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The Real Impact of Trade Agreements

How Trade Affects Jobs, Manufacturing, and Economic Competitiveness

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REVISED EDITION

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Executive Summary

Political debate and the anxiety it has fueled have created an unfortunate—and inaccurate—impression that trade agreements have destroyed manufacturing and are killing US jobs. A look at the facts reveals a more complex story and points to a different conclusion.

Free Trade Agreements in Perspective

On balance, free trade agreements have benefited the United States, and US workers. This is true of both bilateral and multilateral agreements. These agreements have been negotiated by the US to advance US interests, and accordingly reflect US values and objectives. They also reflect an alignment of interests with our negotiating partners, who similarly benefit from growing trade. Contrary to what some have asserted, there is no evidence that bilateral agreements are inherently superior to multilateral ones, or that free trade agreements have been abused or manipulated by our partners. By virtue of their scale, multilateral agreements can in fact deliver strategic benefits to the US that bilateral ones may not.

Since the 1980s, both bilateral and regional free trade agreements (FTAs) have been used by nations around the world to reduce barriers, open markets, and create new and higher standards in areas such as investment, intellectual property, and now digital commerce. Behind the US approach to trade agreements has been a recognition that as global markets grow in importance and emerging markets expand, trade and investment opportunities grow as well.

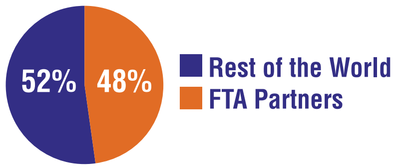
The collapse of communism, the entry of China and India into the world economy, and accelerating growth in Asia and other regions have brought billions of new consumers into the global market economy. That includes hundreds of millions of consumers who have entered the middle class with new purchasing power. By reducing trade and investment barriers, leaders across multiple administrations have believed that markets overseas will expand, due to the lowering of barriers but also due to growing trade volumes. US companies cannot afford to ignore these opportunities, as 95 percent of the world's population and 75 percent of global purchasing power now reside outside the United States.

Multiple assessments have shown that free trade agreements have clear benefits for the United States. US International Trade Commission economic analysis models have found that in addition to positively affecting real GDP, employment, and wages, **FTAs currently in force increased US trade surpluses or reduced trade deficits with partner countries by 59.2 percent ($87.5 billion) in 2015. They also produced tariff savings of up to $13.4 billion in 2014,** benefiting consumers—particularly those with low or middle incomes—through lower costs.

Of the 267 bilateral and regional free trade agreements that have been negotiated around the world, only 14 involve the United States. The provisions included in the proposed Trans-Pacific Partnership (TPP), an agreement between the United States and 11 trading partners, were positioned as the centerpiece of US strategy both to open markets and cement US economic leadership in the Asia-Pacific region. The withdrawal of the United States from the Trans-Pacific Partnership will not stop this global process. Canada and the European Union have recently approved a free trade agreement, and Japan and Europe are discussing one. In Asia, China's proposed 16-nation trade agreement—RCEP—is positioned to fill the void left by the US withdrawal.

Effects on Manufacturing

Share of US Manufactured Goods Exports



Taken together, nearly half of all US-manufactured exports are purchased by free trade agreement partners, even though they account for only 6 percent of the world's consumers and less than 10 percent of the world's economy. **In 2015, the US enjoyed a $6.4 billion goods and services surplus with its 20 free trade partners, compared with a $489.8 billion deficit with non-FTA countries.** Currently, the United States' largest trade deficit is with China, which has no trade agreement with the US and was not a party to the proposed Trans-Pacific Partnership.

Contrary to critics' claims, trade agreements are not the fundamental cause of erosion in the US manufacturing sector or of the disappearance of manufacturing jobs. Manufacturing output is growing, and US manufacturing companies produced a record $2.2 trillion in value in 2015. Manufacturing production, however, is different from employment, which has been declining for decades. Only a small part (approximately 13 percent) of that decline is due to trade. The real reason we have fewer manufacturing jobs is technology, which makes production more efficient and requires fewer workers. An instructive parallel is agriculture, where US production since 2010 is up 13 percent, while jobs in agriculture fell 15 percent, both trends due to technology. These are inexorable processes that will continue.

Free trade agreements have, in fact, had a positive impact on manufacturing. In 2015, US manufacturers sold $12.7 billion more in manufactured goods to FTA partners than US companies bought from them. At the same time, the US had a manufacturing trade deficit of $639.6 billion with countries where no FTAs are in place.

Asia-Pacific Trade: Why TPP Still Matters

The United States could have expected similar benefits from the Trans-Pacific Partnership. While the US has officially withdrawn from that agreement, it could still benefit from successor agreements with similar terms.

The US International Trade Commission estimated that with TPP, exports to TPP partners would have grown faster than exports to other countries. Imports from TPP partners would also have grown, but not as fast as exports. Regarding employment, the Peterson Institute for International Economics estimated that the agreement would have raised real US wages but would not have significantly changed overall employment levels.

"Job churn," the movement of jobs between firms, sectors, and industries, was projected by the Peterson Institute model to be 53,700 annually, including both jobs eliminated in less productive import-competing firms and jobs added in firms that expand. **Experience demonstrates that the resulting jobs, in both manufacturing and services, are better paying than jobs in companies that do not compete globally. The great majority of these jobs are for middle-class Americans who produce and move the goods and generate the services.**

While manufacturing is a major focus in trade debates, services are also important: tradable business services (including legal services, consulting, financial services, accounting, architecture, engineering, healthcare, and education) account for 25 percent of US employment—double the share of manufacturing. The service economy is growing fast, and the Peterson Institute projects that 90 percent of US workers will be employed in the service sector by 2030. In contrast to trade in goods, the US enjoys a sizable trade surplus in services.

The principles and provisions contained in TPP significantly benefit large and small companies across a range of sectors. Technology companies and their workers would benefit through the opening of service markets, the strengthening of intellectual property protection, the protection of the cross-border movement of data, and the protection of source code from expropriation by foreign governments. Agriculture would also benefit, as once-restricted markets such as Japan's would open to US exports. In other areas of interest, TPP's provisions included enforceable labor and environmental protections, setting the highest standards of any international trade agreement to date.

Looking Forward

Despite the formal withdrawal of the US from the Trans-Pacific Partnership, the principles that it advanced would produce net benefits for the economy and for American workers. There is no doubt that trade contributes to economic churn, as less competitive jobs decline and more competitive ones grow. Many more Americans stand to gain in this process than lose. For those who lose, however, the pain is real. In response, we should overhaul Trade Adjustment Assistance (TAA), the federal program that provides transitional help toward new employment for dislocated workers. Beyond that, our country needs a comprehensive, bipartisan strategy for how to transition workers who are affected not just by trade, but by global competition and the dramatic changes that technology is producing across the economy.

Anxiety that trade agreements are responsible for these dislocations is misplaced. The evidence is compelling that California and the nation, through competitive companies and their workers, benefit from more open trade. **Addressing the dislocations caused by global competition and the technology-driven changes that are transforming both industries and jobs—changes that are not caused by trade agreements—is an important and complex task that should be on the national agenda. But the US should not back away from trade agreements or abdicate its role as the leading global advocate for free and open markets.**

Introduction

International trade has historically been supported by a bipartisan consensus in the public and in Congress. Americans have generally stood together when facing the outside world, whether on defense or the economy. Coming out of World War II and for decades after, America largely wrote the rules of the international economy, operating from a position of strength. But that consensus has eroded as US economic dominance has lessened and global competition has increased, particularly from fast-growing economies in Asia. The world today is a more complex place. Nevertheless, successive administrations—both Republican and Democratic—have negotiated and sent to Congress a succession of international trade agreements designed to reduce barriers to trade and investment and open global markets for US companies.

The move toward bilateral and regional free trade agreements has been stimulated by a faltering of the multilateral trading system embodied in the World Trade Organization (WTO) and its predecessor, the General Agreement on Tariffs and Trade (GATT). Since the late 1980s, the growing number of GATT/WTO members, their different levels of development, and their varying priorities have made large multilateral agreements increasingly difficult to negotiate with the consensus required by WTO rules. For those reasons, the most recent multilateral negotiation for comprehensive market opening that was launched in 2001, the "Doha Development Round," did not succeed. For countries wanting to move ahead with liberalization, other options became attractive.

Faced with this complexity, the United States and other partners turned to bilateral and regional trade agreements as a faster way to grow trade. The conclusion of the North American Free Trade Agreement (NAFTA) in 1993 was, for example, credited with accelerating the completion of the last successful multilateral negotiation, the "Uruguay Round," in 1994.

WTO agreements provide a critical floor of universally accepted commitments and principles, and the basic rules for trade in bilateral and regional trade agreements build on them. But as important as those ground rules may be, tariffs on US products overseas generally remain higher than those in the United States. Non-tariff barriers also persist, particularly in services, and the multilateral system has been unable to embrace new or higher standards on a range of issues of concern to the US, including labor and environmental protection.

