPP countries (that is, total exports and general imports). The trade deficit (and job loss estimates) would be even larger if we had separated exports produced domestically from foreign exports—which are goods produced in other countries, exported to the United States, and then reexported from the United States, as we have done in earlier studies of trade and employment.<sup>7</sup> The use of total exports in this study yields more conservative estimates of trade-related job displacement. New data collection efforts by the Customs Bureau and U.S. Census Bureau may be required to specifically identify the import sources (by country) of U.S. foreign exports. Further research is required on the origin of foreign exports to more accurately assess the impacts of trade on domestic product (and domestic exports only). We examine trade in total exports and general imports in order to develop the most conservative estimates of the U.S. trade deficit and jobs lost due to trade with the TPP countries.<sup>8</sup>

### ***The trade and jobs model***

This section describes the IO model that is used to allocate jobs lost due to trade to individual industries, and the census data which are then used to allocate those losses to states and Congressional districts. The trade and employment analyses by industry in this report are based on a detailed, industry-based study of the relationships between changes in trade flows and employment for each of approximately 195 individual industries of the U.S. economy. For the state and congressional district analysis, these are specially grouped into 45 custom sectors using the North American Industry Classification System (NAICS) with data obtained from the U.S. Census Bureau (2013). Trade data for this analysis were obtained from the U.S. International Trade Commission (USITC 2016).

The number of jobs supported by \$1 million of exports or imports for each of 195 different U.S. industries is estimated using a labor requirements model derived from an input-output table developed by the BLS–EP (2014a).<sup>9</sup> This model includes both the direct effects of changes in output (for example, the number of jobs supported by \$1 million in auto assembly) and the indirect effects on industries that supply goods (for example, goods used in the manufacture of cars). So, in the auto industry for example, the indirect impacts include jobs in auto parts, steel, and rubber, as well as service industries that provide inputs to the motor vehicle manufacturing companies, such as accounting, finance, and computer programming. This model estimates the labor content of trade using empirical estimates of labor content and goods flows between U.S. industries in a given base year (an input-output table for the year 2010 was used in this study) that were developed by the U.S. Department of Commerce and the BLS–EP. It is not a statistical survey of actual jobs gained or lost in individual companies, or the opening or closing of particular production facilities (Bronfenbrenner and Luce 2004 is one of the few studies based on news reports of individual plant closings).

Nominal trade data used in this analysis were converted to constant 2005 dollars using industry-specific deflators (see next section for further details). This was necessary because the labor requirements table was estimated using price levels in that year. Data on real trade flows were converted to constant 2005 dollars using industry-specific price deflators from the BLS–EP (2014b). These price deflators were updated using Bureau of Labor Statistics producer price indexes (industry and commodity data; BLS 2016b). Use of constant 2005 dollars was required for consistency with the other BLS models used in this study.

The IO model is used to estimate the distribution of jobs displaced by trade, and by the loss of wages and respending, as explained below.



## Estimation and data sources

### Data requirements

**Step 1.** U.S.-TPP trade data are obtained from the U.S. International Trade Commission DataWeb (USITC 2016) in four-digit, three-digit, and two-digit NAICS formats. Consumption imports and domestic exports are downloaded for each year.

**Step 2.** To conform to the BLS Employment Requirements tables (BLS-EP 2014a), trade data must be converted into the BLS industry classifications system. For NAICS-based data, there are 195 BLS industries. The data are then mapped from NAICS industries onto their respective BLS sectors. The trade data, which are in current dollars, are deflated into real 2005 dollars using published price deflators from the BLS-EP (2014b) and the Bureau of Labor Statistics (2016b).

**Step 3.** A  $1 \times 195$  vector of data for total personal consumer expenditures (PCE) in 2005 dollars for 2010 was extracted from historical input-output data assembled by the BLS-EP (2015). These data were used to estimate total employment supported by PCE expenditures (using the job-equivalents analysis described below). The results were used to estimate the share of respending jobs supported in each of 195 BLS industries.

**Step 4.** Real domestic employment requirements tables are downloaded from the BLS-EP (2014a). These matrices are input-output industry-by-industry tables that show the employment requirements for \$1 million in outputs in 2005 dollars. So, for industry  $i$  the  $a_{ij}$  entry is the employment indirectly supported in industry  $i$  by final sales in industry  $j$  and where  $i=j$ , the employment directly supported.

### Analysis

**Step 1. Job equivalents.** BLS trade data are compiled into matrices. Let  $[T_{2015}]$  be the  $195 \times 2$  matrix made up of a column of imports and a column of exports for 2015. To estimate the vector of jobs displaced by trade, perform the following matrix operations:

$$[J_{2015}] = [T_{2015}] \times [E_{2010}]$$

$[J_{2015}]$  is a  $195 \times 2$  matrix of jobs displaced (eliminated) by imports and jobs supported by exports for each of 195 industries in 2015. This matrix is used to create vectors of net jobs displaced by imports from and jobs supported by exports to the TPP countries, as described above. The total number of direct and indirect jobs displaced by trade is estimated using the macroeconomic model described above.

The employment estimates for retail trade, wholesale trade, and advertising were set to zero for this analysis.<sup>10</sup> We assume that goods must be sold and advertised whether they are produced in the United States or imported for consumption.

Similarly, for respending (multiplier) analysis, let  $[PCE_{2010}]$  be the  $195 \times 1$  matrix of total U.S. personal consumer expenditures by industry in 2010 (in real 2005 dollars). To estimate the distribution of jobs supported by respending, perform the following matrix operations:

$$[J_{PCE2010}] = [PCE_{2010}] \times [E_{2010}]$$

**Direct and indirect jobs.** In order to estimate the direct jobs, the diagonal vector was extracted from the employment requirements matrix  $[E_{2010}]$ . This vector was multiplied by the trade vector to estimate direct trade-related jobs (e.g.,  $[J_{DIRECT2015}]$ ) for both imports and exports. Indirect jobs just equal total jobs less direct (e.g.,  $[J_{INDIRECT2015}] = [J_{2015}] - [J_{DIRECT2015}]$ ).

**Step 2. Combining macroeconomic and IO jobs analyses.** The IO jobs estimates in vectors  $[J_{2015}]$  and  $[J_{PCE2015}]$  are converted into share vectors, representing the share of total jobs supported in each of 195 industries by reductions in trade deficits and related respending in the domestic economy. The shares in each vector sum to 1. Share vectors are used to allocate jobs gained by industry. The sum of direct and indirect jobs gained (Table 2) in each scenario is multiplied by the trade jobs share vector derived from  $[J_{2015}]$ , and the respending (also Table

2) jobs is multiplied by the responding jobs share vector derived from  $[J_{PCE2015}]$ . The results yield estimates of jobs gained or lost by industry in the total economy as a result of the U.S.-TPP trade deficit, which are reported in Table 4.

**Step 3. State-by-state analysis.** For states, employment-by-industry data are obtained from the Census Bureau's American Community Survey (U.S. Census Bureau 2013) data for 2011 and are mapped into 45 unique census industries and eight aggregated total and subtotals for a total of 53 sectors.<sup>11</sup> We look at jobs displaced in 2015, so from this point, macroeconomic jobs estimates are derived from the vectors  $[J_{2015}]$  and  $[J_{PCE2010}]$ . In order to work with 45 sectors, we group the 195 BLS industries into a new matrix, defined as  $[J_{new2015}]$ , a  $45 \times 1$  matrix of job gains and losses. Define  $[St_{2011}]$  as the  $45 \times 51$  matrix of state employment shares (with the addition of the District of Columbia) of employment in each industry. Calculate:

$$[Stj_{2015}] = [St_{2011}]_T [J_{new2015}]$$

where  $[Stj_{2015}]$  is the  $45 \times 51$  matrix of job displacement/support by state by industry. To get state total job displacement, we add up the subsectors in each state.

**Step 4. Congressional district analysis.** Employment by congressional district, by industry, and by state is obtained from the ACS data for 2011, which for the first time use geographic codings that match the boundaries of the 113th Congress (elected in 2012) and the 114th Congress (elected in 2014). In order to calculate job gains or losses in each congressional district, we use each column in  $[Stj_{2013}]$ , which represent individual state job-gain and loss-by-industry estimates, and define them as  $[Stj_{01}]$ ,  $[Stj_{02}]$ ,  $[Stj_i] \dots [Stj_{51}]$ , with  $i$  representing the state number and each matrix being  $45 \times 1$ .

Each state has  $Y$  congressional districts, so  $[Cd_i]$  is defined as the  $45 \times Y$  matrix of congressional district

employment shares for each state  $i$ . Congressional district shares are calculated thus:

$$[Cdj_{01}] = [Stj_{01}]_T [Cd_{01}]$$

$$[Cdj_i] = [Stj_i]_T [Cd_i]$$

where  $[Cdj_i]$  is defined as the  $45 \times Y$  job gains and losses in state  $i$  by congressional district by industry.

To get total job displacement by congressional district, we add up the subsectors in each congressional district in each state.

## Endnotes

1. See Scott (2016) for further background on the impacts of trade on U.S. wages.
2. Bergsten and Gagnon (2012) established four criteria for identifying currency manipulators based on the levels of foreign-exchange reserves relative to imports of goods and services, on foreign-exchange reserves growing faster than GDP, on having a current account surplus, and on having GDP in excess of \$3,000 per capita. The first three requirements had to demonstrate persistence (e.g., a current account surplus continuously between 2001 and 2011). Vietnam would be excluded under the fourth criterion alone, as its per capita GDP was less than \$2,200 in 2015 (IMF 2015). In addition, Vietnam's trade and foreign-exchange accumulation have only developed in the past few years. But the size of its current account surplus, and its likely role as a low-wage export platform in the TPP, suggest that its currency is, and may continue to be, undervalued due to manipulation.
3. See Scott (2016). China continues to accumulate massive reserves in its SWFs. Based on these data and recent changes in prices, relative productivity growth rates, and trade balances, we believe that the RMB is still substantially undervalued.
4. The Economic Policy Institute and other research entities have examined the job impacts of trade in recent years by netting the job opportunities lost to imports against those gained through exports. This report follows that approach, using standard input-output models and data to estimate

the jobs displaced by trade. Many reports by economists in the public and private sectors have used this “all-but-identical” methodology to estimate jobs gained or displaced by trade, including Groshen, Hobijn, and McConnell (2005) of the Federal Reserve Bank of New York, and Bailey and Lawrence (2004) in the *Brookings Papers on Economic Activity*. The U.S. Department of Commerce recently published estimates of the jobs supported by U.S. exports (Johnson and Raumussen 2013) using input-output and “employment requirements” tables from the Bureau of Labor Statistics Employment Projections program (BLS-EP 2014a), the same source used to develop job displacement estimates in this report.

5. This classification is not used by the Census or in the North American Industrial Classification System (NAICS, see Census: <http://www.census.gov/eos/www/naics/>). Within the NAICS system, manufacturing consists of the two-digit industries in the ranges of 31, 32, and 33. Those sectors we refer to as industrial supplies are all NAICS industries in the 32 classification. Most of these industries are classified as nondurable goods in other classifications of industrial output. However, they are qualitatively different from other nondurable goods such as textiles and apparel, so we treat them separately here.
6. Capaldo et al. (2016) maintain the assumption of balanced trade, but include a greater number of industries than in Petri and Plummer (2016) and thereby examine changes in the structure of trade, with the U.S. producing more capital-intensive goods and fewer labor-intensive goods, which results in growing unemployment and other impacts discussed here.
7. See, for example, Scott (2014a). Foreign exports have become an especially large proportion of U.S. trade with Mexico after NAFTA, as shown in Scott (2011).
8. The United States had total domestic exports to the TPP countries of \$565.8 billion in 2015, and consumption imports of \$836.6 billion for a net export trade deficit of \$270.8 billion, 52.2 percent larger than the overall trade deficit reported in Table 1. If this more narrowly defined trade deficit had been used, the GDP and jobs lost due to TPP trade would have been proportionately larger. However, this measure would likely include some imports that were reexported to other TPP countries, and thus

would have overstated the actual deficit with the TPP. Until we can precisely identify the source of foreign exports (by country and industry or product code) we will be unable to more accurately estimate net domestic trade flows with the TPP or other trade partners.