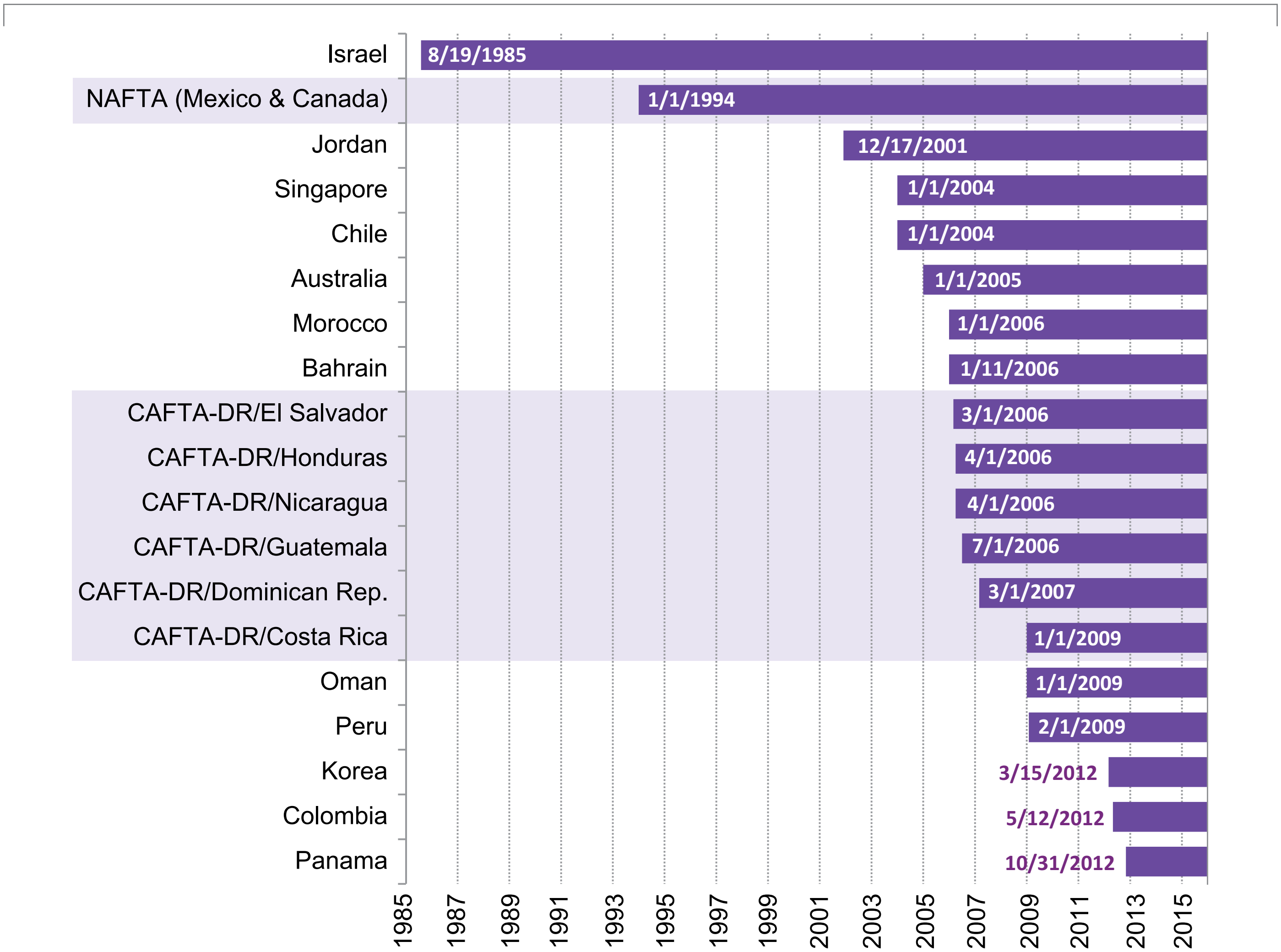
Working with like-minded partners to conclude free trade agreements (FTAs) in parallel with global talks is seen as a way to develop those higher standards and, if possible, force the pace of global processes. While multilateral negotiations are the preferred and more efficient way to open markets, international trade rules allow for bilateral and regional free trade agreements where "substantially all the trade" between member countries is liberalized.[1] According to the WTO, 267 bilateral and regional trade agreements are currently in force around the world.[2] Of those, the United States accounts for only 14.[3]

Behind the US approach to trade agreements has been a recognition that as global markets grow in importance and emerging markets expand, trade and investment opportunities grow as well. The collapse of communism, the entry of China and India into the world economy, and accelerating growth in Asia and elsewhere have brought billions of new consumers into the global market economy. That includes hundreds of millions of consumers who have entered the middle class with new purchasing power. By reducing trade and investment barriers, leaders across multiple administrations have believed that markets overseas will expand, due to the lowering of barriers but also due to the growth that partner economies would experience as trade and investment flows increase. US companies cannot afford to ignore these opportunities, as 95 percent of the world's population and 75 percent of purchasing power now reside outside the United States.[4]

Bilateral and Regional Trade Agreements Negotiated by the United States

To date, the United States has concluded 14 FTAs with a total of 20 countries, 12 of them bilateral and 2 regional (the North American Free Trade Agreement known as NAFTA and the Dominican Republic–Central America Free Trade Agreement known as CAFTA-DR).

Dates Entered Into Force for 14 US Bilateral and Regional Trade Agreements



Sources: For agreements with Australia, Bahrain, Chile, Colombia, Korea, Morocco, Oman, Panama, Peru, and Singapore, dates are from the Office of the US Trade Representative (USTR), "Free Trade Agreements," https://ustr.gov/trade-agreements/free-trade-agreements; for the agreement with Jordan, date is from USTR, "Countries and Regions," https://ustr.gov/countries-regions/europe-middle-east/middle-east/north-africa/jordan; for agreements with Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, and Nicaragua, dates are from the US Department of State, "Benefits of U.S. Trade Agreements," http://www.state.gov/e/eb/tpp/bta/fta/c26474.htm; for agreements with Mexico and Canada (NAFTA) and with Israel, dates are from the US International Trade Commission, *The Impact of Trade Agreements: Effect…*, 2003, https://www.usitc.gov/publications/industry_econ_analysis_332/2003/impact_trade_agreements_effect_tokyo_rounds_us.htm. (All websites accessed May 2, 2016.)

Analysis: US International Trade Commission and Bay Area Council Economic Institute

The first free trade agreement negotiated by the United States, a bilateral agreement with Israel that entered into force in 1985, was followed by agreements with Canada in 1989 (superseded by NAFTA), Canada and Mexico (NAFTA) in 1994, Jordan in 2001, Singapore in 2004, Chile in 2004, Australia in 2005, Morocco in 2006, Bahrain in 2006, the Dominican Republic and Central America (CAFTA-DR) in 2006–2009), Oman in 2009, Peru in 2009, Korea in 2012, Colombia in 2012, and Panama in 2012.[5]

Trade agreements have always been hard-fought in Congress. Unions and environmental NGOs in particular have raised concerns about labor and environmental standards, leading successive administrations to elevate their importance. As each successive agreement has been negotiated, increased attention has been given to those issues by embedding strengthened commitments, standards, and monitoring procedures. The Trans-Pacific Partnership (TPP), from which the US has now withdrawn, would have been the latest in this series, containing what are considered to be state-of-the-art provisions.

“For issues that have not been covered by binding multilateral agreements—such as government procurement, investment, electronic commerce, labor and the environment—U.S. bilateral and regional agreements have been pivotal in instituting key trade commitments and establishing precedents for later agreements. For example, labor rights were not covered in the URAs [Uruguay Round Agreements], but have been included in all bilateral and regional U.S. trade agreements since NAFTA, with the commitments in later agreements encompassing more obligations over time”.

—United States International Trade Commission[6]

How have these agreements impacted trade?

US International Trade Commission economic models have found that in addition to positively affecting real GDP, employment, and wages, FTAs currently in force increased trade surpluses or reduced trade deficits with partner countries by 59.2 percent ($87.5 billion) in 2015 and produced tariff savings of up to $13.4 billion in 2014, benefiting consumers—particularly those with low or middle incomes—through lower costs.[7]

“…trade agreements have affected not only trade but also other aspects of the U.S. economy, with results including higher aggregate employment, lower prices, and greater consumer choice, as well as negative effects on production and employment in certain sectors.”

—United States International Trade Commission[8]

Data from the Office of the United States Trade Representative shows that in most cases, US exports to FTA partner countries have increased, sometimes quite sharply, as illustrated by the following examples:

Manufactured goods exports to Canada and Mexico have nearly quadrupled since NAFTA entered into force in 1994, from $126 billion in 1993 to $477 billion in 2015;

Manufactured goods exports to Chile have grown nearly six-fold since the US–Chile agreement entered into force in 2004, from $2.5 billion in 2003 to $14.6 billion in 2015;

Manufactured goods exports to Australia have increased nearly 80 percent since the US–Australia agreement entered into force in 2005, from $13 billion in 2004 to $23.3 billion in 2015;

Manufactured goods exports to Central America have increased since CAFTA agreements came into force from $14.6 billion in 2005 to $24 billion in 2015;

Manufactured goods exports to Peru have increased nearly 40 percent since the US–Peru agreement entered into force in 2009, from $5.6 billion in 2008 to nearly $8 billion in 2015.

Data analysis by the National Association of Manufacturers (NAM) also indicates that the rate of growth for US manufactured goods exports to FTA partner countries is generally faster than the growth rate of exports to non-FTA countries. NAM examined the rate of growth with FTA partners from 2001 onward compared to countries that did not have FTAs with the US. Only Singapore, the Dominican Republic, and Panama showed lower growth in purchases of US manufactured goods exports than non-FTA countries.[9] Singapore already had no tariffs and few trade barriers before the agreement, so dramatic movement was unlikely (though service exports have increased substantially).