9. The model includes 195 NAICS industries. The trade data include only goods trade. Goods trade data are available for 85 commodity-based industries, plus software, waste and scrap, used or secondhand merchandise, and goods traded under special classification provisions (e.g., goods imported from and returned to Canada; small, unclassified shipments). Trade in scrap, used, and secondhand goods has no impact on employment in the BLS model. Some special classification provision goods are assigned to miscellaneous manufacturing.
10. The respending analysis does include some impacts on employment in wholesale and retail trade, and in advertising. Thus, the net jobs analysis presented in Table 4 (which includes all direct, indirect, and respending jobs supported or displaced by the trade deficit) does include some net jobs displaced in these industries.
11. The Census Bureau uses its own table of definitions of industries. These are similar to NAICS-based industry definitions, but at a somewhat higher level of aggregation. For this study, we developed a crosswalk from NAICS to Census industries, and used population estimates from the ACS for each cell in this matrix.

## References

- Bailey, Martin N., and Robert Z. Lawrence. 2004. “What Happened to the Great U.S. Jobs Machine? The Role of Trade and Electronic Offshoring.” *Brookings Papers on Economic Activity*, vol. 35, no. 2, pp. 211–284.
- Bayoumi, Tamim, Joseph Gagnon, and Christian Saborowski (BGS). 2014. *Official Flows, Capital Mobility and Global Imbalances*. Peterson Institute for International Economics, Working Paper WP 14-8.
- Bergsten, C. Fred, and Joseph E. Gagnon. 2012. *Currency Manipulation, the US Economy, and the Global Economic Order*. Peterson Institute for International Economics, Policy Brief 12-25.

- Bivens, Josh. 2013. *Using Standard Models to Benchmark the Costs of Globalization for American Workers without a College Degree*. Economic Policy Institute, Briefing Paper #354.
- Bivens, Josh. 2014. *The Short- and Long-Term Impact of Infrastructure Investments on Employment and Economic Activity in the U.S. Economy*. Economic Policy Institute, Briefing Paper #374.
- Bivens, Josh. 2016. *The Trans-Pacific Partnership is Unlikely to be a Good Deal for American Workers*. Economic Policy Institute, Briefing Paper #397.
- Bloomberg. 2016. "China Monthly Foreign Exchange Reserves." *BloombergBusiness*, January 31.
- Bronfenbrenner, Kate, and Stephanie Luce. 2004. *The Changing Nature of Corporate Global Restructuring: The Impact of Production Shifts on Jobs in the U.S., China, and Around the Globe*. Commissioned research paper for the U.S. Trade Deficit Review Commission.
- Bureau of Labor Statistics (BLS). 2016a. "Current Employment and Establishment Statistics."
- Bureau of Labor Statistics (BLS). 2016b. "Producer Price Indexes: Industry and Commodity Data" [Excel files].
- Bureau of Labor Statistics, Employment Projections program (BLS-EP). 2014a. "Special Purpose Files—Employment Requirements; Chain-Weighted (2005 dollars) Real Domestic Employment Requirements Table for 2010" [Excel sheet, converted to Stata data file].
- Bureau of Labor Statistics, Employment Projections program (BLS-EP). 2014b. "Special Purpose Files—Real Final Demand Aggregate" [REAL\_FDAGG-2010 DAT File, converted to Excel sheet and PCE VECTOR converted to Stata data file].
- Bureau of Labor Statistics, Employment Projections program (BLS-EP). 2015. "Special Purpose Files—Industry Output and Employment – Industry Output." [CSV File, converted to Excel sheet and Stata data file].
- Capaldo, Jeronim, Alex Izurieta, and Jomo Kwame Sundaram. *Trading Down: Unemployment, Inequality and Other Risks of the Trans-Pacific Partnership Agreement*. No. 16-01. GDAE, Tufts University, 2016.
- Congress of the United States. 2013. "June 6 2013 Congress of the United States Letter to President Barack Obama." June 6.
- Gagnon, Joseph, and Gary Hufbauer. 2011. "Taxing China's Assets: How to Increase U.S. Employment Without Launching a Trade War." *Foreign Affairs.com*.
- Gagnon, Joseph E. 2013. *The Elephant Hiding in the Room: Currency Intervention and Trade Balances*. Peterson Institute for International Economics, Working Paper 13-2.
- Groshen, Erica L., Bart Hobijn, and Margaret M. McConnell. 2005. "U.S. Jobs Gained and Lost Through Trade: A Net Measure." *Current Issues in Economics and Finance*, vol. 11, no. 8, pp. 1–7.
- International Monetary Fund (IMF). 2015. "World Economic Outlook Database: October 2015 Edition."
- International Monetary Fund (IMF). 2016. *International Financial Statistics: Database and Browser* (CD ROM). Washington, D.C.: International Monetary Fund. January.
- Johnson, Martin, and Chris Rasmussen. 2013. "Jobs Supported by Exports 2012: An Update." International Trade Administration, Department of Commerce.
- Krugman, Paul. 2009. "Chinese New Year." *The New York Times*, December 31.
- Krugman, Paul. 2013. "Secular Stagnation, Coalmines and Larry Summers." *The Conscience of a Liberal* (New York Times blog), November 16.
- Nelson, Rebecca M. 2013. *Current Debates over Exchange Rates: Overview and Issues for Congress*. Congressional Research Service Report R43242.
- OpenCongress.org. 2009. *S. 1027 – Currency Reform for Fair Trade Act of 2009*.
- Petri, Peter A., and Michael G. Plummer. 2016. "The Economic Effects of the Trans-Pacific Partnership: New Estimates." Peterson Institute for International Economics, Working Paper 16-2.

Scott, Robert E. 2011. *Heading South: U.S.-Mexico Trade and Job Displacement after NAFTA*. Economic Policy Institute, Briefing Paper #308.

Scott, Robert E. 2013. *Trading away the Manufacturing Advantage: China Trade Drives Down U.S. Wages and Benefits and Eliminates Good Jobs for U.S. Workers*. Economic Policy Institute, Briefing Paper #367.

Scott, Robert E. 2014a. *China Trade, Outsourcing and Jobs: Growing U.S. Trade Deficit with China Cost 3.2 Million Jobs between 2001 and 2013, with Job Losses in Every State.* Economic Policy Institute, Briefing Paper #385.

Scott, Robert E. 2014b. "The Effects of NAFTA on US Trade, Jobs and Investment, 1993–2013." *Review of Keynesian Economics*, vol. 2, no. 4, Winter 2014, pp. 429–441.

Scott, Robert E. 2014c. *Stop Currency Manipulation and Create Millions of Jobs: With Gains across States and Congressional Districts*. Economic Policy Institute, Briefing Paper #372.

Scott, Robert E. 2015. *Currency Manipulation and the 896,600 U.S. Jobs Lost Due to the U.S.-Japan Trade Deficit*. Economic Policy Institute, Briefing Paper No. 387.

Scott, Robert E. 2016. *Trans-Pacific Partnership Agreement: Currency Manipulation, Trade, Wages, and Job Loss*. Economic Policy Institute.

Summers, Lawrence. 2014. "US Economic Prospects: Secular Stagnation, Hysteresis, and the Zero Lower Bound." *Business Economics*, vol. 49, no. 2, 65–73.

United States Senate. 2013. *Letter to Secretary Lew and Ambassador Froman*. September 23.

U.S. International Trade Commission (USITC). 2016. "USITC Interactive Tariff and Trade DataWeb" [[Excel files](#)].

U.S. Census Bureau. 2009. "2007 Census Industrial Classification."

U.S. Census Bureau. 2013. "American Community Survey: Special Tabulation Over 45 Industries, Covering 435 Congressional Districts and the District of Columbia (113th Congress Census Boundaries), Plus State and US Totals Based on ACS 2011 1-year file" [spreadsheets received March 6].

TABLE 3

## U.S. goods trade balance with TPP countries, by industry, 2015 (billions of dollars)

	Total	Share of trade deficit
<i>Agriculture, forestry, fishing, and hunting</i>	-4.0	2.2%
<b>Mining</b>	-54.4	30.6%
Oil and gas	-58.0	32.6%
Minerals and ores	3.6	-2.0%
<i>Utilities</i>	0.0	0.0%
<b>Construction</b>	0.0	0.0%
<b>Manufacturing</b>	-120.8	67.9%
<b>Nondurable goods</b>	-16.2	9.1%
Food	1.8	-1.0%
Beverage and tobacco products	-2.6	1.5%
Textile mills and textile product mills	3.3	-1.9%
Apparel	-13.3	7.5%
Leather and allied products	-5.4	3.0%
<b>Industrial supplies</b>	46.7	-26.3%
Wood products	-6.7	3.8%
Paper	1.6	-0.9%
Printed matter and related products	1.8	-1.0%
Petroleum and coal products	19.1	-10.7%
Chemicals	25.3	-14.2%
Plastics and rubber products	5.9	-3.3%
Nonmetallic mineral products	-0.2	0.1%
<b>Durable goods</b>	-151.3	85.0%
Primary metals	-13.0	7.3%
Fabricated metal products	7.2	-4.0%
Machinery	10.8	-6.1%
Computer and electronic parts	-27.8	15.6%
Computer and peripheral equipment	1.3	-0.7%
Communications, audio, and video equipment	-22.5	12.6%



TABLE 3 (CONTINUED)

	Total	Share of trade deficit
<i>Navigational, measuring, electromedical, and control instruments</i>	-3.0	1.7%
<i>Semiconductors and other electronic components, and reproducing magnetic and optical media</i>	-3.6	2.0%
<i>Electrical equipment, appliances, and components</i>	-6.7	3.8%
<i>Transportation equipment</i>	-104.7	58.9%
<i>Motor vehicles and motor vehicle parts</i>	-118.7	66.7%
<i>Aerospace products and parts</i>	12.7	-7.1%
<i>Railroad, ship, and other transportation equipment</i>	1.3	-0.7%
<i>Furniture and related products</i>	-6.9	3.9%
<i>Miscellaneous manufactured commodities</i>	-10.2	5.7%
<b>Wholesale trade</b>	0.0	0.0%
<b>Retail trade</b>	0.0	0.0%
<b>Transportation and warehousing</b>	0.0	0.0%
<b>Information</b>	0.1	-0.1%
<b>Finance and insurance</b>	0.0	0.0%
<b>Real estate and rental and leasing</b>	0.0	0.0%
<b>Professional, scientific, and technical services</b>	0.0	0.0%
<b>Management of companies and enterprises</b>	0.0	0.0%
<b>Administrative and support and waste management and remediation services</b>	0.0	0.0%
<b>Education services</b>	0.0	0.0%
<b>Health care and social assistance</b>	0.0	0.0%
<b>Arts, entertainment, and recreation</b>	0.0	0.0%
<b>Accommodation and food services</b>	0.0	0.0%
<b>Other services (except public administration)</b>	0.0	0.0%
<b>Public administration</b>	1.2	-0.7%
<b>Subtotal, nonmanufacturing</b>	-57.1	32.1%
<b>Total*</b>	-177.9	100.0%

\* Subcategory and overall totals may vary slightly due to rounding.

**Source:** Authors' analysis of Bivens (2014), U.S. Census Bureau (2013), U.S. International Trade Commission (USITC 2016), Bureau of Labor Statistics (BLS 2016a and 2016b), and BLS Employment Projections program (BLS-EP 2014a, 2014b, and 2015). For a more detailed explanation of data sources and computations, see the appendix.



TABLE 4

## Net U.S. jobs created or eliminated by U.S. goods trade with TPP countries, by industry, 2015

Industry	Total	Share of total jobs eliminated
<i>Agriculture, forestry, fishing, and hunting</i>	-41,600	2.1%
<b>Mining</b>	-182,800	9.0%
Oil and gas	-194,100	9.6%
Minerals and ores	11,300	-0.6%
<i>Utilities</i>	-8,400	0.4%
<b>Construction</b>	0	0.0%
<b>Manufacturing</b>	-1,057,200	52.2%
<b>Nondurable goods</b>	-229,400	11.3%
Food	16,700	-0.8%
Beverage and tobacco products	-20,100	1.0%
Textile mills and textile product mills	28,400	-1.4%
Apparel	-181,900	9.0%
Leather and allied products	-72,400	3.6%
<b>Industrial supplies</b>	129,200	-6.4%
Wood products	-71,300	3.5%
Paper	14,500	-0.7%
Printed matter and related products	21,800	-1.1%
Petroleum and coal products	20,900	-1.0%
Chemicals	105,400	-5.2%
Plastics and rubber products	40,200	-2.0%
Nonmetallic mineral products	-2,200	0.1%
<b>Durable goods</b>	-957,000	47.2%
Primary metals	-64,900	3.2%
Fabricated metal products	55,700	-2.7%
Machinery	66,900	-3.3%
Computer and electronic parts	-163,900	8.1%
Computer and peripheral equipment	8,300	-0.4%
Communications, audio, and video equipment	-132,000	6.5%

TABLE 4 (CONTINUED)

Industry	Total	Share of total jobs eliminated
<i>Navigational, measuring, electromedical, and control instruments</i>	-17,100	0.8%
<i>Semiconductors and other electronic components, and reproducing magnetic and optical media</i>	-23,100	1.1%
<i>Electrical equipment, appliances, and components</i>	-47,100	2.3%
<i>Transportation equipment</i>	-654,500	32.3%
<i>Motor vehicles and motor vehicle parts</i>	-738,300	36.4%
<i>Aerospace products and parts</i>	76,500	-3.8%
<i>Railroad, ship, and other transportation equipment</i>	7,300	-0.4%
<i>Furniture and related products</i>	-75,500	3.7%
<i>Miscellaneous manufactured commodities</i>	-73,700	3.6%
<b>Wholesale trade</b>	-26,700	1.3%
<b>Retail trade</b>	-142,800	7.0%
<b>Transportation and warehousing</b>	-17,900	0.9%
<b>Information</b>	-19,000	0.9%
<b>Finance and insurance</b>	-42,700	2.1%
<b>Real estate and rental and leasing</b>	-16,500	0.8%
<b>Professional, scientific, and technical services</b>	-10,700	0.5%
<b>Management of companies and enterprises</b>	0	0.0%
<b>Administrative and support and waste management and remediation services</b>	-6,900	0.3%
<b>Education services</b>	-37,300	1.8%
<b>Health care and social assistance</b>	-204,200	10.1%
<b>Arts, entertainment, and recreation</b>	-23,000	1.1%
<b>Accommodation and food services</b>	-101,800	5.0%
<b>Other services (except public administration)</b>	-70,700	3.5%
<b>Public administration</b>	-15,700	0.8%
<b>Subtotal, nonmanufacturing</b>	-968,600	47.8%
<b>Total*</b>	-2,025,800	100.0%

\* Subcategory and overall totals may vary slightly due to rounding.

**Source:** Authors' analysis of Bivens (2014), U.S. Census Bureau (2013), U.S. International Trade Commission (USITC 2016), Bureau of Labor Statistics (BLS 2016a and 2016b), and BLS Employment Projections program (BLS-EP 2014a, 2014b, and 2015). For a more detailed explanation of data sources and computations, see the appendix.

TABLE 5A

### Net U.S. jobs eliminated by U.S. trade deficit with TPP countries, by state, 2015 (ranked by jobs eliminated as a share of state employment)

Rank	State	Net jobs eliminated	State employment (in 2011)	Jobs eliminated as share of state employment
1	Michigan	214,600	4,191,900	5.12%
2	Indiana	103,800	2,934,500	3.54%
3	Kentucky	53,700	1,838,400	2.92%
4	Wyoming	6,800	290,000	2.34%
5	Alabama	46,000	1,981,100	2.32%
6	Tennessee	61,000	2,784,500	2.19%
7	Ohio	112,500	5,213,500	2.16%
8	Oklahoma	35,300	1,681,800	2.10%
9	Mississippi	22,000	1,181,300	1.86%
10	Alaska	6,300	344,300	1.83%
11	South Carolina	33,600	1,968,900	1.71%
12	Arkansas	20,100	1,235,800	1.63%
13	Texas	172,600	11,455,100	1.51%
14	Oregon	24,900	1,710,300	1.46%
15	North Carolina	60,700	4,195,800	1.45%
16	Missouri	39,200	2,742,100	1.43%
17	Wisconsin	39,600	2,819,500	1.40%
18	California	227,500	16,426,700	1.38%
19	New Mexico	11,600	869,800	1.33%
20	Illinois	78,800	5,926,900	1.33%
21	Iowa	19,800	1,538,800	1.29%
22	South Dakota	5,300	415,600	1.28%
23	Louisiana	24,700	1,973,900	1.25%
24	Maine	8,000	643,100	1.24%
25	Pennsylvania	68,900	5,853,300	1.18%
26	North Dakota	4,300	370,800	1.16%
27	Colorado	28,600	2,492,400	1.15%
28	West Virginia	8,400	748,600	1.12%

TABLE 5A (CONTINUED)

Rank	State	Net jobs eliminated	State employment (in 2011)	Jobs eliminated as share of state employment
29	New York	97,300	8,959,000	1.09%
30	New Hampshire	7,400	684,800	1.08%
31	Minnesota	29,000	2,728,900	1.06%
32	Nebraska	10,000	943,600	1.06%
33	Idaho	7,100	684,900	1.04%
34	Utah	13,000	1,260,800	1.03%
35	Georgia	43,100	4,193,800	1.03%
36	Montana	4,900	480,000	1.02%
37	Kansas	13,500	1,389,000	0.97%
38	Massachusetts	29,900	3,284,700	0.91%
39	New Jersey	37,700	4,152,500	0.91%
40	Vermont	2,900	327,300	0.89%
41	Virginia	33,100	3,860,100	0.86%
42	Florida	68,200	8,101,900	0.84%
43	Hawaii	5,100	629,500	0.81%
44	Arizona	21,000	2,688,000	0.78%
45	Nevada	9,100	1,204,900	0.76%
46	Maryland	20,100	2,894,600	0.69%
47	Rhode Island	3,400	511,200	0.67%
48	Connecticut	10,400	1,742,500	0.60%
49	Washington	17,800	3,118,000	0.57%
50	District of Columbia	1,500	310,600	0.48%
51	Delaware	1,800	420,400	0.43%
<b>Total*</b>		2,025,800	140,399,600	1.44%

\* Subcategory and overall totals may vary slightly due to rounding.

**Source:** Authors' analysis of Bivens (2014), U.S. Census Bureau (2013), U.S. International Trade Commission (USITC 2016), Bureau of Labor Statistics (BLS 2016a and 2016b), and BLS Employment Projections program (BLS-EP 2014a, 2014b, and 2015). For a more detailed explanation of data sources and computations, see the appendix.

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TABLE 5B

### Net U.S. jobs eliminated by U.S. trade deficit with TPP countries, by state, 2015 (ranked by jobs eliminated)

Rank	State	Net jobs eliminated	State employment (in 2011)	Jobs eliminated as share of state employment
1	California	227,500	16,426,700	1.38%
2	Michigan	214,600	4,191,900	5.12%
3	Texas	172,600	11,455,100	1.51%
4	Ohio	112,500	5,213,500	2.16%
5	Indiana	103,800	2,934,500	3.54%
6	New York	97,300	8,959,000	1.09%
7	Illinois	78,800	5,926,900	1.33%
8	Pennsylvania	68,900	5,853,300	1.18%
9	Florida	68,200	8,101,900	0.84%
10	Tennessee	61,000	2,784,500	2.19%
11	North Carolina	60,700	4,195,800	1.45%
12	Kentucky	53,700	1,838,400	2.92%
13	Alabama	46,000	1,981,100	2.32%
14	Georgia	43,100	4,193,800	1.03%
15	Wisconsin	39,600	2,819,500	1.40%
16	Missouri	39,200	2,742,100	1.43%
17	New Jersey	37,700	4,152,500	0.91%
18	Oklahoma	35,300	1,681,800	2.10%
19	South Carolina	33,600	1,968,900	1.71%
20	Virginia	33,100	3,860,100	0.86%
21	Massachusetts	29,900	3,284,700	0.91%
22	Minnesota	29,000	2,728,900	1.06%
23	Colorado	28,600	2,492,400	1.15%
24	Oregon	24,900	1,710,300	1.46%
25	Louisiana	24,700	1,973,900	1.25%
26	Mississippi	22,000	1,181,300	1.86%
27	Arizona	21,000	2,688,000	0.78%
28	Arkansas	20,100	1,235,800	1.63%

TABLE 5B (CONTINUED)

Rank	State	Net jobs eliminated	State employment (in 2011)	Jobs eliminated as share of state employment
28	Maryland	20,100	2,894,600	0.69%
30	Iowa	19,800	1,538,800	1.29%
31	Washington	17,800	3,118,000	0.57%
32	Kansas	13,500	1,389,000	0.97%
33	Utah	13,000	1,260,800	1.03%
34	New Mexico	11,600	869,800	1.33%
35	Connecticut	10,400	1,742,500	0.60%
36	Nebraska	10,000	943,600	1.06%
37	Nevada	9,100	1,204,900	0.76%
38	West Virginia	8,400	748,600	1.12%
39	Maine	8,000	643,100	1.24%
40	New Hampshire	7,400	684,800	1.08%
41	Idaho	7,100	684,900	1.04%
42	Wyoming	6,800	290,000	2.34%
43	Alaska	6,300	344,300	1.83%
44	South Dakota	5,300	415,600	1.28%
45	Hawaii	5,100	629,500	0.81%
46	Montana	4,900	480,000	1.02%
47	North Dakota	4,300	370,800	1.16%
48	Rhode Island	3,400	511,200	0.67%
49	Vermont	2,900	327,300	0.89%
50	Delaware	1,800	420,400	0.43%
51	District of Columbia	1,500	310,600	0.48%
<b>Total*</b>		2,025,800	140,399,600	1.44%

\* Subcategory and overall totals may vary slightly due to rounding.

**Source:** Authors' analysis of Bivens (2014), U.S. Census Bureau (2013), U.S. International Trade Commission (USITC 2016), Bureau of Labor Statistics (BLS 2016a and 2016b), and BLS Employment Projections program (BLS-EP 2014a, 2014b, and 2015). For a more detailed explanation of data sources and computations, see the appendix.