Comparison of Growth Rates of US Manufactured Goods Exports to FTA and non-FTA Partners

FTA Partner	Entry into Force Date	Year 1[a]	Year 2[b]	Year 3[c]	Since Implementation (Through 2014)	Year Notes[d]
Jordan	2001 (17 Dec.)	23.7%	5.9%	33.3%	388.4%	2003, 2004, and 2005
Non-FTA Partners		*4.5%*	*6.3%*	*7.5%*	*91.4%*	*2003, 2004, and 2005*
Chile	2004 (1 Jan.)	44.2%	26.8%	21.3%	348.6%	2005, 2006, and 2007
Singapore	2004 (1 Jan.)	5.5%	16.5%	7.3%	53.4%	2005, 2006, and 2007
Non-FTA Partners		*7.5%*	*14.1%*	*12.7%*	*72.3%*	*2005, 2006, and 2007*
Australia	2005 (1 Jan.)	12.3%	8.1%	17.2%	69.0%	2006, 2007, and 2008
Non-FTA Partners		*14.1%*	*12.7%*	*12.6%*	*60.3%*	*2006, 2007, and 2008*
Honduras	2006 (1 April)	19.2%	4.7%	-32.0%	52.7%	2007, 2008, and 2009
Nicaragua	2006 (1 April)	18.3%	17.8%	-31.2%	63.0%	2007, 2008, and 2009
Bahrain	2006 (1 Aug.)	26.7%	43.1%	-20.5%	115.0%	2007, 2008, and 2009
Morocco	2006 (1 Jan.)	17.0%	57.8%	27.7%	164.4%	2007, 2008, and 2009
Guatemala	2006 (1 July)	16.8%	15.1%	-19.8%	72.5%	2007, 2008, and 2009
El Salvador	2006 (1 March)	6.8%	2.2%	-19.0%	51.2%	2007, 2008, and 2009
Non-FTA Partners		*12.7%*	*12.6%*	*-18.1%*	*40.5%*	*2007, 2008, and 2009*
Dominican Republic	2007 (1 March)	7.8%	-21.7%	21.5%	19.8%	2008, 2009, and 2010
Non-FTA Partners		*12.6%*	*-18.1%*	*17.7%*	*24.7%*	*2008, 2009, and 2010*
Peru	2009 (1 Feb.)	34.1%	24.3%	18.1%	100.1%	2010, 2011, and 2012
Costa Rica	2009 (1 Jan.)	9.5%	16.4%	21.2%	52.0%	2010, 2011, and 2012
Oman	2009 (1 Jan.)	-4.5%	28.3%	24.5%	77.8%	2010, 2011, and 2012
Non-FTA Partners		*17.7%*	*13.9%*	*-3.5%*	*35.2%*	*2010, 2011, and 2012*
South Korea	2012 (15 March)	1.8%	5.5%		7.4%	2013 and 2014
Colombia	2012 (15 May)	11.8%	5.1%		17.4%	2013 and 2014
Panama	2012 (31 Oct.)	4.9%	-5.1%		-0.4%	2013 and 2014
Non-FTA Partners		*3.3%*	*1.2%*		*4.6%*	*2013 and 2014*

[a] Calculated as the percentage change from the date before entry into force to first year after entry into force.

[b] Calculated as the percentage change from the date before entry into force to second year after entry into force.

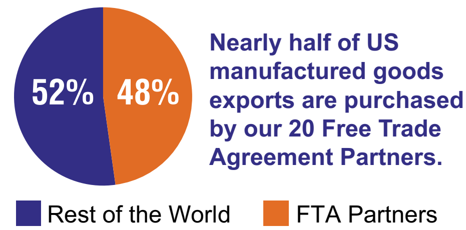
[c] Calculated as the percentage change from the date before entry into force to 2014.

[d] Dates for Year 1, Year 2, and Year 3

Source: US Department of Commerce

Analysis: National Association of Manufacturers as published in written statement February 5, 2016 to the US International Trade Commission Re Section 332-555 investigation, pages 3–4.

Share of US Manufactured Goods Exports by FTA and Non-FTA Markets, 2015



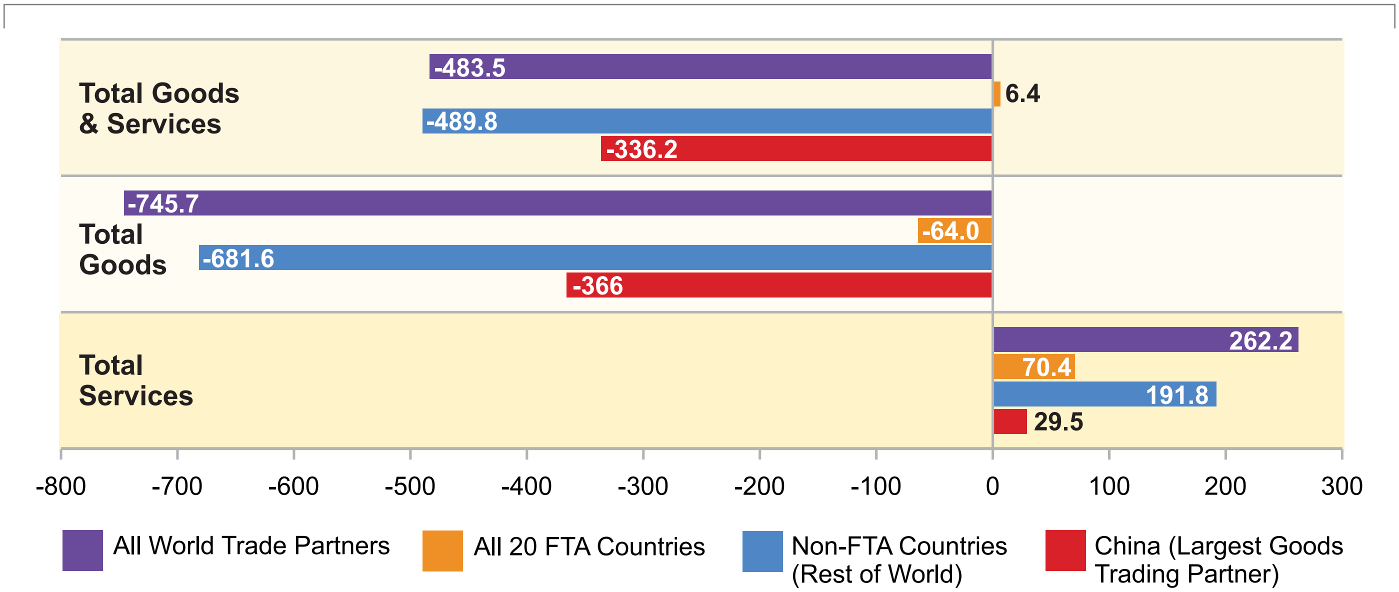
Source: US Department of Commerce
Analysis: National Association of Manufacturers as published in "Pre-Hearing Statement Before the U.S. International Trade Commission Submitted on November 4, 2015," page 8.

Delays in the entry into force of the Dominican Republic and Panama agreements may have contributed to the slower growth there, and Panama is an unusual case. The Panama FTA has not been the main factor driving recent trade there, since when the agreement entered into force in 2012, the Panama Canal was being expanded. Purchases of large amounts of construction equipment and other US goods for that project contributed to a rise in US manufactured goods exports, but when the job was done, Panama's imports dropped.

This raises an important point about interpreting the effects of trade agreements on the balance of trade with any given country. Trade agreements can contribute to movements in the balance of trade, both expanding and shifting their direction. But they are not always the prime reason why trade levels rise or fall. Those shifts are often the result of larger macroeconomic movements, where trade agreements may contribute but are not the essential cause, as was the case in the Panama Canal example cited above.

In the case of Israel, a large part of bilateral manufactured goods trade is in diamonds, reflecting the fact that New York is the world's major diamond wholesaler and Tel Aviv and Antwerp are the leading diamond-cutting markets. As a result,

US Trade Balance, 2015 (in Billions of US Dollars)



Sources: Bureau of Economic Analysis, US Department of Commerce; US Census Bureau (Census Basis)
Analysis: Office of the United States Trade Representative and Bay Area Council Economic Institute

large amounts of diamonds are shipped from New York to Israel for cutting and returned as higher value products, which gets reflected in the trade balance. So while the FTA helps grow two-way manufactured goods trade, the balance is heavily influenced by the structure of the diamond industry. Trade with Australia provides another example. The US-Australia FTA has made the US more competitive there, but trade balance shifts also reflect variations in the strength of Australia's economy. For many years, Australia enjoyed a commodity boom, based on surging exports to China. More recently as China's economy has cooled, so has Australia's economy and its commodity sector, which has reduced that country's purchases of US equipment. So caution is required when attributing causality to trade agreements—on the upside or the downside—when larger national or global forces are at work. The ITC's estimates of the positive effects of existing free trade agreements on the US trade balance, cited above, take these larger movements into account.

Taken together, nearly half of all US-manufactured exports are purchased by free trade agreement partners, though they account for only 6 percent of the world's consumers and less than 10 percent of the world's economy.[10]

In 2015, the US enjoyed a $6.4 billion goods and services trade surplus with its 20 free trade partners, compared with a $489.8 billion deficit with non-FTA countries. Currently, the United States' largest goods trading partner is China and its largest trade deficit is with China, which has no trade agreement with the US and was not a party to the Trans-Pacific Partnership.[11]

Investment also figures prominently in free trade agreements, where investment chapters provide protection for US companies abroad and foreign investors in the United States, by improving transparency in international transactions. These protections are important because investment overseas gives US companies better access to foreign consumers in their home markets, just as foreign investment in the US enhances the market access for foreign companies here.

For most US companies investing abroad, this doesn't mean leaving the US, but is instead an extension of their activity that complements operations at home. Studies of 2013 data from the US Department of Commerce Bureau of Economic Analysis show that domestic operations continue to account for a majority of their total (domestic and foreign) operations, producing more than 70 percent of their value-added, accounting for more than 73 percent of their total capital expenditures, performing more than 83 percent of their R&D, and accounting for more than 65 percent of their total employment. Contrary to popular belief, the vast majority of sales by the overseas affiliates of those companies are destined for markets outside the United States, not sales in the US.[12]

The record of existing FTAs shows an impact pattern for investment similar to trade with strong investment growth, both incoming and outgoing. Reflecting the larger scale of the US economy and the fact that barriers to inbound investment are generally higher overseas than domestically before agreements are signed, US investment in partner countries is typically on a larger scale than foreign investment into the US. Lately, however, inbound foreign direct investment (FDI) has been growing faster. In 2015, for example, the United States had $49 billion in outbound manufacturing investment, but $248 billion inbound.[13] FTAs may be a factor, as the International Trade Commission finds that FTAs tend to encourage inbound FDI more than outbound, by making it easier in some cases to export from the United States than to relocate overseas in order to serve local markets.[14]

This matters, as foreign direct investment in the United States supports approximately 6.1 million US workers, including 2.3 million in manufacturing.[15] According to the Bureau of Economic Analysis, FDI employs 665,000 Californians.[16]

What About NAFTA?

Trade critics point to NAFTA as a worst case example of the risks of international trade agreements, suggesting it has caused the shift of a significant portion of US manufacturing, particularly automotive, to Canada and Mexico. But a careful assessment tells a more complex story and points to a different conclusion.