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TABLE 5C

### Net U.S. jobs eliminated by U.S. trade deficit with TPP countries, by state, 2015 (sorted alphabetically)

Rank	State	Net jobs eliminated	State employment (in 2011)	Jobs eliminated as share of state employment
5	Alabama	46,000	1,981,100	2.32%
10	Alaska	6,300	344,300	1.83%
44	Arizona	21,000	2,688,000	0.78%
12	Arkansas	20,100	1,235,800	1.63%
18	California	227,500	16,426,700	1.38%
27	Colorado	28,600	2,492,400	1.15%
48	Connecticut	10,400	1,742,500	0.60%
51	Delaware	1,800	420,400	0.43%
50	District of Columbia	1,500	310,600	0.48%
42	Florida	68,200	8,101,900	0.84%
35	Georgia	43,100	4,193,800	1.03%
43	Hawaii	5,100	629,500	0.81%
33	Idaho	7,100	684,900	1.04%
20	Illinois	78,800	5,926,900	1.33%
2	Indiana	103,800	2,934,500	3.54%
21	Iowa	19,800	1,538,800	1.29%
37	Kansas	13,500	1,389,000	0.97%
3	Kentucky	53,700	1,838,400	2.92%
23	Louisiana	24,700	1,973,900	1.25%
24	Maine	8,000	643,100	1.24%
46	Maryland	20,100	2,894,600	0.69%
38	Massachusetts	29,900	3,284,700	0.91%
1	Michigan	214,600	4,191,900	5.12%
31	Minnesota	29,000	2,728,900	1.06%
9	Mississippi	22,000	1,181,300	1.86%
16	Missouri	39,200	2,742,100	1.43%
36	Montana	4,900	480,000	1.02%
32	Nebraska	10,000	943,600	1.06%



TABLE 5C (CONTINUED)

Rank	State	Net jobs eliminated	State employment (in 2011)	Jobs eliminated as share of state employment
45	Nevada	9,100	1,204,900	0.76%
30	New Hampshire	7,400	684,800	1.08%
39	New Jersey	37,700	4,152,500	0.91%
19	New Mexico	11,600	869,800	1.33%
29	New York	97,300	8,959,000	1.09%
15	North Carolina	60,700	4,195,800	1.45%
26	North Dakota	4,300	370,800	1.16%
7	Ohio	112,500	5,213,500	2.16%
8	Oklahoma	35,300	1,681,800	2.10%
14	Oregon	24,900	1,710,300	1.46%
25	Pennsylvania	68,900	5,853,300	1.18%
47	Rhode Island	3,400	511,200	0.67%
11	South Carolina	33,600	1,968,900	1.71%
22	South Dakota	5,300	415,600	1.28%
6	Tennessee	61,000	2,784,500	2.19%
13	Texas	172,600	11,455,100	1.51%
34	Utah	13,000	1,260,800	1.03%
40	Vermont	2,900	327,300	0.89%
41	Virginia	33,100	3,860,100	0.86%
49	Washington	17,800	3,118,000	0.57%
28	West Virginia	8,400	748,600	1.12%
17	Wisconsin	39,600	2,819,500	1.40%
4	Wyoming	6,800	290,000	2.34%
<b>Total</b>		2,025,800	140,399,600	1.44%

**Note:** Rank is by jobs eliminated as a share of state employment. Subcategory and overall totals may vary slightly due to rounding.

**Source:** Authors' analysis of Bivens (2014), U.S. Census Bureau (2013), U.S. International Trade Commission (USITC 2016), Bureau of Labor Statistics (BLS 2016a and 2016b), and BLS Employment Projections program (BLS-EP 2014a, 2014b, and 2015). For a more detailed explanation of data sources and computations, see the appendix.

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TABLE 6

### 20 congressional districts hardest hit by U.S. trade deficit with TPP countries, 2015 (ranked by jobs eliminated as a share of district employment)

Rank	State	District	Net jobs eliminated	District employment (in 2011)	Jobs eliminated as a share of district employment
1	Michigan	11	26,200	342,100	7.66%
2	Michigan	10	22,400	308,700	7.26%
3	Michigan	9	21,900	326,100	6.72%
4	Michigan	8	20,400	330,800	6.17%
5	Michigan	7	17,500	299,100	5.85%
6	Michigan	12	18,000	313,800	5.74%
7	Indiana	2	17,900	317,800	5.63%
8	Michigan	14	14,500	257,700	5.63%
9	Michigan	13	12,900	230,700	5.59%
10	Indiana	3	16,900	327,000	5.17%
11	Ohio	4	16,300	317,900	5.13%
12	Indiana	6	14,700	311,900	4.71%
13	Alabama	3	12,100	274,600	4.41%
14	Michigan	2	13,900	315,900	4.40%
15	California	40	12,100	280,500	4.31%
16	Michigan	5	11,400	264,800	4.31%
17	California	34	12,800	309,400	4.14%
18	Indiana	4	13,300	328,500	4.05%
19	Tennessee	4	12,400	314,500	3.94%
20	Indiana	8	12,800	329,300	3.89%

**Source:** Authors' analysis of Bivens (2014), U.S. Census Bureau (2013), U.S. International Trade Commission (USITC 2016), Bureau of Labor Statistics (BLS 2016a and 2016b), and BLS Employment Projections program (BLS-EP 2014a, 2014b, and 2015). For a more detailed explanation of data sources and computations, see the appendix.

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TABLE 7

**Net U.S. jobs eliminated by U.S. trade deficit with TPP countries, by congressional district, 2015 (ranked by jobs eliminated as a share of district employment)**

Rank	State	State District #	Net jobs eliminated	District employment (in 2011)	Jobs eliminated as a share of district employment
1	Michigan	11	26,200	342,100	7.66%
2	Michigan	10	22,400	308,700	7.26%
3	Michigan	9	21,900	326,100	6.72%
4	Michigan	8	20,400	330,800	6.17%
5	Michigan	7	17,500	299,100	5.85%
6	Michigan	12	18,000	313,800	5.74%
7	Indiana	2	17,900	317,800	5.63%
8	Michigan	14	14,500	257,700	5.63%
9	Michigan	13	12,900	230,700	5.59%
10	Indiana	3	16,900	327,000	5.17%
11	Ohio	4	16,300	317,900	5.13%
12	Indiana	6	14,700	311,900	4.71%
13	Alabama	3	12,100	274,600	4.41%
14	Michigan	2	13,900	315,900	4.40%
15	California	40	12,100	280,500	4.31%
16	Michigan	5	11,400	264,800	4.31%
17	California	34	12,800	309,400	4.14%
18	Indiana	4	13,300	328,500	4.05%
19	Tennessee	4	12,400	314,500	3.94%
20	Indiana	8	12,800	329,300	3.89%
21	Kentucky	2	12,200	317,100	3.85%
22	Michigan	3	11,800	315,300	3.74%
23	Ohio	5	12,400	334,200	3.71%
24	Kentucky	1	10,200	284,800	3.58%
25	Texas	11	10,100	308,800	3.27%
26	South Carolina	4	9,800	301,000	3.26%

TABLE 7 (CONTINUED)

Rank	State	State District #	Net jobs eliminated	District employment (in 2011)	Jobs eliminated as a share of district employment
27	Michigan	4	9,100	286,300	3.18%
28	Michigan	6	9,700	310,400	3.13%
29	Kentucky	6	10,200	335,400	3.04%
30	Alabama	4	7,700	262,900	2.93%
31	Kentucky	5	6,800	234,300	2.90%
32	Tennessee	6	8,700	304,500	2.86%
33	Texas	2	10,400	364,600	2.85%
34	Texas	7	10,500	376,300	2.79%
35	Ohio	13	8,600	320,400	2.68%
36	Indiana	9	9,100	339,400	2.68%
37	Ohio	7	8,600	326,800	2.63%
38	Texas	23	7,500	289,700	2.59%
39	Louisiana	4	8,000	311,100	2.57%
40	Illinois	15	8,100	316,500	2.56%
41	Alabama	7	6,400	253,500	2.52%
42	Oklahoma	5	8,800	348,800	2.52%
43	Mississippi	1	7,600	305,600	2.49%
44	Tennessee	7	7,100	285,800	2.48%
45	Ohio	9	7,800	315,000	2.48%
46	Tennessee	3	7,300	297,000	2.46%
47	California	44	6,600	270,600	2.44%
48	Kentucky	4	8,100	333,500	2.43%
49	California	23	6,600	274,100	2.41%
50	Ohio	8	7,900	328,800	2.40%
51	Indiana	1	7,300	310,600	2.35%
52	Wyoming	Statewide	6,800	290,000	2.34%
53	Tennessee	2	7,600	327,200	2.32%
54	Texas	3	8,500	371,200	2.29%
55	Pennsylvania	9	6,900	304,800	2.26%
56	North Carolina	5	7,300	324,500	2.25%

TABLE 7 (CONTINUED)

Rank	State	State District #	Net jobs eliminated	District employment (in 2011)	Jobs eliminated as a share of district employment
57	South Carolina	3	5,900	264,500	2.23%
58	Missouri	6	7,800	355,900	2.19%
59	Virginia	9	6,500	298,400	2.18%
60	Alabama	2	6,000	276,900	2.17%
61	Ohio	10	6,700	312,800	2.14%
62	North Carolina	6	7,300	341,800	2.14%
63	Oklahoma	2	6,200	290,300	2.14%
64	California	35	6,000	284,800	2.11%
65	Oklahoma	1	7,600	361,900	2.10%
66	Arkansas	1	5,800	277,400	2.09%
67	North Carolina	10	6,700	324,000	2.07%
68	Missouri	8	6,100	298,500	2.04%
69	California	17	7,000	346,100	2.02%
70	Ohio	15	6,800	336,400	2.02%
71	North Carolina	8	6,000	301,700	1.99%
72	Ohio	6	5,800	292,300	1.98%
73	Tennessee	1	5,900	297,600	1.98%
74	Mississippi	3	6,000	303,900	1.97%
75	Pennsylvania	10	6,100	312,500	1.95%
76	Mississippi	2	5,100	266,900	1.91%
77	New York	23	6,200	324,600	1.91%
78	Arkansas	4	5,600	295,100	1.90%
79	Texas	16	5,300	281,300	1.88%
80	Indiana	5	6,700	357,700	1.87%
81	Kentucky	3	6,200	333,300	1.86%
82	Alabama	6	5,900	318,400	1.85%
83	Oklahoma	4	6,500	350,900	1.85%
84	Oklahoma	3	6,100	329,900	1.85%

TABLE 7 (CONTINUED)

Rank	State	State District #	Net jobs eliminated	District employment (in 2011)	Jobs eliminated as a share of district employment
85	Texas	8	5,700	309,200	1.84%
86	Alaska	Statewide	6,300	344,300	1.83%
87	North Carolina	11	5,400	295,400	1.83%
88	Illinois	6	6,500	355,600	1.83%
89	New Mexico	3	5,200	284,800	1.83%
90	Georgia	3	5,200	285,800	1.82%
91	Ohio	12	6,500	359,500	1.81%
92	New York	7	5,800	322,200	1.80%
93	Wisconsin	6	6,300	353,600	1.78%
94	Michigan	1	5,100	290,200	1.76%
95	Wisconsin	3	6,200	353,500	1.75%
96	Oregon	2	5,500	314,200	1.75%
97	Colorado	4	6,000	344,100	1.74%
98	Pennsylvania	5	5,400	316,800	1.70%
99	South Carolina	1	5,100	299,800	1.70%
100	Alabama	5	5,300	311,900	1.70%
101	Texas	9	5,500	326,400	1.69%
102	Oregon	1	6,300	377,200	1.67%
103	California	38	5,200	313,300	1.66%
104	Texas	33	4,700	283,900	1.66%
105	Maine	2	5,000	302,700	1.65%
106	Texas	17	5,400	329,300	1.64%
107	California	37	5,500	335,600	1.64%
108	Tennessee	8	4,900	299,200	1.64%
109	Texas	32	5,900	360,900	1.63%
110	Texas	6	5,700	348,800	1.63%
111	Indiana	7	5,100	312,200	1.63%
112	Wisconsin	7	5,500	338,400	1.63%

TABLE 7 (CONTINUED)

Rank	State	State District #	Net jobs eliminated	District employment (in 2011)	Jobs eliminated as a share of district employment
113	North Carolina	2	4,900	303,800	1.61%
114	Texas	19	5,000	310,700	1.61%
115	Texas	12	5,400	337,500	1.60%
116	California	41	4,300	271,900	1.58%
117	Missouri	7	5,300	337,400	1.57%
118	Iowa	4	6,000	382,300	1.57%
119	California	49	4,700	299,700	1.57%
120	California	27	5,200	332,200	1.57%
121	California	46	4,900	314,400	1.56%
122	Illinois	9	5,400	347,200	1.56%
123	California	43	4,700	302,800	1.55%
124	Illinois	2	4,300	278,200	1.55%
125	California	19	5,000	324,000	1.54%
126	Texas	22	5,400	352,500	1.53%
127	California	32	4,500	293,800	1.53%
128	New York	27	5,100	337,800	1.51%
129	Ohio	3	5,000	333,000	1.50%
130	New Mexico	2	4,100	273,100	1.50%
131	Illinois	11	5,200	347,300	1.50%
132	Texas	13	4,600	309,000	1.49%
133	Texas	1	4,400	297,700	1.48%
134	Kansas	1	5,100	345,900	1.47%
135	Utah	1	4,600	312,400	1.47%
136	Texas	26	5,400	368,300	1.47%
137	Oregon	3	5,600	383,300	1.46%
138	California	18	5,000	344,500	1.45%
139	Georgia	9	4,100	284,600	1.44%
140	Arkansas	2	4,800	336,300	1.43%
141	Texas	28	3,800	266,300	1.43%
142	California	15	4,800	336,400	1.43%



TABLE 7 (CONTINUED)

Rank	State	State District #	Net jobs eliminated	District employment (in 2011)	Jobs eliminated as a share of district employment
143	Illinois	8	5,200	366,300	1.42%
144	Colorado	3	4,700	331,400	1.42%
145	California	48	5,000	352,600	1.42%
146	Ohio	16	5,000	355,600	1.41%
147	Texas	4	4,200	299,300	1.40%
148	California	31	4,100	292,200	1.40%
149	Ohio	2	4,500	323,600	1.39%
150	Illinois	16	4,600	330,800	1.39%
151	Missouri	5	4,800	345,300	1.39%
152	Illinois	4	4,500	326,600	1.38%
153	Georgia	7	4,300	312,500	1.38%
154	Louisiana	3	4,500	328,100	1.37%
155	Minnesota	2	4,900	358,300	1.37%
156	Illinois	14	4,800	351,000	1.37%
157	Pennsylvania	15	4,700	343,800	1.37%
158	Illinois	12	4,100	301,000	1.36%
159	California	28	4,900	359,900	1.36%
160	Pennsylvania	3	4,300	317,700	1.35%
161	West Virginia	2	3,600	266,900	1.35%
162	Texas	20	4,200	311,400	1.35%
163	South Carolina	5	3,700	275,200	1.34%
164	Pennsylvania	16	4,400	327,700	1.34%
165	Iowa	2	5,000	373,400	1.34%
166	Texas	5	4,000	300,800	1.33%
167	California	39	4,400	332,000	1.33%
168	Kansas	3	4,900	370,300	1.32%
169	Georgia	10	3,800	287,400	1.32%
170	North Carolina	12	4,200	319,800	1.31%
171	California	47	4,300	327,600	1.31%

TABLE 7 (CONTINUED)

Rank	State	State District #	Net jobs eliminated	District employment (in 2011)	Jobs eliminated as a share of district employment
172	California	21	3,200	243,800	1.31%
173	Ohio	11	3,600	275,200	1.31%
174	Iowa	1	5,100	392,300	1.30%
175	Oregon	4	4,000	309,000	1.29%
176	Massachusetts	3	4,600	355,400	1.29%
177	New Jersey	8	4,800	371,000	1.29%
178	Texas	25	3,900	302,200	1.29%
179	California	30	4,600	358,200	1.28%
180	Minnesota	7	4,200	328,700	1.28%
181	South Dakota	1	5,300	415,600	1.28%
182	Wisconsin	8	4,600	362,800	1.27%
183	Wisconsin	4	3,900	308,000	1.27%
184	Washington	3	3,600	284,500	1.27%
185	Missouri	4	4,100	324,900	1.26%
186	New York	21	3,900	309,200	1.26%
187	Wisconsin	2	4,900	390,000	1.26%
188	Illinois	17	3,900	311,700	1.25%
189	California	42	3,800	307,000	1.24%
190	South Carolina	6	3,100	253,500	1.22%
191	New York	25	4,100	335,400	1.22%
192	California	29	3,700	303,700	1.22%
193	Pennsylvania	17	3,800	312,600	1.22%
194	Idaho	1	4,000	329,900	1.21%
195	Pennsylvania	12	4,000	331,900	1.21%
196	New Hampshire	2	4,000	332,200	1.20%
197	Ohio	1	4,000	332,300	1.20%
198	Wisconsin	1	4,100	342,500	1.20%
199	Texas	29	3,500	292,900	1.19%
200	Missouri	3	4,400	370,000	1.19%

TABLE 7 (CONTINUED)

Rank	State	State District #	Net jobs eliminated	District employment (in 2011)	Jobs eliminated as a share of district employment
201	California	16	2,900	244,900	1.18%
202	Nebraska	1	3,800	321,700	1.18%
203	California	33	4,300	364,200	1.18%
204	California	2	3,800	323,100	1.18%
205	New York	15	3,000	255,900	1.17%
206	Illinois	1	3,400	290,200	1.17%
207	California	52	4,100	350,100	1.17%
208	California	26	3,800	325,900	1.17%
209	Texas	21	4,200	361,200	1.16%
210	Arkansas	3	3,800	327,000	1.16%
210	New York	6	3,800	327,000	1.16%
212	New York	8	3,400	292,700	1.16%
213	New York	24	3,800	327,300	1.16%
214	California	51	3,000	258,600	1.16%
215	North Dakota	Statewide	4,300	370,800	1.16%
216	New York	26	3,800	327,700	1.16%
217	Pennsylvania	18	4,000	345,000	1.16%
218	Colorado	7	4,200	362,500	1.16%
219	Louisiana	1	4,100	354,000	1.16%
220	California	20	3,500	302,500	1.16%
221	California	45	4,100	354,400	1.16%
222	South Carolina	7	3,100	269,400	1.15%
223	Georgia	12	3,200	278,200	1.15%
224	Nebraska	3	3,500	305,600	1.15%
225	Utah	2	3,500	305,700	1.14%
226	New York	14	3,900	341,800	1.14%
227	Texas	15	3,200	280,900	1.14%
228	Virginia	5	3,600	316,100	1.14%
229	New York	11	3,600	317,500	1.13%
230	Texas	24	4,400	388,600	1.13%

TABLE 7 (CONTINUED)

Rank	State	State District #	Net jobs eliminated	District employment (in 2011)	Jobs eliminated as a share of district employment
231	North Carolina	1	3,300	291,800	1.13%
232	Texas	30	3,300	292,300	1.13%
233	California	14	4,100	364,000	1.13%
234	Pennsylvania	13	3,800	339,000	1.12%
235	California	13	3,800	340,200	1.12%
236	North Carolina	13	3,900	349,900	1.11%
237	Texas	10	3,800	342,600	1.11%
238	Illinois	10	3,600	324,800	1.11%
239	Tennessee	5	3,900	353,400	1.10%
240	Oregon	5	3,600	326,700	1.10%
241	California	5	3,600	326,800	1.10%
242	New York	5	3,700	336,200	1.10%
243	New York	22	3,500	320,200	1.09%
244	New Jersey	9	3,700	338,500	1.09%
245	Minnesota	6	3,800	348,700	1.09%
246	Kansas	2	3,700	339,900	1.09%
247	Minnesota	8	3,300	303,400	1.09%
248	Missouri	1	3,600	331,500	1.09%
249	West Virginia	1	2,800	258,700	1.08%
250	Mississippi	4	3,300	304,900	1.08%
251	Tennessee	9	3,300	305,300	1.08%
252	Wisconsin	5	4,000	370,600	1.08%
253	Massachusetts	6	4,000	372,000	1.08%
254	Georgia	2	2,700	251,200	1.07%
255	Texas	34	2,600	242,200	1.07%
256	Florida	13	3,300	309,200	1.07%
257	Colorado	1	4,100	384,400	1.07%
258	Colorado	2	4,100	384,600	1.07%
259	Minnesota	1	3,700	348,200	1.06%

TABLE 7 (CONTINUED)

Rank	State	State District #	Net jobs eliminated	District employment (in 2011)	Jobs eliminated as a share of district employment
260	California	25	3,200	302,700	1.06%
261	Pennsylvania	14	3,400	323,200	1.05%
262	Massachusetts	9	3,700	352,300	1.05%
263	North Carolina	9	3,900	371,400	1.05%
264	New Jersey	6	3,700	353,600	1.05%
265	Massachusetts	4	3,900	374,800	1.04%
266	New York	13	3,300	317,200	1.04%
267	California	1	2,700	260,300	1.04%
268	Illinois	3	3,300	319,500	1.03%
269	Virginia	6	3,500	339,900	1.03%
270	Georgia	8	2,800	272,700	1.03%
271	California	12	4,100	399,400	1.03%
272	Louisiana	5	2,900	283,900	1.02%
273	Florida	18	2,900	284,000	1.02%
274	Montana	Statewide	4,900	480,000	1.02%
275	California	9	2,800	275,300	1.02%
276	Texas	18	3,100	306,400	1.01%
277	Illinois	18	3,400	337,500	1.01%
278	California	22	2,900	289,600	1.00%
279	Pennsylvania	4	3,400	342,900	0.99%
280	Georgia	13	3,100	312,800	0.99%
281	Minnesota	3	3,500	353,800	0.99%
282	California	24	3,200	323,500	0.99%
283	New York	9	3,200	324,900	0.98%
284	New Jersey	5	3,500	356,100	0.98%
285	New York	12	4,100	418,800	0.98%
286	California	8	2,300	235,500	0.98%
287	Georgia	6	3,500	361,200	0.97%
288	Florida	11	2,100	217,400	0.97%
289	New Jersey	10	3,000	310,700	0.97%

TABLE 7 (CONTINUED)

Rank	State	State District #	Net jobs eliminated	District employment (in 2011)	Jobs eliminated as a share of district employment
290	New Hampshire	1	3,400	352,600	0.96%
291	Florida	22	3,200	332,000	0.96%
292	Florida	2	2,900	301,500	0.96%
293	Florida	20	2,900	302,100	0.96%
294	Arizona	7	2,700	282,300	0.96%
295	Florida	24	2,800	293,400	0.95%
296	Florida	8	2,700	283,400	0.95%
297	Pennsylvania	1	2,600	273,300	0.95%
298	Florida	25	3,100	326,000	0.95%
299	South Carolina	2	2,900	305,600	0.95%
300	Iowa	3	3,700	390,800	0.95%
301	Pennsylvania	6	3,400	362,300	0.94%
302	Illinois	7	2,800	298,500	0.94%
303	New Jersey	7	3,500	377,100	0.93%
304	New York	16	3,000	323,600	0.93%
305	California	11	3,000	324,200	0.93%
306	New York	2	3,300	357,800	0.92%
307	Colorado	6	3,400	369,600	0.92%
308	Alabama	1	2,600	283,000	0.92%
309	Texas	27	2,800	305,600	0.92%
310	New York	10	3,300	360,300	0.92%
311	Florida	23	3,100	339,900	0.91%
312	Hawaii	1	3,000	330,100	0.91%
313	New York	17	3,100	341,400	0.91%
314	Maryland	1	3,100	342,300	0.91%
315	Arizona	6	3,300	366,000	0.90%
316	Georgia	4	2,800	311,700	0.90%
317	West Virginia	3	2,000	223,000	0.90%
318	New York	3	3,000	336,700	0.89%