When NAFTA was signed in 1993, Mexico gave up more tariff protection than the United States gave up overall, but different industry sectors have been impacted differently.[17] In the automotive sector, US International Trade Commission overall findings indicate that the tariff reduction, rules of origin, and investment provisions in NAFTA increased US automotive competitiveness and exports, due to the expansion of supply chains to include NAFTA partner countries.[18] However, this regionalization of the supply chain network also led to a net decline of automotive production and employment in the US.

Movements of parts and vehicles go in all directions. Of the imported components used in US manufactured cars—which support auto assembly here—the share that comes from Mexico is 37 percent. For their part, US parts manufacturers send 61 percent of their exports to Mexico and Canada for incorporation into vehicles produced there, meaning that cars imported from NAFTA partners include a high level of US content. This has led to a stronger, more competitive US automotive industry. Contrary to being in decline due to NAFTA, more than two-thirds of automotive investment in North America from 2010–2014 was made in the US.[19] These investments helped generate 264,800 new US jobs in vehicle and parts production from 2010–2016, a 40 percent increase in employment.[20]

Other traditional industries, such as steel, also report market access benefits as a result of NAFTA.

> “Turning to the impact of trade agreements implemented in recent years, NAFTA has been the most successful for the North American steel industry, providing increased access to our two closest and most significant export markets. It has resulted in strengthened North American manufacturing supply chains, especially with key customer groups such as the automotive industry. Overall, U.S. steel exports to NAFTA increased by 395 percent from 1993 to 2014.”
>
> —American Iron and Steel Institute (AISI)[21]

Far from “hollowing out” US manufacturing, domestic manufacturing output has doubled since NAFTA was signed, from $1.06 trillion in 1993 to $2.17 trillion in 2015, reflecting double digit growth in both durable and non-durable goods sectors including energy, chemicals, computers and electronics, miscellaneous manufactures, and transportation equipment.[22]

NAFTA also benefited the agricultural sector, as US agricultural exports now enter Mexico virtually tariff free. The benefits extend beyond tariff reduction, since NAFTA also reduced other barriers to US exports, such as Mexico’s import license requirements. Prior to NAFTA, about 60 percent of US agricultural exports to Mexico required import licenses and, overall, Mexico required import licenses on 230 products from the United States, affecting about 7 percent of the value of US exports to Mexico.[23]

On balance, the evidence points to a net benefit to the United States from the expanded and more integrated North American market that NAFTA has produced.

Do Trade Agreements Kill Jobs and Manufacturing?

Beyond NAFTA, critics claim that trade agreements more generally have gutted US manufacturing and killed middle class jobs. Again, a careful assessment finds that this is not the case.

Manufacturing overseas has grown substantially since the 1970s, as foreign governments sought to grow their manufacturing sectors for the same reasons we do in the United States—supporting innovation and providing well-paying jobs for their citizens. As discussed above, some of that production comes from US investment, as US companies seek to reach new customers, participate in overseas procurement and infrastructure projects, and participate in more efficient global supply chains. Analysis of recent data from the Bureau of Economic Analysis shows that 93.6 percent of total foreign affiliate sales by US manufacturers was not destined for the United States, but was sold in foreign markets.[24]

US manufacturing on the whole is healthy, and while foreign competition has clearly impacted the sector, it is not the core reason for the decline in manufacturing jobs. Evidence points to technology and increased productivity as the principal causes.

This is evident in California, which has more manufacturing jobs than any other state. As of March 2015, manufacturing employment in California totaled 1,271,672, representing 9.3 percent of the state's total employment.[25] In 2014, the average annual income reported for those manufacturing workers was $80,000, which is toward the upper end of California's wage spectrum.[26] Production in the state spans sectors from computers and electronic equipment to medical devices, pharmaceuticals, fabricated metal products and apparel. The size and structure of the state's manufacturing sector, and the issues that affect it, are analyzed in a recent Bay Area Council Economic Institute report, *Reinventing Manufacturing: How the Transformation of Manufacturing Is Creating New Opportunity for California*.[27]

Among its other conclusions, the study finds that manufacturing employment in California has declined nearly 40 percent from 1990 levels, similar to the national trend. It also sustains the findings of two earlier reports conducted by the Institute—*The Future of Bay Area Jobs: The Impact of Offshoring and Other Key Trends*[28] (developed in 2004 with A.T. Kearney, Joint Venture Silicon Valley Network, and the Stanford Project on Regions of Innovation and Entrepreneurship), and *One Million Jobs at Risk: The Future of Manufacturing in California*[29] (a 2005 study developed with support from McKinsey and Company)—which found that while offshoring was a factor, the fall in manufacturing employment was attributable primarily to efficiency gains in production processes. In other words, technology.

To be clear, the impacts of globalization cannot be dismissed, as lower costs abroad have attracted some manufacturers, particularly of lower-technology products (such as textiles, toys, and furniture) that are labor-intensive, and have low levels of embedded intellectual property. Other production, as already noted, has moved abroad to be closer to end customers, in the same way that most Japanese cars sold in the US market are now produced in the United States. These shifts, however, are rooted in economics more than trade agreements and are inexorable processes that will continue.

It should be noted in this context that much of the growth in manufacturing overseas has been in China, whose prominent role in global supply chains is enabled by its membership in the WTO, which sets baseline rules for trade. The United States does not have a free trade agreement with China, and China was not a party to the Trans-Pacific Partnership. Apart from low-end production—which is leaving China for less expensive countries (not the US)—much of China's engagement in high-value production involves the assembly of products (such as the Apple iPhone, an instructive example of how supply chains work) made with components designed in the United States and produced around the world (including in the US).[30] So even for China, which is the elephant in the room, calculating trade's impact on manufacturing is more complex than it first appears.

INSIGHT

Robotic Advances Drive Change in Manufacturing

Distinct from automation, industrial robots can work in unstructured environments, making use of sensors, vision software, sonar, and autonomous navigation technology to perform tasks—faster and more precisely—that in the past only humans could do. In recent years, approximately three quarters of industrial robots in use specialize in three tasks: handling operations (38 percent), welding (29 percent), and assembly (10 percent). Their cost has fallen sharply, particularly when compared to human compensation. A new generation of "co-bots" (collaborative robots that work alongside humans on the factory floor) is becoming available at even lower costs. Future developments will be enabled by the Industrial Internet (or Internet of Things), where computers and production equipment communicate with each other in real time, share information, and make decisions to ensure quality and prevent downtime. As this occurs, production lines will be digitally connected to supply, service, and distribution networks to maintain optimum production levels.

The data is from "2010 World Robotics," a survey made by the International Federation of Robotics as reported by Jean-Philippe Jobin, "Industrial Robots: 5 Most Popular Applications," Robotiq Company Blog, Feb. 2014, http://blog.robotiq.com/bid/52886/Industrial-robots-5-most-popular-applications.

How is technology impacting manufacturing jobs?

Change is occurring through technology-driven industrial transformations, under way in the US and other countries, that are changing employment patterns across the board, eliminating existing jobs as they create new ones, and changing job descriptions at a rapid pace. Much of this change is due to the digitization of the industrial economy. Automation and robotics are increasing the productivity of manufacturing plants, making it possible to produce higher levels of output with progressively fewer workers. (This process is discussed in more detail in the Institute's manufacturing report, *Reinventing Manufacturing*.)

Another recent study by the Center for Business and Economic Research at Ball State University calculated that between 2000 and 2010—a period when manufacturing employment fell by 5.6 million—productivity growth caused approximately 87 percent of overall job loss in manufacturing, while trade accounted for approximately 13 percent. (In two manufacturing sectors, apparel and furniture, the job loss share due to trade was higher, at about 40 percent).[31] These changes will continue with the expanding use of robotics and the diffusion of the Internet of Things throughout the industrial economy. As this happens, the need for manual labor will continue to shrink, and the skill levels required of manufacturing workers will increase as the management of IT-enabled processes becomes more prevalent.

This leads to two conclusions. One is that US manufacturing is not collapsing, and by and large is healthy. Mirroring the US as a whole—where manufacturing companies produced a record $2.2 trillion in value in 2015[32]—at $278.5 billion, California's manufacturing output today[33] is at its highest level in history. The second conclusion is that a healthy manufacturing sector need not be reflected in high employment, and in fact is increasingly consistent with lower levels of employment. While manufacturing employment may grow in the future (in California, it grew 3.1 percent from 2010–2014[34]) it will not return to the levels seen in the last century. Agriculture provides an instructive parallel, where production is vastly higher than in the past, but employs a much smaller percentage of US workers.

Today farmworkers account for less that 1 percent of all American workers[35], compared to 21.6 percent in 1930.[36] And the trend is continuing: between 2010 and 2013, US agricultural output increased 13 percent, while jobs in agriculture fell 15 percent.[37] As with manufacturing employment, this is largely due to technology.

The core issues underlying manufacturing employment have more to do with skills than trade or weakness in the sector. This, again, is due to technology; workers without computer skills who lose their jobs are likely to be replaced (though in smaller numbers) by workers who do have those skills. In the manufacturing sector between 2015 and 2016, after high-turnover sales positions, demand was highest for jobs in software engineering and development.[38] The US Department of Labor reported 337 thousand manufacturing job openings in August 2016 but only 227 thousand hires.[39] The Manufacturing Institute believes that in the next decade as many as two million manufacturing jobs will remain vacant due to a shortage of workers with the right technical skills, most in companies that have invested in advanced production technology.[40]

How has the manufacturing sector performed since FTAs have been in force?