TABLE 7 (CONTINUED)

Rank	State	State District #	Net jobs eliminated	District employment (in 2011)	Jobs eliminated as a share of district employment
319	Vermont	Statewide	2,900	327,300	0.89%
320	New Jersey	1	3,000	339,200	0.88%
321	California	4	2,600	294,200	0.88%
322	Maine	1	3,000	340,400	0.88%
323	Arizona	5	2,800	317,900	0.88%
324	Florida	4	2,900	329,900	0.88%
325	Washington	4	2,500	284,500	0.88%
326	Nevada	1	2,500	284,700	0.88%
327	Idaho	2	3,100	355,000	0.87%
328	California	3	2,500	286,600	0.87%
329	Louisiana	6	3,200	367,800	0.87%
330	Ohio	14	3,000	349,700	0.86%
331	New Jersey	4	2,800	326,400	0.86%
332	New York	19	2,800	327,300	0.86%
333	Nebraska	2	2,700	316,300	0.85%
334	California	53	2,900	342,700	0.85%
335	California	50	2,500	296,200	0.84%
336	Florida	14	2,700	320,700	0.84%
337	Arizona	3	2,200	262,200	0.84%
338	New Jersey	11	3,000	358,800	0.84%
339	Minnesota	4	2,800	336,000	0.83%
340	California	7	2,600	313,200	0.83%
341	California	10	2,300	277,200	0.83%
342	North Carolina	4	2,900	350,900	0.83%
343	Massachusetts	5	3,200	387,400	0.83%
344	Massachusetts	8	3,100	375,600	0.83%
345	Maryland	2	2,900	351,700	0.82%
346	Virginia	10	3,100	376,400	0.82%
347	Washington	5	2,400	291,500	0.82%
348	Georgia	11	2,800	340,900	0.82%



TABLE 7 (CONTINUED)

Rank	State	State District #	Net jobs eliminated	District employment (in 2011)	Jobs eliminated as a share of district employment
349	North Carolina	3	2,500	305,600	0.82%
350	New York	4	2,800	342,500	0.82%
351	Texas	35	2,600	318,200	0.82%
352	New York	1	2,800	343,300	0.82%
353	Utah	4	2,700	331,500	0.81%
354	Arizona	4	1,900	233,500	0.81%
355	Florida	12	2,300	283,200	0.81%
356	Florida	5	2,300	284,000	0.81%
357	Illinois	5	3,200	397,600	0.80%
358	Florida	27	2,500	313,600	0.80%
359	Illinois	13	2,600	326,600	0.80%
360	Minnesota	5	2,800	352,000	0.80%
361	California	36	2,000	251,900	0.79%
362	Missouri	2	3,000	378,600	0.79%
363	Florida	1	2,400	303,900	0.79%
364	Florida	9	2,500	317,200	0.79%
365	Georgia	5	2,500	318,100	0.79%
366	Massachusetts	2	2,800	356,500	0.79%
367	New Jersey	3	2,700	344,200	0.78%
368	New York	18	2,600	332,100	0.78%
369	Arizona	9	2,800	360,300	0.78%
370	Florida	6	2,200	283,200	0.78%
371	Florida	17	1,900	248,700	0.76%
372	California	6	2,200	288,300	0.76%
373	North Carolina	7	2,400	315,400	0.76%
374	Florida	16	2,100	276,100	0.76%
375	Pennsylvania	11	2,500	329,300	0.76%
376	Florida	21	2,400	316,800	0.76%
377	Rhode Island	1	1,900	250,900	0.76%

TABLE 7 (CONTINUED)

Rank	State	State District #	Net jobs eliminated	District employment (in 2011)	Jobs eliminated as a share of district employment
378	Florida	15	2,300	304,200	0.76%
379	Florida	19	2,000	265,200	0.75%
380	Florida	26	2,500	335,600	0.74%
381	Nevada	3	2,500	336,500	0.74%
382	Virginia	7	2,700	364,600	0.74%
383	New Jersey	2	2,400	324,400	0.74%
384	New Mexico	1	2,300	311,900	0.74%
385	Massachusetts	7	2,700	369,800	0.73%
386	Arizona	8	2,200	301,700	0.73%
387	Connecticut	4	2,500	343,000	0.73%
388	Florida	3	2,000	277,000	0.72%
389	Washington	10	2,100	291,300	0.72%
390	Maryland	6	2,600	363,200	0.72%
391	Florida	7	2,300	322,500	0.71%
392	Nevada	2	2,200	309,400	0.71%
393	Utah	3	2,200	311,200	0.71%
394	Virginia	2	2,400	339,800	0.71%
395	Hawaii	2	2,100	299,400	0.70%
396	New York	20	2,500	357,600	0.70%
397	Pennsylvania	2	1,900	273,100	0.70%
398	Nevada	4	1,900	274,300	0.69%
399	Texas	31	2,200	323,000	0.68%
400	Connecticut	3	2,400	352,700	0.68%
401	Maryland	7	2,100	315,700	0.67%
402	Colorado	5	2,100	315,900	0.66%
403	Virginia	3	2,100	320,100	0.66%
404	Maryland	5	2,400	368,200	0.65%
405	Maryland	8	2,600	400,100	0.65%
406	Virginia	11	2,600	400,900	0.65%
407	Pennsylvania	7	2,200	339,700	0.65%

TABLE 7 (CONTINUED)

Rank	State	State District #	Net jobs eliminated	District employment (in 2011)	Jobs eliminated as a share of district employment
408	Virginia	4	2,100	327,900	0.64%
409	Florida	10	2,100	331,500	0.63%
410	Rhode Island	2	1,600	260,300	0.61%
411	Louisiana	2	2,000	329,000	0.61%
412	Maryland	4	2,300	384,100	0.60%
413	Virginia	8	2,500	423,700	0.59%
414	Massachusetts	1	2,000	341,000	0.59%
415	Washington	6	1,600	275,500	0.58%
416	Connecticut	5	2,000	348,300	0.57%
417	Maryland	3	2,100	369,500	0.57%
418	Virginia	1	2,000	352,400	0.57%
419	Arizona	1	1,500	264,900	0.57%
420	Connecticut	1	1,900	349,800	0.54%
421	Arizona	2	1,600	299,200	0.53%
422	Pennsylvania	8	1,900	357,800	0.53%
423	DC	Statewide	1,500	310,600	0.48%
424	Texas	36	1,400	291,900	0.48%
425	Washington	7	1,800	380,000	0.47%
426	New Jersey	12	1,600	352,400	0.45%
427	Georgia	14	1,300	290,700	0.45%
428	Washington	9	1,500	341,400	0.44%
429	Connecticut	2	1,500	348,600	0.43%
430	Delaware	Statewide	1,800	420,400	0.43%
431	Washington	1	1,200	332,300	0.36%
432	Georgia	1	1,000	286,100	0.35%
433	Washington	8	800	318,000	0.25%
434	Washington	2	200	318,900	0.06%
435	Texas	14	-100	303,300	-0.03%
436	Kansas	4	-200	332,900	-0.06%
Total*			2,025,800	140,399,600	1.44%

**TABLE 7 (CONTINUED)**

\* Subcategory and overall totals may vary slightly due to rounding.

**Source:** Authors' analysis of Bivens (2014), U.S. Census Bureau (2013), U.S. International Trade Commission (USITC 2016), Bureau of Labor Statistics (BLS 2016a and 2016b), and BLS Employment Projections program (BLS-EP 2014a, 2014b, and 2015). For a more detailed explanation of data sources and computations, see the appendix.

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TABLE 8

### Net U.S. jobs eliminated by U.S. trade deficit with TPP countries, by congressional district, 2015 (listed alphabetically)

Rank	State	State District #	Net jobs eliminated	District employment (in 2011)	Jobs eliminated as a share of district employment
308	Alabama	1	2,600	283,000	0.92%
60	Alabama	2	6,000	276,900	2.17%
13	Alabama	3	12,100	274,600	4.41%
30	Alabama	4	7,700	262,900	2.93%
100	Alabama	5	5,300	311,900	1.70%
82	Alabama	6	5,900	318,400	1.85%
41	Alabama	7	6,400	253,500	2.52%
86	Alaska	Statewide	6,300	344,300	1.83%
419	Arizona	1	1,500	264,900	0.57%
421	Arizona	2	1,600	299,200	0.53%
337	Arizona	3	2,200	262,200	0.84%
354	Arizona	4	1,900	233,500	0.81%
323	Arizona	5	2,800	317,900	0.88%
315	Arizona	6	3,300	366,000	0.90%
294	Arizona	7	2,700	282,300	0.96%
386	Arizona	8	2,200	301,700	0.73%
369	Arizona	9	2,800	360,300	0.78%
66	Arkansas	1	5,800	277,400	2.09%
140	Arkansas	2	4,800	336,300	1.43%
210	Arkansas	3	3,800	327,000	1.16%
78	Arkansas	4	5,600	295,100	1.90%
267	California	1	2,700	260,300	1.04%
204	California	2	3,800	323,100	1.18%
328	California	3	2,500	286,600	0.87%
321	California	4	2,600	294,200	0.88%
241	California	5	3,600	326,800	1.10%
372	California	6	2,200	288,300	0.76%
340	California	7	2,600	313,200	0.83%

TABLE 8 (CONTINUED)

Rank	State	State District #	Net jobs eliminated	District employment (in 2011)	Jobs eliminated as a share of district employment
286	California	8	2,300	235,500	0.98%
275	California	9	2,800	275,300	1.02%
341	California	10	2,300	277,200	0.83%
305	California	11	3,000	324,200	0.93%
271	California	12	4,100	399,400	1.03%
235	California	13	3,800	340,200	1.12%
233	California	14	4,100	364,000	1.13%
142	California	15	4,800	336,400	1.43%
201	California	16	2,900	244,900	1.18%
69	California	17	7,000	346,100	2.02%
138	California	18	5,000	344,500	1.45%
125	California	19	5,000	324,000	1.54%
220	California	20	3,500	302,500	1.16%
172	California	21	3,200	243,800	1.31%
278	California	22	2,900	289,600	1.00%
49	California	23	6,600	274,100	2.41%
282	California	24	3,200	323,500	0.99%
260	California	25	3,200	302,700	1.06%
208	California	26	3,800	325,900	1.17%
120	California	27	5,200	332,200	1.57%
159	California	28	4,900	359,900	1.36%
192	California	29	3,700	303,700	1.22%
179	California	30	4,600	358,200	1.28%
148	California	31	4,100	292,200	1.40%
127	California	32	4,500	293,800	1.53%
203	California	33	4,300	364,200	1.18%
17	California	34	12,800	309,400	4.14%
64	California	35	6,000	284,800	2.11%
361	California	36	2,000	251,900	0.79%
107	California	37	5,500	335,600	1.64%

TABLE 8 (CONTINUED)

Rank	State	State District #	Net jobs eliminated	District employment (in 2011)	Jobs eliminated as a share of district employment
103	California	38	5,200	313,300	1.66%
167	California	39	4,400	332,000	1.33%
15	California	40	12,100	280,500	4.31%
116	California	41	4,300	271,900	1.58%
189	California	42	3,800	307,000	1.24%
123	California	43	4,700	302,800	1.55%
47	California	44	6,600	270,600	2.44%
221	California	45	4,100	354,400	1.16%
121	California	46	4,900	314,400	1.56%
171	California	47	4,300	327,600	1.31%
145	California	48	5,000	352,600	1.42%
119	California	49	4,700	299,700	1.57%
335	California	50	2,500	296,200	0.84%
214	California	51	3,000	258,600	1.16%
207	California	52	4,100	350,100	1.17%
334	California	53	2,900	342,700	0.85%
257	Colorado	1	4,100	384,400	1.07%
258	Colorado	2	4,100	384,600	1.07%
144	Colorado	3	4,700	331,400	1.42%
97	Colorado	4	6,000	344,100	1.74%
402	Colorado	5	2,100	315,900	0.66%
307	Colorado	6	3,400	369,600	0.92%
218	Colorado	7	4,200	362,500	1.16%
420	Connecticut	1	1,900	349,800	0.54%
429	Connecticut	2	1,500	348,600	0.43%
400	Connecticut	3	2,400	352,700	0.68%
387	Connecticut	4	2,500	343,000	0.73%
416	Connecticut	5	2,000	348,300	0.57%
430	Delaware	Statewide	1,800	420,400	0.43%
423	DC	Statewide	1,500	310,600	0.48%

TABLE 8 (CONTINUED)

Rank	State	State District #	Net jobs eliminated	District employment (in 2011)	Jobs eliminated as a share of district employment
363	Florida	1	2,400	303,900	0.79%
292	Florida	2	2,900	301,500	0.96%
388	Florida	3	2,000	277,000	0.72%
324	Florida	4	2,900	329,900	0.88%
356	Florida	5	2,300	284,000	0.81%
370	Florida	6	2,200	283,200	0.78%
391	Florida	7	2,300	322,500	0.71%
296	Florida	8	2,700	283,400	0.95%
364	Florida	9	2,500	317,200	0.79%
409	Florida	10	2,100	331,500	0.63%
288	Florida	11	2,100	217,400	0.97%
355	Florida	12	2,300	283,200	0.81%
256	Florida	13	3,300	309,200	1.07%
336	Florida	14	2,700	320,700	0.84%
378	Florida	15	2,300	304,200	0.76%
374	Florida	16	2,100	276,100	0.76%
371	Florida	17	1,900	248,700	0.76%
273	Florida	18	2,900	284,000	1.02%
379	Florida	19	2,000	265,200	0.75%
293	Florida	20	2,900	302,100	0.96%
376	Florida	21	2,400	316,800	0.76%
291	Florida	22	3,200	332,000	0.96%
311	Florida	23	3,100	339,900	0.91%
295	Florida	24	2,800	293,400	0.95%
298	Florida	25	3,100	326,000	0.95%
380	Florida	26	2,500	335,600	0.74%
358	Florida	27	2,500	313,600	0.80%
432	Georgia	1	1,000	286,100	0.35%
254	Georgia	2	2,700	251,200	1.07%
90	Georgia	3	5,200	285,800	1.82%



TABLE 8 (CONTINUED)

Rank	State	State District #	Net jobs eliminated	District employment (in 2011)	Jobs eliminated as a share of district employment
316	Georgia	4	2,800	311,700	0.90%
365	Georgia	5	2,500	318,100	0.79%
287	Georgia	6	3,500	361,200	0.97%
153	Georgia	7	4,300	312,500	1.38%
270	Georgia	8	2,800	272,700	1.03%
139	Georgia	9	4,100	284,600	1.44%
169	Georgia	10	3,800	287,400	1.32%
348	Georgia	11	2,800	340,900	0.82%
223	Georgia	12	3,200	278,200	1.15%
280	Georgia	13	3,100	312,800	0.99%
427	Georgia	14	1,300	290,700	0.45%
312	Hawaii	1	3,000	330,100	0.91%
395	Hawaii	2	2,100	299,400	0.70%
194	Idaho	1	4,000	329,900	1.21%
327	Idaho	2	3,100	355,000	0.87%
206	Illinois	1	3,400	290,200	1.17%
124	Illinois	2	4,300	278,200	1.55%
268	Illinois	3	3,300	319,500	1.03%
152	Illinois	4	4,500	326,600	1.38%
357	Illinois	5	3,200	397,600	0.80%
88	Illinois	6	6,500	355,600	1.83%
302	Illinois	7	2,800	298,500	0.94%
143	Illinois	8	5,200	366,300	1.42%
122	Illinois	9	5,400	347,200	1.56%
238	Illinois	10	3,600	324,800	1.11%
131	Illinois	11	5,200	347,300	1.50%
158	Illinois	12	4,100	301,000	1.36%
359	Illinois	13	2,600	326,600	0.80%
156	Illinois	14	4,800	351,000	1.37%
40	Illinois	15	8,100	316,500	2.56%

TABLE 8 (CONTINUED)

Rank	State	State District #	Net jobs eliminated	District employment (in 2011)	Jobs eliminated as a share of district employment
150	Illinois	16	4,600	330,800	1.39%
188	Illinois	17	3,900	311,700	1.25%
277	Illinois	18	3,400	337,500	1.01%
51	Indiana	1	7,300	310,600	2.35%
7	Indiana	2	17,900	317,800	5.63%
10	Indiana	3	16,900	327,000	5.17%
18	Indiana	4	13,300	328,500	4.05%
80	Indiana	5	6,700	357,700	1.87%
12	Indiana	6	14,700	311,900	4.71%
111	Indiana	7	5,100	312,200	1.63%
20	Indiana	8	12,800	329,300	3.89%
36	Indiana	9	9,100	339,400	2.68%
174	Iowa	1	5,100	392,300	1.30%
165	Iowa	2	5,000	373,400	1.34%
300	Iowa	3	3,700	390,800	0.95%
118	Iowa	4	6,000	382,300	1.57%
134	Kansas	1	5,100	345,900	1.47%
246	Kansas	2	3,700	339,900	1.09%
168	Kansas	3	4,900	370,300	1.32%
436	Kansas	4	-200	332,900	-0.06%
24	Kentucky	1	10,200	284,800	3.58%
21	Kentucky	2	12,200	317,100	3.85%
81	Kentucky	3	6,200	333,300	1.86%
48	Kentucky	4	8,100	333,500	2.43%
31	Kentucky	5	6,800	234,300	2.90%
29	Kentucky	6	10,200	335,400	3.04%
219	Louisiana	1	4,100	354,000	1.16%
411	Louisiana	2	2,000	329,000	0.61%
154	Louisiana	3	4,500	328,100	1.37%
39	Louisiana	4	8,000	311,100	2.57%

TABLE 8 (CONTINUED)

Rank	State	State District #	Net jobs eliminated	District employment (in 2011)	Jobs eliminated as a share of district employment
272	Louisiana	5	2,900	283,900	1.02%
329	Louisiana	6	3,200	367,800	0.87%
322	Maine	1	3,000	340,400	0.88%
105	Maine	2	5,000	302,700	1.65%
314	Maryland	1	3,100	342,300	0.91%
345	Maryland	2	2,900	351,700	0.82%
417	Maryland	3	2,100	369,500	0.57%
412	Maryland	4	2,300	384,100	0.60%
404	Maryland	5	2,400	368,200	0.65%
390	Maryland	6	2,600	363,200	0.72%
401	Maryland	7	2,100	315,700	0.67%
405	Maryland	8	2,600	400,100	0.65%
414	Massachusetts	1	2,000	341,000	0.59%
366	Massachusetts	2	2,800	356,500	0.79%
176	Massachusetts	3	4,600	355,400	1.29%
265	Massachusetts	4	3,900	374,800	1.04%
343	Massachusetts	5	3,200	387,400	0.83%
253	Massachusetts	6	4,000	372,000	1.08%
385	Massachusetts	7	2,700	369,800	0.73%
344	Massachusetts	8	3,100	375,600	0.83%
262	Massachusetts	9	3,700	352,300	1.05%
94	Michigan	1	5,100	290,200	1.76%
14	Michigan	2	13,900	315,900	4.40%
22	Michigan	3	11,800	315,300	3.74%
27	Michigan	4	9,100	286,300	3.18%
16	Michigan	5	11,400	264,800	4.31%
28	Michigan	6	9,700	310,400	3.13%
5	Michigan	7	17,500	299,100	5.85%
4	Michigan	8	20,400	330,800	6.17%
3	Michigan	9	21,900	326,100	6.72%

TABLE 8 (CONTINUED)

Rank	State	State District #	Net jobs eliminated	District employment (in 2011)	Jobs eliminated as a share of district employment
2	Michigan	10	22,400	308,700	7.26%
1	Michigan	11	26,200	342,100	7.66%
6	Michigan	12	18,000	313,800	5.74%
9	Michigan	13	12,900	230,700	5.59%
8	Michigan	14	14,500	257,700	5.63%
259	Minnesota	1	3,700	348,200	1.06%
155	Minnesota	2	4,900	358,300	1.37%
281	Minnesota	3	3,500	353,800	0.99%
339	Minnesota	4	2,800	336,000	0.83%
360	Minnesota	5	2,800	352,000	0.80%
245	Minnesota	6	3,800	348,700	1.09%
180	Minnesota	7	4,200	328,700	1.28%
247	Minnesota	8	3,300	303,400	1.09%
43	Mississippi	1	7,600	305,600	2.49%
76	Mississippi	2	5,100	266,900	1.91%
74	Mississippi	3	6,000	303,900	1.97%
250	Mississippi	4	3,300	304,900	1.08%
274	Montana	Statewide	4,900	480,000	1.02%
248	Missouri	1	3,600	331,500	1.09%
362	Missouri	2	3,000	378,600	0.79%
200	Missouri	3	4,400	370,000	1.19%
185	Missouri	4	4,100	324,900	1.26%
151	Missouri	5	4,800	345,300	1.39%
58	Missouri	6	7,800	355,900	2.19%
117	Missouri	7	5,300	337,400	1.57%
68	Missouri	8	6,100	298,500	2.04%
202	Nebraska	1	3,800	321,700	1.18%
333	Nebraska	2	2,700	316,300	0.85%
224	Nebraska	3	3,500	305,600	1.15%
326	Nevada	1	2,500	284,700	0.88%

TABLE 8 (CONTINUED)

Rank	State	State District #	Net jobs eliminated	District employment (in 2011)	Jobs eliminated as a share of district employment
392	Nevada	2	2,200	309,400	0.71%
381	Nevada	3	2,500	336,500	0.74%
398	Nevada	4	1,900	274,300	0.69%
290	New Hampshire	1	3,400	352,600	0.96%
196	New Hampshire	2	4,000	332,200	1.20%
320	New Jersey	1	3,000	339,200	0.88%
383	New Jersey	2	2,400	324,400	0.74%
367	New Jersey	3	2,700	344,200	0.78%
331	New Jersey	4	2,800	326,400	0.86%
284	New Jersey	5	3,500	356,100	0.98%
264	New Jersey	6	3,700	353,600	1.05%
303	New Jersey	7	3,500	377,100	0.93%
177	New Jersey	8	4,800	371,000	1.29%
244	New Jersey	9	3,700	338,500	1.09%
289	New Jersey	10	3,000	310,700	0.97%
338	New Jersey	11	3,000	358,800	0.84%
426	New Jersey	12	1,600	352,400	0.45%
384	New Mexico	1	2,300	311,900	0.74%
130	New Mexico	2	4,100	273,100	1.50%
89	New Mexico	3	5,200	284,800	1.83%
352	New York	1	2,800	343,300	0.82%
306	New York	2	3,300	357,800	0.92%
318	New York	3	3,000	336,700	0.89%
350	New York	4	2,800	342,500	0.82%
242	New York	5	3,700	336,200	1.10%
210	New York	6	3,800	327,000	1.16%
92	New York	7	5,800	322,200	1.80%
212	New York	8	3,400	292,700	1.16%
283	New York	9	3,200	324,900	0.98%