If the decline in manufacturing jobs in the last two decades is primarily attributable to advances in technology, the suggested correlation of trade agreements with a declining manufacturing sector is at odds with the facts. In the period between 1980 and 2014, which saw NAFTA enter into force and China join the WTO, US manufacturing output more than tripled, reaching a record high of $2.2 trillion in 2015. Manufacturing exports had a roughly parallel growth trend line in the same period, increasing from $142.2 billion in 1980 to $1.3 trillion in the third quarter of 2015.[41]

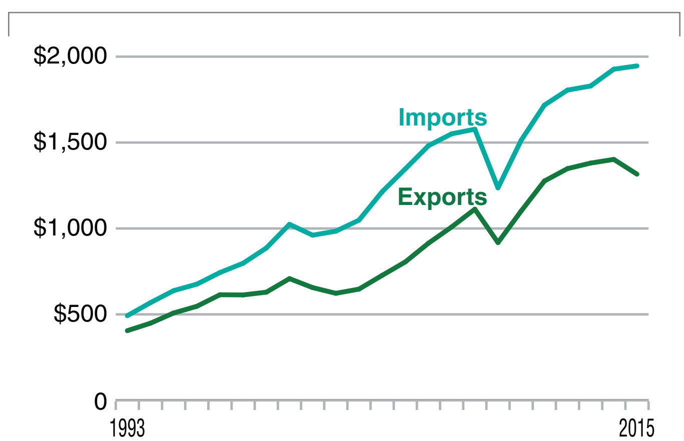
Since trade agreements have been in force, the trend has been similar for California's manufacturing sector, with growth in California manufactured goods exports since 1995 roughly paralleling the US manufactured goods growth trend.

Manufactured imports have also grown, and at a faster rate. They come in many forms, so assessing the impact is complicated. As the National Association of Manufacturers has pointed out, some compete with domestic US production, some take the form of intermediate goods that are incorporated into domestically-made products, and some come as finished products containing intermediate components produced in the US. These latter components constitute substantial valued-added input which is not always reflected in the way balance-of-trade statistics are reported.[42]

Clearly, some of those imports have displaced US manufacturing and workers. Their significance must be weighed, however, against the scale of change produced by technology and trade's larger, positive impact on competitiveness and employment in companies that participate in the export economy.

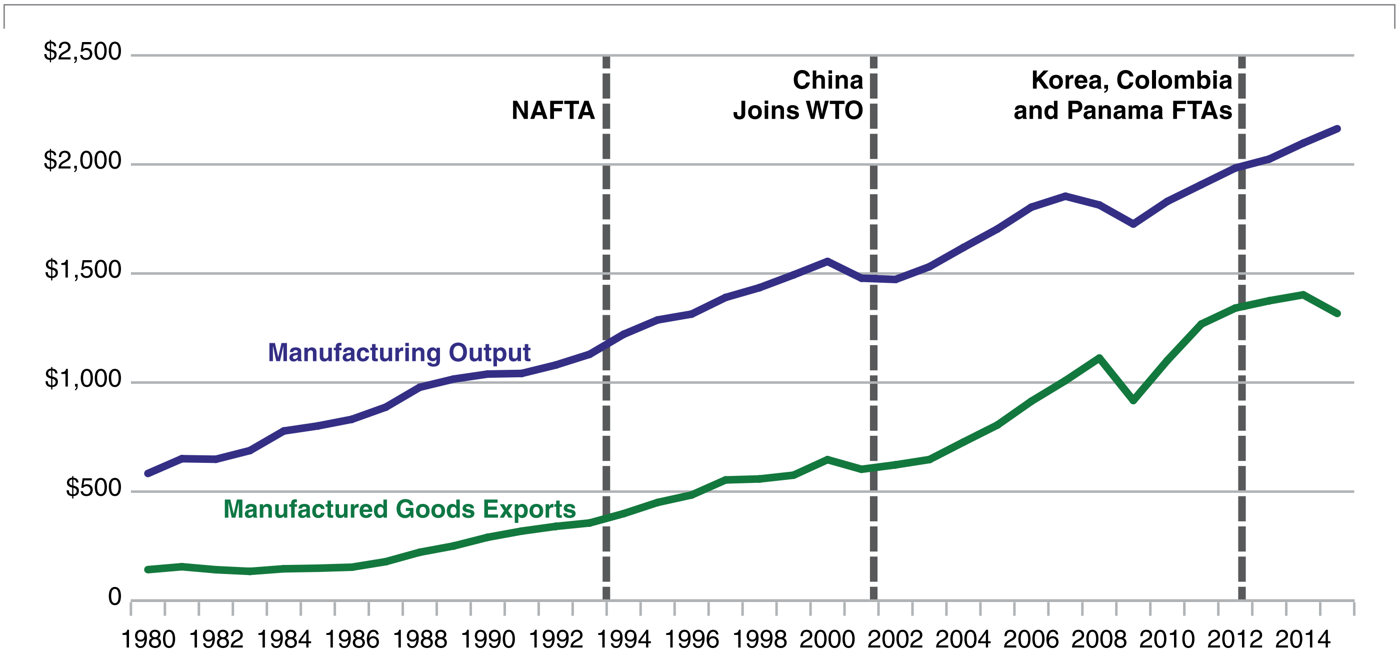
The positive influence of free trade agreements on the manufacturing trade balance is significant. According to US government data compiled by the National Association of Manufacturers Center for Manufacturing Research, US manufacturers sold $12.7 billion more in manufactured goods to FTA partners in 2015 than US companies bought from them. At the same time, the United States had a manufacturing trade deficit of $639.6 billion with countries where no FTAs are in place.[43]

US Manufactured Goods Exports and Imports, 1993–2014 (in Billions of US Dollars)



Data Source: US Department of Commerce
Analysis: National Association of Manufacturers

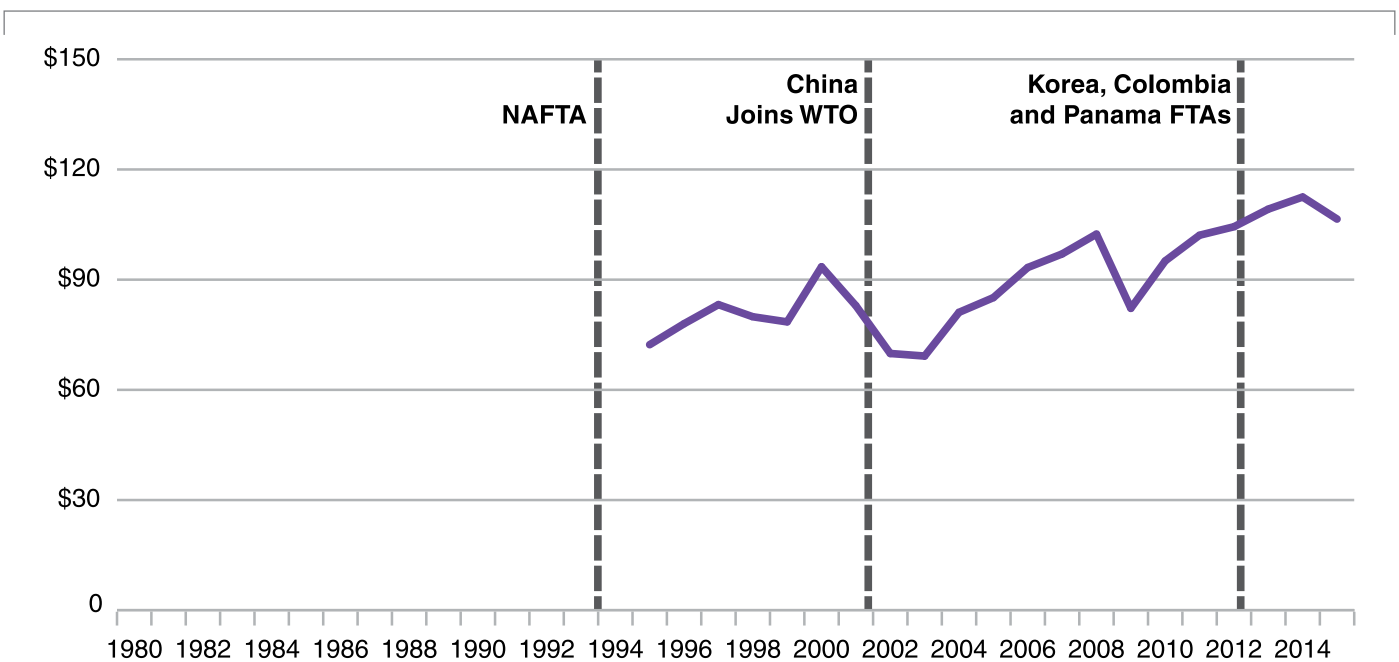
US Manufactured Output and Exports, 1980–2015 (in Billions of US Dollars)



Data Sources: Bureau of Economic Analysis, US Department of Commerce (2015 data through Q3), United Nations Database (for output data before 1997), World Trade Organization (for export data before 2002)

Analysis: National Association of Manufacturers and Bay Area Council Economic Institute

California Manufactured Goods Exports, 1995–2015 (in Billions of US Dollars



Data Source: US Census Bureau (California data previous to 1995 not available)
Analysis: Bay Area Council Economic Institute

Overall, at the national level, the existence of FTAs does not correlate with job loss. The opposite may actually hold. From 1992–2000, after NAFTA took effect, imports increased 240 percent, while total employment rose by 22 million and the unemployment rate fell. The 2001–2007 period, when most post-NAFTA FTAs were negotiated, saw the same pattern of growing imports but also growing employment.[44] These correlations are difficult to calculate, however, since a wide range of factors can explain job gains or job loss at the national level.

What is very clear is the benefit that manufactured exports bring to the economy. Exports support higher-paying jobs for an increasingly educated and diverse middle class workforce. A study by the MAPI Foundation using Bureau of Economic Analysis data found that jobs supported by manufactured exports pay on average 18 percent more than other jobs. Employees in the most trade-intensive industries earn an average annual compensation of $94,000, which is 56 percent more than workers in companies that are less engaged in trade.[45]

This pattern of higher employment and higher compensation can be seen even more prominently in women-owned and minority-owned businesses. According to the US Census Bureau's 2012 analysis, *Ownership Characteristics of Classifiable U.S. Exporting Firms*, women-owned businesses that export employ an average of 42 workers, with an average payroll of $42,717 per worker, while women-owned firms that don't export employ an average of 8 workers, with payrolls averaging $27,011 per worker.[46] Employment and payroll per worker are also much higher at minority firms that export. This is particularly the case for Asian- and Hispanic-owned firms, which show a higher propensity to export than white-owned firms and play a disproportionately large role in trade with the regions of their ethnic origin.

INSIGHT

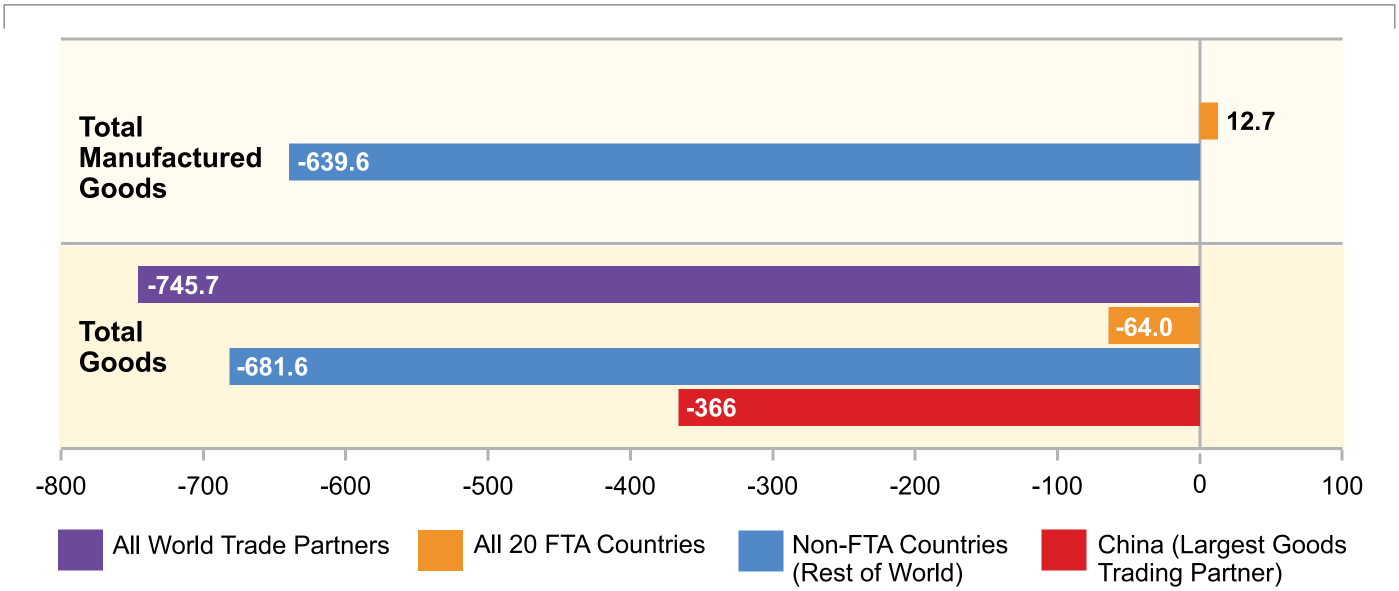
Comparative Advantage: Why It Makes Sense to Trade

If a hypothetical country were capable of producing all the goods and services that it needed, why would it still be beneficial for it to engage in trade? The idea of *comparative advantage* was developed by 19th century economist David Ricardo to answer that question, and his insight remains relevant today. Ricardo pointed out that what matters is not absolute production ability, but ability in producing one good relative to another. The Congressional Research Service explains this as follows.

"If one country produces a given good at a lower resource cost than another country, it has an *absolute advantage* in production. (The other country has an *absolute disadvantage* in its production.) If all productive resources were highly mobile between countries, absolute advantage would be the criterion governing what a country produces and the pattern of any trade between countries. But Ricardo demonstrated that because resources, particularly labor and the skills and knowledge it embodies, are highly immobile, a comparison of a good's absolute cost of production in each country is not relevant for determining whether specialization and trade should occur. Rather, the critical comparison within each country is the *opportunity cost* of producing any good—*how much output of good Y must be foregone to produce one more unit of good X*. If the opportunity costs of producing X and Y are different in each economy, then each country has a *comparative advantage* in the production of one of the goods. In this circumstance, Ricardo predicts that each country can realize gains from trade by specializing in producing what it does relatively well and in which it has a comparative advantage and trading for what it does relatively less well and in which it has a comparative disadvantage."

Congressional Research Service, U.S. Trade Concepts, Performance, and Policy: Frequently Asked Questions, RL33944, pages 1–2, https://www.fas.org/sgp/crs/misc/RL33944.pdf.

US Trade Balance for Manufactured Goods and Total Goods, 2015 (in Billions of US Dollars)



Sources: Bureau of Economic Analysis, US Department of Commerce, US Census Bureau
Analysis: Office of the United States Trade Representative, National Association of Manufacturers Center for Manufacturing Research, and Bay Area Council Economic Institute

How can we strengthen the manufacturing economy?

At the national level, incentivizing the repatriation of some of the over $2 trillion in profits that are parked at overseas affiliates of US companies[47] and lowering the corporate tax rate could make a difference. Companies are leaving profits overseas because of the United States' worldwide tax system and the US corporate tax rate, which at 35 percent is the highest corporate income tax rate among the 35 industrialized nations of the Organisation for Economic Co-operation and Development (OECD).[48] Adding state corporate tax increases the level to a net effective rate of approximately 40 percent,[49] a rate that is exceeded only by the United Arab Emirates and that is far above the 2016 worldwide GDP-weighted marginal corporate tax rate average of 29.5 percent.[50] Given tax incentives for investment in some countries and the availability of deductions that can lower effective tax rates, the calculation of effective tax is more complex. But it is clear that moving the US corporate tax rate to the 34-country trade-weighted statutory corporate tax rate average of OECD economies (27.9 percent in 2014)[51] or lower would incentivize more of those profits to be reinvested at home. A related strategy would involve opening a one-time window with even lower rates to encourage the return of profits earned abroad—on the condition that they be invested for specified purposes such as domestic production and worker training. Currently, with the cost of repatriation, US companies are incentivized to invest those profits overseas.

A related initiative, known as the "innovation box", would amend the tax code to incentivize domestic IP development and the return of R&D jobs and related manufacturing to the United States. Many other countries, including the United Kingdom, Ireland, Belgium, the Netherlands, Luxembourg, Hungary, Spain, Italy and China have similar tax programs designed to attract and retain domestic R&D, with rates ranging from 5 to 14 percent. One version of this concept, contained in legislation proposed in 2015 by Congressmen Charles Boustany (R-South Louisiana) and Richard Neal (D-Massachusetts), would take qualified intellectual property (patents, formulas, processes, design, and property produced using such IP) gross receipts, minus the cost of goods sold and expenses, and multiply it by the fraction of a company's budget spent on domestic R&D. That "Innovation Box Profit" would be subject to a tax rate of 10 percent, compared to the general corporate rate of 35 percent. This approach could also include the repatriation of appreciated IP held by foreign subsidiaries of U.S. companies, now a taxable event, at a zero tax rate.[52]

Improved retraining and support programs can also help dislocated workers. Some have questioned the effectiveness of the current Trade Adjustment Assistance (TAA) Program, which is designed to provide transitional assistance toward new employment. Douglas Irwin of Dartmouth College suggests that expanding the Earned Income Tax Credit (EITC) could be a better strategy for protecting low-income individuals, since it rewards work and staying in the labor market, where skills can be developed.[53] Other analysts, such as Robert D. Atkinson at the Information Technology & Innovation Foundation (ITIF), suggest wage insurance as an option.[54] This approach would replace a portion of lost wages for a transitional period and possibly include mechanisms for public contributions to personal accounts in order to enable affected workers to remain on track for decent retirements.[55]

Suggestions for how to specifically strengthen California's manufacturing sector, including regulatory changes and closer collaboration between industry and education to accelerate and better target skills training, can be found in the Economic Institute's 2016 California manufacturing report.[56] Whether at the state or federal level, targeted education and retraining that enables workers to continuously upgrade their skills in order in order to adjust to advancing technology and changing markets will be essential to American manufacturing and its employment base in the future.

On the trade front, the US would be better served by pushing for stronger enforcement of other countries' (and particularly China's) WTO commitments, or by using domestic trade law more effectively to strengthen reciprocal market access, than by foregoing the across-the-board trade growth that free trade agreements with other countries can provide.

Asia-Pacific Trade: Why TPP Still Matters

As its economies have grown in the past two decades, Asia has assumed an increasingly central role in US and global trade, both as a source of imports and as an export destination for goods and services purchased by a growing middle class. Intergovernmental organizations like Asia-Pacific Economic Cooperation (APEC) provide policy leadership and help to facilitate trade and investment at a technical level, but the rules of trade are set by the WTO and by a growing number of free trade agreements, which may or may not include the United States.

The provisions included in the proposed Trans-Pacific Partnership (TPP) had been positioned as the centerpiece of US strategy both to open markets and cement US economic leadership in the Asia-Pacific region. In addition to the US, the proposed agreement included 11 other countries (Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore and Vietnam) that together accounted for 36 percent of global GDP in 2014.[57]

Despite the fact that the United States is no longer a party to the Trans-Pacific Partnership, the provisions and principles that the agreement contained (and that continue as a focus for the remaining signatories) are both significant and relevant for trade policy going forward. The US withdrawal also leaves open the question of whether the 11 other countries might still proceed without the US (a real though difficult prospect), or whether another regional trade agreement—possibly one proposed by China—will eventually fill the void.

The trade liberalization provisions of TPP would have cut over 18,000 taxes or tariffs on US-made products that are exported. Most tariffs would have been eliminated immediately when the agreement entered into force, while others in sensitive areas such as dairy and agriculture, would have been phased out over time. Most tariff liberalization would have been complete by year 15 of the agreement. At that time, tariffs faced by US manufactured goods exports to TPP partner countries would have been almost entirely eliminated.[58]

The labor protections included in TPP were the strongest to be negotiated in any trade agreement to date and were enforceable. These provisions obligated the partner countries to protect the freedom to form unions and bargain collectively; to eliminate exploitative child labor; and to establish laws on conditions of work related to minimum wage, hours of work, and occupational health and safety. They would have quadrupled the number of people outside the United States who are covered by enforceable labor provisions. From this perspective, TPP effectively rewrote NAFTA by placing these provisions in the body of the agreement and making them enforceable (which NAFTA did not).