TABLE 8 (CONTINUED)

Rank	State	State District #	Net jobs eliminated	District employment (in 2011)	Jobs eliminated as a share of district employment
310	New York	10	3,300	360,300	0.92%
229	New York	11	3,600	317,500	1.13%
285	New York	12	4,100	418,800	0.98%
266	New York	13	3,300	317,200	1.04%
226	New York	14	3,900	341,800	1.14%
205	New York	15	3,000	255,900	1.17%
304	New York	16	3,000	323,600	0.93%
313	New York	17	3,100	341,400	0.91%
368	New York	18	2,600	332,100	0.78%
332	New York	19	2,800	327,300	0.86%
396	New York	20	2,500	357,600	0.70%
186	New York	21	3,900	309,200	1.26%
243	New York	22	3,500	320,200	1.09%
77	New York	23	6,200	324,600	1.91%
213	New York	24	3,800	327,300	1.16%
191	New York	25	4,100	335,400	1.22%
216	New York	26	3,800	327,700	1.16%
128	New York	27	5,100	337,800	1.51%
231	North Carolina	1	3,300	291,800	1.13%
113	North Carolina	2	4,900	303,800	1.61%
349	North Carolina	3	2,500	305,600	0.82%
342	North Carolina	4	2,900	350,900	0.83%
56	North Carolina	5	7,300	324,500	2.25%
62	North Carolina	6	7,300	341,800	2.14%
373	North Carolina	7	2,400	315,400	0.76%

TABLE 8 (CONTINUED)

Rank	State	State District #	Net jobs eliminated	District employment (in 2011)	Jobs eliminated as a share of district employment
71	North Carolina	8	6,000	301,700	1.99%
263	North Carolina	9	3,900	371,400	1.05%
67	North Carolina	10	6,700	324,000	2.07%
87	North Carolina	11	5,400	295,400	1.83%
170	North Carolina	12	4,200	319,800	1.31%
236	North Carolina	13	3,900	349,900	1.11%
215	North Dakota	Statewide	4,300	370,800	1.16%
197	Ohio	1	4,000	332,300	1.20%
149	Ohio	2	4,500	323,600	1.39%
129	Ohio	3	5,000	333,000	1.50%
11	Ohio	4	16,300	317,900	5.13%
23	Ohio	5	12,400	334,200	3.71%
72	Ohio	6	5,800	292,300	1.98%
37	Ohio	7	8,600	326,800	2.63%
50	Ohio	8	7,900	328,800	2.40%
45	Ohio	9	7,800	315,000	2.48%
61	Ohio	10	6,700	312,800	2.14%
173	Ohio	11	3,600	275,200	1.31%
91	Ohio	12	6,500	359,500	1.81%
35	Ohio	13	8,600	320,400	2.68%
330	Ohio	14	3,000	349,700	0.86%
70	Ohio	15	6,800	336,400	2.02%
146	Ohio	16	5,000	355,600	1.41%
65	Oklahoma	1	7,600	361,900	2.10%
63	Oklahoma	2	6,200	290,300	2.14%
84	Oklahoma	3	6,100	329,900	1.85%

TABLE 8 (CONTINUED)

Rank	State	State District #	Net jobs eliminated	District employment (in 2011)	Jobs eliminated as a share of district employment
83	Oklahoma	4	6,500	350,900	1.85%
42	Oklahoma	5	8,800	348,800	2.52%
102	Oregon	1	6,300	377,200	1.67%
96	Oregon	2	5,500	314,200	1.75%
137	Oregon	3	5,600	383,300	1.46%
175	Oregon	4	4,000	309,000	1.29%
240	Oregon	5	3,600	326,700	1.10%
297	Pennsylvania	1	2,600	273,300	0.95%
397	Pennsylvania	2	1,900	273,100	0.70%
160	Pennsylvania	3	4,300	317,700	1.35%
279	Pennsylvania	4	3,400	342,900	0.99%
98	Pennsylvania	5	5,400	316,800	1.70%
301	Pennsylvania	6	3,400	362,300	0.94%
407	Pennsylvania	7	2,200	339,700	0.65%
422	Pennsylvania	8	1,900	357,800	0.53%
55	Pennsylvania	9	6,900	304,800	2.26%
75	Pennsylvania	10	6,100	312,500	1.95%
375	Pennsylvania	11	2,500	329,300	0.76%
195	Pennsylvania	12	4,000	331,900	1.21%
234	Pennsylvania	13	3,800	339,000	1.12%
261	Pennsylvania	14	3,400	323,200	1.05%
157	Pennsylvania	15	4,700	343,800	1.37%
164	Pennsylvania	16	4,400	327,700	1.34%
193	Pennsylvania	17	3,800	312,600	1.22%
217	Pennsylvania	18	4,000	345,000	1.16%
377	Rhode Island	1	1,900	250,900	0.76%
410	Rhode Island	2	1,600	260,300	0.61%
99	South Carolina	1	5,100	299,800	1.70%
299	South Carolina	2	2,900	305,600	0.95%



**TABLE 8 (CONTINUED)**

<b>Rank</b>	<b>State</b>	<b>State District #</b>	<b>Net jobs eliminated</b>	<b>District employment (in 2011)</b>	<b>Jobs eliminated as a share of district employment</b>
57	South Carolina	3	5,900	264,500	2.23%
26	South Carolina	4	9,800	301,000	3.26%
163	South Carolina	5	3,700	275,200	1.34%
190	South Carolina	6	3,100	253,500	1.22%
222	South Carolina	7	3,100	269,400	1.15%
181	South Dakota	1	5,300	415,600	1.28%
73	Tennessee	1	5,900	297,600	1.98%
53	Tennessee	2	7,600	327,200	2.32%
46	Tennessee	3	7,300	297,000	2.46%
19	Tennessee	4	12,400	314,500	3.94%
239	Tennessee	5	3,900	353,400	1.10%
32	Tennessee	6	8,700	304,500	2.86%
44	Tennessee	7	7,100	285,800	2.48%
108	Tennessee	8	4,900	299,200	1.64%
251	Tennessee	9	3,300	305,300	1.08%
133	Texas	1	4,400	297,700	1.48%
33	Texas	2	10,400	364,600	2.85%
54	Texas	3	8,500	371,200	2.29%
147	Texas	4	4,200	299,300	1.40%
166	Texas	5	4,000	300,800	1.33%
110	Texas	6	5,700	348,800	1.63%
34	Texas	7	10,500	376,300	2.79%
85	Texas	8	5,700	309,200	1.84%
101	Texas	9	5,500	326,400	1.69%
237	Texas	10	3,800	342,600	1.11%
25	Texas	11	10,100	308,800	3.27%
115	Texas	12	5,400	337,500	1.60%

TABLE 8 (CONTINUED)

Rank	State	State District #	Net jobs eliminated	District employment (in 2011)	Jobs eliminated as a share of district employment
132	Texas	13	4,600	309,000	1.49%
435	Texas	14	-100	303,300	-0.03%
227	Texas	15	3,200	280,900	1.14%
79	Texas	16	5,300	281,300	1.88%
106	Texas	17	5,400	329,300	1.64%
276	Texas	18	3,100	306,400	1.01%
114	Texas	19	5,000	310,700	1.61%
162	Texas	20	4,200	311,400	1.35%
209	Texas	21	4,200	361,200	1.16%
126	Texas	22	5,400	352,500	1.53%
38	Texas	23	7,500	289,700	2.59%
230	Texas	24	4,400	388,600	1.13%
178	Texas	25	3,900	302,200	1.29%
136	Texas	26	5,400	368,300	1.47%
309	Texas	27	2,800	305,600	0.92%
141	Texas	28	3,800	266,300	1.43%
199	Texas	29	3,500	292,900	1.19%
232	Texas	30	3,300	292,300	1.13%
399	Texas	31	2,200	323,000	0.68%
109	Texas	32	5,900	360,900	1.63%
104	Texas	33	4,700	283,900	1.66%
255	Texas	34	2,600	242,200	1.07%
351	Texas	35	2,600	318,200	0.82%
424	Texas	36	1,400	291,900	0.48%
135	Utah	1	4,600	312,400	1.47%
225	Utah	2	3,500	305,700	1.14%
393	Utah	3	2,200	311,200	0.71%
353	Utah	4	2,700	331,500	0.81%
319	Vermont	Statewide	2,900	327,300	0.89%
418	Virginia	1	2,000	352,400	0.57%

TABLE 8 (CONTINUED)

Rank	State	State District #	Net jobs eliminated	District employment (in 2011)	Jobs eliminated as a share of district employment
394	Virginia	2	2,400	339,800	0.71%
403	Virginia	3	2,100	320,100	0.66%
408	Virginia	4	2,100	327,900	0.64%
228	Virginia	5	3,600	316,100	1.14%
269	Virginia	6	3,500	339,900	1.03%
382	Virginia	7	2,700	364,600	0.74%
413	Virginia	8	2,500	423,700	0.59%
59	Virginia	9	6,500	298,400	2.18%
346	Virginia	10	3,100	376,400	0.82%
406	Virginia	11	2,600	400,900	0.65%
431	Washington	1	1,200	332,300	0.36%
434	Washington	2	200	318,900	0.06%
184	Washington	3	3,600	284,500	1.27%
325	Washington	4	2,500	284,500	0.88%
347	Washington	5	2,400	291,500	0.82%
415	Washington	6	1,600	275,500	0.58%
425	Washington	7	1,800	380,000	0.47%
433	Washington	8	800	318,000	0.25%
428	Washington	9	1,500	341,400	0.44%
389	Washington	10	2,100	291,300	0.72%
249	West Virginia	1	2,800	258,700	1.08%
161	West Virginia	2	3,600	266,900	1.35%
317	West Virginia	3	2,000	223,000	0.90%
198	Wisconsin	1	4,100	342,500	1.20%
187	Wisconsin	2	4,900	390,000	1.26%
95	Wisconsin	3	6,200	353,500	1.75%
183	Wisconsin	4	3,900	308,000	1.27%
252	Wisconsin	5	4,000	370,600	1.08%
93	Wisconsin	6	6,300	353,600	1.78%
112	Wisconsin	7	5,500	338,400	1.63%

TABLE 8 (CONTINUED)

Rank	State	State District #	Net jobs eliminated	District employment (in 2011)	Jobs eliminated as a share of district employment
182	Wisconsin	8	4,600	362,800	1.27%
52	Wyoming	Statewide	6,800	290,000	2.34%
	Total		2,025,800	140,399,600	1.44%

Rank is by jobs eliminated as a share of district employment. Subcategory and overall totals may vary slightly due to rounding.

**Source:** Authors' analysis of Bivens (2014), U.S. Census Bureau (2013), U.S. International Trade Commission (USITC 2016), Bureau of Labor Statistics (BLS 2016a and 2016b), and BLS Employment Projections program (BLS-EP 2014a, 2014b, and 2015). For a more detailed explanation of data sources and computations, see the appendix.

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