TPP's environmental protections were also the strongest in any trade agreement to date, requiring that partner countries enforce their environmental laws and not weaken them to attract trade or investment. Similar to the labor accords, they also effectively rewrote NAFTA by putting environmental provisions at the core of the agreement. Of special interest to the Bay Area and California from an environmental perspective, TPP's provisions also would have eliminated tariffs on environmentally beneficial products such as solar panels, wind turbines, wastewater treatment systems, and air pollution control equipment.

Other provisions in TPP would have benefited the economy and US leadership more broadly. A number addressed issues that are of particular concern to California and remain highly significant for the United States going forward:

Digital Trade: Protecting a free and open Internet is a core US interest. TPP provisions ensured the free movement of data across borders and barred data localization requirements, while protecting privacy and security. This would help to preserve a single, open, global digital marketplace, which is central for innovation and the free flow of information—an important objective of California's technology companies. It is also increasingly important for manufacturers, as automobiles, satellites, farm equipment and other goods now incorporate sophisticated software that communicates with US-based servers to fix problems and carry out tasks. TPP provisions included duty-free treatment for digital products delivered online (e.g., software and video), as well as for hardware (phones, tablets, laptops and game consoles). The digital market standards set by TPP also provided a precedent for US negotiations with the EU, where restrictions are on the table to require data generated within European countries to be held on servers located there, raising business costs and restricting data flows. Other provisions in TPP prevented governments from requiring the disclosure of source-code as a condition of doing business, which is a form of expropriation that can undermine the ability of companies to enter and compete in foreign markets.

Services Trade: TPP's service provisions offered what may have been the largest opportunity for American exporters—particularly with regard to Japan. These provisions committed the agreement partners to providing fair and equal treatment to foreign service firms seeking to enter their markets through trade or investment. New restrictions would not have been permitted. This is another core interest for the United States, where 90 percent of US workers will be employed in the service sector by 2030, according to Peterson Institute projections.[59] Tradable business services (including legal services, consulting, financial services, accounting, architecture, engineering, healthcare, and education) account for 25 percent of US employment— double the share of manufacturing—and are growing faster.[60]

This is particularly important for the Bay Area and California, where knowledge-based industries are the leading source of economic growth. While it is disadvantaged in some aspects of manufacturing trade, the US enjoys a strong comparative advantage in services, where its total services trade surplus was 262.2 billion in 2015.[61] An International Trade Commission model estimated that the US services sector output would have grown by $42.3 billion when TPP was fully implemented.[62] Using a different methodology, the Peterson Institute estimated services export growth of $149 billion.[63] The two analyses together suggest the range within which growth would have occurred.

Intellectual Property: Much of the United States' comparative advantage, in life sciences and technology for example, is based on intellectual property. TPP provisions included strong protections across all intellectual property areas: patents, trademarks, copyrights and trade secrets. Enforceable commitments were included to prevent trade in counterfeit goods, including branded goods where trademark integrity and control of logos is critical.

State-Owned Enterprises: TPP provisions required that state-owned enterprises not receive unfair subsidies or preferential regulatory treatment. This is an issue in countries where governments favor their own enterprises at the expense of overseas and private-sector competitors.

How these provisions would have impacted trade, the economy, and employment will never be known. The US International Trade Commission (ITC), however, developed a model to assess the impact of TPP relative to a baseline economic projection that did not include TPP. For the analysis, TPP entry into force in 2017 was assumed. The ITC estimates found that by year 15, when the agreement would have been fully in force, US exports to TPP countries would have totaled $57.2 billion, 5.6 percent higher than without TPP, and imports from TPP partners would have been $47.5 billion, 3.5 percent higher. The ITC estimated that this would have increased US real income by $47.2 billion, or about 0.15 percent.[64]

Some analysts think these numbers are low. The World Bank produced a higher estimate of expected US GDP growth, at 0.4 percent.[65] The Peterson Institute for International Economics estimated that in the United States, TPP's "real income gains" effect (which is similar but not identical to gains in real GDP) would have been an increase of 0.5 percent of GDP when fully implemented in year 15.[66] While these numbers don't appear dramatic, they are significant in light of the US average GDP growth rate of barely two percent between 2010 and 2015.[67]

Regarding employment, the Peterson Institute estimated that the agreement would have raised real US wages but would not have significantly changed employment levels. In their estimate model, while value-added production and employment in manufacturing would have continued to grow,121,000 fewer US manufacturing jobs would have been created than in the baseline case; these would have been offset, however, by roughly the same number of new jobs created in the service and primary goods sectors.[68] Estimates of trade and FDI impacts for each of the TPP partner countries including the United States can be found in Table 3 of the Petersen Institute's initial chapter (by Peter A. Petri and Michael G. Plummer) in Volume 1 of *Assessing the Trans-Pacific Partnership* online at https://piie.com/system/files/documents/piieb16-1.pdf#page=16

Understanding Dispute Resolution

Critics of TPP raised concerns about its Investor-State Dispute Settlement (ISDS) provision, claiming that it limited sovereignty by opening the door to investor suits in cases where treaty rights are claimed to have been infringed, potentially forcing countries to change their laws or overturn court decisions. These criticisms are not well-founded. ISDS provisions are designed to protect investors against expropriation and unfair treatment, and such provisions are currently included in more than 3,000 existing agreements involving 180 countries;[69] the US already has ISDS agreements with 6 of the 11 other TPP parties.[70] These provisions provide a neutral, legal mechanism for dispute resolution, which can be important in countries that suffer from corruption or where the rule of law is weaker.

TPP's provisions explicitly confirmed that every country retains the right to regulate in its public interest, including health, safety, financial and environmental protection. Other ISDS provisions were designed to deter cases that are not merit-worthy and to allow the public (e.g., labor unions and environmental organizations) to participate in cases through amicus briefs. A successful case could require a government to pay damages but could not require it to change its laws. The vast majority of international cases where ISDS has been invoked have related to administrative treatment of investors, as opposed to legislation, and have not been successful. Over past decades, the United States has had only 13 ISDS cases brought against it and has won all of them.[71]

Writing Global Rules: We Are Not Alone

The United States has championed open global markets and transparency in international transactions. US companies and consumers benefit from this rules-based competitive landscape, which reduces the scope overseas for anti-competitive behavior by private companies and manipulation by governments. The advances cited above in intellectual property protection and rules for state-owned enterprises and data movement, as well as the labor and environmental protections, are good examples embedded in TPP.

The United States is not the only game in town when it comes to trade agreements, and now that the US has formally withdrawn from the Trans-Pacific Partnership, others who do not share the same market values are positioned to fill the void—with outcomes that could undermine US economic leadership and interests. In particular, China has proposed a Regional Comprehensive Economic Partnership (RCEP) with 16 Asian countries, including seven signatories to TPP. Taking Japan as an example of what could happen if RCEP advances in the absence of TPP, the Council of Economic Advisers has estimated that China would see substantial tariff cuts in the Japanese market in the range of 5–10 percent, with the average tariff on goods covered by RCEP falling to less than half the average rate faced by the same products exported from the US. Should that occur, 35 industries that employ nearly 5 million US workers and sell a combined $5.3 billion in goods to Japan each year would become significantly less competitive, with goods not just from China but from other RCEP members.[72]

These estimates are very conservative because they include only goods exports and tariff differentials and not services. An array of countries are involved in addition to Japan, so if RCEP advances in the absence of TPP, the negative implications for US companies and their workers would likely be much greater. China, like the United States, is understandably looking to expand its leadership in Asia and to advance the interests of its companies. The United States is under no less an obligation to protect and assert the interests of US companies and workers, as TPP would have done.

> “If TPP did not pass, the United States would not only forego substantial economic gains, but would also face trade diversion and enjoy less market access compared with other countries such as China. RCEP will provide its member countries with improved access to the markets of seven countries that are members of the TPP, putting U.S. exporters at a disadvantage and threatening the billions of dollars of exports the United States currently sells in the region…”
>
> —Council of Economic Advisers[73]

Asian Trade and California

California is the second largest exporting state in the United States.[74] Because of this, policies or agreements that open overseas markets have great potential impact. Tapping into those markets is important to companies throughout the state. Studies conducted by the Bay Area Council Economic Institute from 2003 through 2014 show that consistently, with only a short pause during the recent global recession, the share of the region's leading companies' revenue from international sales has risen, while the share of revenues from domestic sales has fallen. This finding confirms the growing dependence of these companies and their workers on access to global markets.

This is particularly the case with respect to Asia, California's largest export market. For nearly two decades, Asia's major economies have grown an average 5 percent per year, and some much faster. In 1990, Asia's share of world GDP was 23.2 percent; in 2014 it was 38.8 percent—a figure expected to grow to more than 45 percent by 2025. This is reflected in an expanding middle class with increasing purchasing power. In 2009, the Asia-Pacific region accounted for approximately one-third of the world's middle class population; by 2030 it is expected to account for 65 percent.[75] Reflecting this, 9 of California's top 15 export markets are currently in the Asia-Pacific region and 5 of them are among the originally proposed TPP partner markets.[76]

Exports supported 11 percent of California's workforce in 2015.[77] In that year, the state produced $143.87 billion in manufactured goods alone, of which $60.56 billion was exported to current free trade partners.[78] The provisions included in TPP could have been expected to increase those numbers, and the jobs that would have come with them. This is particularly true for blue-collar jobs. In addition to jobs in export industries, trade supports nearly 558.8 thousand California jobs in transportation and warehousing, based on imports as well as exports, that paid an average annual salary of $43,678 in 2015.[79]

SPOTLIGHT

CA BOTANA International, Inc.—a San Diego-based company with 25 employees that is involved in the research, development and manufacturing of advanced natural skin care products—exports to more than 60 countries. The 60 percent share of the company's sales that are outside the United States support its increased production and workforce. CA BOTANA's president, Ursula Wagstaff, says, "We are selling and exporting because we produce world-class products, but we could be doing so much better if barriers overseas were eliminated. However, that would take new free trade agreements and the United States has been sitting on the sidelines…NAFTA and our FTA with Singapore in particular have helped CA BOTANA grow sales and support our U.S. operations.… more market-opening trade agreements will help manufacturers across California increase overseas sales and support manufacturing growth."[80]

SPOTLIGHT

Varian Medical Systems is the world's leading manufacturer and supplier of medical devices and informatics software for treating cancer and other medical conditions with radiotherapy, radiosurgery, proton therapy and brachytherapy. It is also a premier supplier of high-energy x-ray equipment used for cargo inspection, security applications and non-destructive testing. Headquartered in Palo Alto, the company has 6,800 employees located in California and 7 other states. Exports constitute 55–60 percent of Varian's annual sales, and its major export destinations include Japan, China, France, UK, India, Brazil, and Germany. Varian reports that access to global markets is critically important to its success, as many of its fastest growing markets exist overseas; elimination of tariffs, reduction of non-tariff barriers, and assurance of regulatory coherence provided by trade agreements such as TPP are necessary to allow Varian to compete internationally on a level playing field.[81]

At the higher end of the skills and income spectrum, a 2016 study by the UC San Diego School of Global Policy and Strategy linked 150,000 high-wage jobs in the San Diego region to exports in the manufacturing and innovation sectors. Of those jobs, 32,000 are in the scientific R&D sector with average annual wages of $175,000 and 107,000 are in the manufacturing sector with average annual wages of $81,000. The study found that more than 97 percent of the San Diego region's exports—primarily high-value advanced manufacturing products with an aggregate value of $22 billion—are sold in TPP markets. It concluded that export growth resulting from TPP would have delivered real rising wages for San Diego's workers in the manufacturing and innovation sectors.[82]

The intellectual property provisions in TPP are particularly significant for technology companies. As the global leader in innovation, the United States has consistently maintained a surplus in license, royalty and other fees derived from the use of intellectual property. In 2015, US companies' intellectual property receipts were $12.6 billion, compared to payments of $39.5 billion.[83] The largest categories are for the licensing of industrial processes and computer software, both of which are based on payments for the use of patented technologies.

Disproportionately, those technologies are generated by Bay Area and California companies. According to US International Trade Commission surveys, 75 percent of large firms and 50 percent of small and medium-sized enterprises see intellectual property infringement as a significant barrier to trade.[84] IT, life sciences, media content, and advanced manufacturing are sectors where California leads and has a major stake in open global markets. Young, entrepreneur-led startup companies, whose products are based on IP and who are ambitious to grow globally but lack the resources to defend themselves against theft in other countries, particularly stand to benefit.

Those companies' ability to grow overseas impacts revenues and hiring at home. The Bureau of Labor Statistics has estimated that software publishing jobs will grow at an annual rate of 3.1 percent through 2020 and that the software sector as a whole will grow almost 9 percent annually.[85] In a first for any trade agreement negotiated to date, the provisions included in TPP were designed to ensure that enforcement would apply to both online and offline services. BSA | The Software Alliance estimates that reducing software piracy by even 10 percent could add 25,000 new high-paying jobs, $38 billion in new economic activity, and $6.1 billion in tax revenues to the economy over four years.[86]

SPOTLIGHT

CTC Global, an Orange County producer of conductors that improve efficiency in power lines, exports more than 80 percent of its production. Like other California companies that have grown and are succeeding in export markets, it is a technologically-enabled producer of high-value products. With 130 employees, automation has helped it produce cost-effectively in the US. Its chief operating officer, Marv Sepe, notes that "anything that would hamper our ability to sell into foreign markets would impact us greatly," and that TPP would have helped to open doors.[87]

SPOTLIGHT

Headquartered in Los Angeles, **Bobrick Washroom Equipment, Inc.** is the world's leading manufacturer of restroom accessories for commercial buildings. (Its Koala Kare brand is a familiar sight for most people who transit airports.) The company's products are manufactured in California, Colorado, New York, Oklahoma, and Tennessee. While selling extensively throughout the US, Bobrick has also expanded its global focus, exporting products to more than 100 countries in Europe, the Middle East, Africa, Asia, and Latin America. Alan Gettelman, Bobrick's vice president for external affairs says, "Free trade agreements have lowered many of the tariff and non-tariff barriers that Bobrick has faced overseas, allowing us to improve access to these markets and increase our competitiveness. The elimination of all manufacturing tariffs under TPP would level the playing field for our company's exports to these countries, allowing us to boost sales of products crafted throughout the United States."[88]

The case studies cited here come from small and medium-sized companies. At the other end of the spectrum, large companies are deeply embedded in global markets and have as much or more to gain from free trade agreements such as TPP. Intel, for example, manufactures three-fourths of its products in the United States, but three-fourths of its revenue is generated from sales overseas, making access to those markets critical to its future.

Agriculture would have been another important beneficiary. According to the American Farm Bureau, having TPP in effect would have allowed annual net farm income in the United States to increase by $4.4 billion, driven by $5.3 billion per year in new exports.[89]

> “Trade agreements have helped level the playing field and grow U.S. wine exports by 1,420 percent, from $98 million in 1989 to nearly $1.5 billion last year.”
>
> —Wine Institute, 2015.[90]

California is the largest agricultural producing state in the nation in terms of cash receipts,[91] which totaled $54 billion in 2015.[92] At full implementation, an agreement similar to TPP should increase California's cash receipts and net exports by $1.1 billion and $924 million respectively, adding close to 7,000 jobs. This would be particularly important for California's Central Valley, which has the highest unemployment in the state. A wide range of products, including fruits and nuts, vegetables, beef, rice, dairy, and processed food would benefit from the elimination of tariffs.[93] US wineries, most in California, shipped over $641 million in wine to TPP countries in 2014, representing over 40 percent of total US wine exports; provisions in a future agreement similar to those included in TPP would allow those numbers to grow.[94]

Japan, which has historically maintained high barriers to agricultural imports, is particularly important. Under the provisions of TPP, Japan would have opened its highly-protected markets for beef, pork, wheat, rice, and dairy products for the first time. Its tariffs on cheese, which run as high as 40 percent, would have been eliminated. Other tariffs that would have been eliminated include those on whey and whey protein, cherries (currently 8.5 percent), nuts (currently 2.4–10 percent), grapes, avocados, strawberries, blueberries, kiwi and watermelon (as high as 17 percent), oranges (16–32 percent), and other fresh fruit (as high as 17 percent). Japanese tariffs on ice cream, yogurt, blue cheese, and whole milk powder, now as high as 35 percent, would have been reduced 50 to 90 percent.[95]

SPOTLIGHT

ALOM, a global contract assembly, packaging and supply chain company based in Fremont, exports from three US and 14 other locations around the world. Clients include technology companies in the automotive, medical, telecommunications, technology, and energy/utility industries that sell their products in the US and overseas. ALOM and its customers benefit from the lower tariff and non-tariff barriers and the transparent rules-based environment that free trade agreements bring. According to the company's president Hannah Kain, "TPP will aid ALOM in expanding our business into more TPP countries—beyond our growing business in places like Australia, Canada and Mexico—in turn enabling ALOM to support more jobs here in the United States."[96]

SPOTLIGHT

Paulson Manufacturing, a producer of personal protective equipment for the military, police and fire, industrial, electrical safety, and sports markets, maintains a research and development laboratory and tooling division in Temecula, employing 180 people. Twenty-five percent of sales and payroll go to international markets, where Paulson sells to more than 80 countries. The company's CEO, Roy Paulson, observes that "Recent free trade agreements with South Korea, Colombia and Panama broke down restrictive and stifling trade barriers with those countries. The lowered tariffs allowed me to offer products at significantly more competitive prices to a new customer base. The countries involved in the new trade agreements promise even greater benefits due to the size and impact of their global markets."[97]

Conclusion

On balance, free trade agreements have benefited the United States, and US workers. This is true of both bilateral and multilateral agreements. These agreements have been negotiated by the US to advance US interests, and accordingly reflect US values and objectives. They also reflect an alignment of interests with our negotiating partners, who similarly benefit from growing trade. Contrary to what some have asserted, there is no evidence that bilateral agreements are inherently superior to multilateral ones, or that free trade agreements have been abused or manipulated by our partners. By virtue of their scale, multilateral agreements can in fact deliver strategic benefits to the US that bilateral ones may not.

There is no escaping or walling ourselves off from the global economy. Global competition produces change and disruption, but also opportunity—something familiar to the Bay Area and California, which have thrived based on the new technologies and business models. Our interests in trade and the global economy could hardly be greater, and where the US fails to lead, we are at risk of losing, especially if countries we compete with have alternative proposals that do not include the US.

Despite the formal withdrawal of the US from the Trans-Pacific Partnership, the principles that TPP advanced continue to promise net benefits for the US economy and for American workers. Rather than being discarded, those provisions should remain on the table for consideration in successor agreements. Trade agreements are about creating a larger pie, based on transparent rules that open opportunity, and about leveraging comparative advantage in tradable goods and services. As that occurs, firms that are more competitive in global terms will grow and hire, while firms that are less competitive may not. This is similar to the job and business churn that occurs in the domestic economy every day and reflects the fact that our economy is increasingly global and connected. It is also being changed by advancements in technology. There is no dialing this back.

It is important, therefore, that government and private sector leaders begin a long-term conversation not just about trade, but about the structural changes under way in the economy that will impact competitiveness and employment on a much larger scale. We need to overhaul Trade Adjustment Assistance (TAA), the federal program that provides transitional help toward new employment for dislocated workers. But beyond that, our country also needs a comprehensive, bipartisan strategy for how to transition workers who are affected by both global competition and the dramatic changes that technology is producing across the economy.

Anxiety that trade agreements are responsible for these dislocations is misplaced. The evidence is compelling that California and the nation, through competitive companies and their workers, benefit from more open trade, particularly with Asia, and that multilateral and bilateral trade agreements can contribute powerfully to that process. Addressing the impacts of global competition and of the technology-driven changes that are transforming both industries and jobs—changes that are not caused by trade agreements—is an important and complex task that should be on the national agenda. But the US should not back away from trade agreements or abdicate its role as the leading global advocate for free and open markets.

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