

GLOBAL MACRO SHIFTS

with Michael Hasenstab, Ph.D.

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TRADE AND TAXES IN A
WORLD WITH BORDERS



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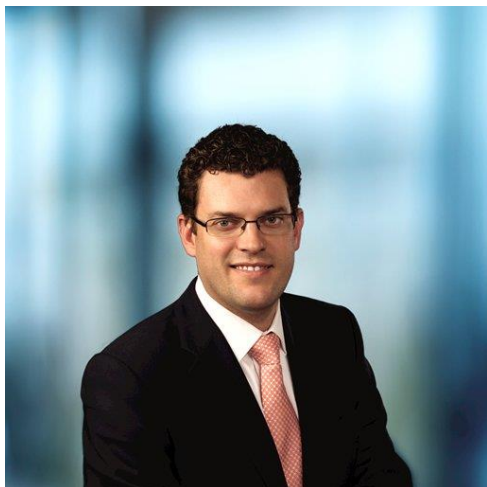


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Global Macro Shifts

Trade and Taxes in a World with Borders



Michael Hasenstab, Ph.D.

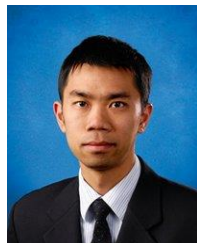
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Global Macro Shifts is a research-based briefing on global economies featuring the analysis and views of Dr. Michael Hasenstab and senior members of Templeton Global Macro. Dr. Hasenstab and his team manage Templeton's global bond strategies, including unconstrained fixed income, currency and global macro. This economic team, trained in some of the leading universities in the world, integrates global macroeconomic analysis with in-depth country research to help identify long-term imbalances that translate to investment opportunities.



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Overview

The new US administration's two central economic goals are promoting growth and reviving domestic manufacturing. While there are many different aspects to the reform agenda, a lot of controversy has centered on the corporate tax reform plan favored by the House GOP, which aims at linking both of these objectives from the administration. It would, in theory, promote growth by lowering the corporate tax rate, and encourage domestic manufacturing by discouraging imports. While there is little debate on the need to reduce the statutory corporate income tax rate, the introduction of an import-targeted "border adjustment" (BAT) to it, has been far more divisive. The BAT would exempt export revenues from taxable income while taxing domestic sales, allowing producers to deduct the cost of domestic inputs (including labor) in calculating the tax base but not imported inputs. Because the BAT is expected to generate considerable revenues, it would help pay for substantially lower statutory rates, paving the way for an ambitious tax reform. Clearly, given its impact on exports and imports, the BAT could also have potentially broad implications for trade. This paper is broadly based on the House GOP tax plan; we would note that eventually some form of a BAT could come with a different name tag such as a "reciprocal tax."

Overall, the reform would shift from a worldwide system to a territorial system, based on where consumption occurs rather than where production takes place; from a system that allows interest deduction to one that largely ignores financial flows; and from a tax on income toward a tax on consumption.

While border adjustment would be a new feature for the US tax system, most other countries already have it in the form of a value added tax (VAT), a consumption tax that has a border adjustability component. In terms of its economic impact, the BAT would be equivalent to adopting a VAT while eliminating payroll taxes.

Since it could boost the competitiveness of US firms, the BAT would likely generate international tensions. Furthermore, while the World Trade Organization (WTO) currently allows border

adjustment for indirect taxes (such as the VAT) it does not allow this for direct taxes; the BAT would thus trigger complaints and possibly retaliatory measures. But as the BAT can be shown to be equivalent to a VAT with an additional deduction for payroll taxes, the US could argue that it is merely moving to level the playing field and that the current WTO rules are indefensible on economic grounds.

If implemented along the lines of the GOP blueprint, the overall tax reform could give an important long-term boost to US productivity, competitiveness and economic growth. The resulting simpler tax system with lower statutory rates would represent a major and long-overdue improvement in the business environment. Moreover, the shift to a territorial system would eliminate the current incentive for US corporations to keep profits offshore, and could come together with the opportunity for repatriating substantial accumulated offshore profits at a one-off low rate.

Over the long run, the US dollar exchange rate should appreciate to offset the competitiveness impact of the tax. In the short and medium term, however, the adjustment would likely be only partial; this partial exchange rate adjustment would result in an increase in the price of imported goods, with a temporary boost to inflation that we estimate could be around one percentage point (pp).

In the remainder of this paper, we explain how the BAT would work; we assess its likely impact on prices and exchange rates; we discuss its effect on the longer-term macroeconomic outlook, in the context of its fiscal and trade policy ramifications; we outline the fallout on different sectors of the US economy and on trade flows; and finally, recognizing that a BAT would likely raise international tensions, we address and evaluate the risk of trade wars.

1. Understanding the Border Adjustment Proposal

The BAT forms a cornerstone of the GOP corporate tax reform plan, which in turn is seen as an important driver of the post-election surge in business confidence. The overall corporate tax reform plan would shift from a tax on income toward a tax on consumption; from a worldwide system to a territorial system (in other words, the tax would be based on where consumption occurs rather than where production occurs); and from a system that allows a deduction for interest income to one that to some extent ignores financial flows.

On current plans, the border adjustment aims to bolster the global competitiveness of US industries in two ways: (1) by generating sufficient revenue to fund a significant cut in the statutory corporate tax rate, from the current 35% [one of the highest among countries in the Organisation for Economic Co-operation and Development (OECD)] to 20%; and (2) by eliminating the

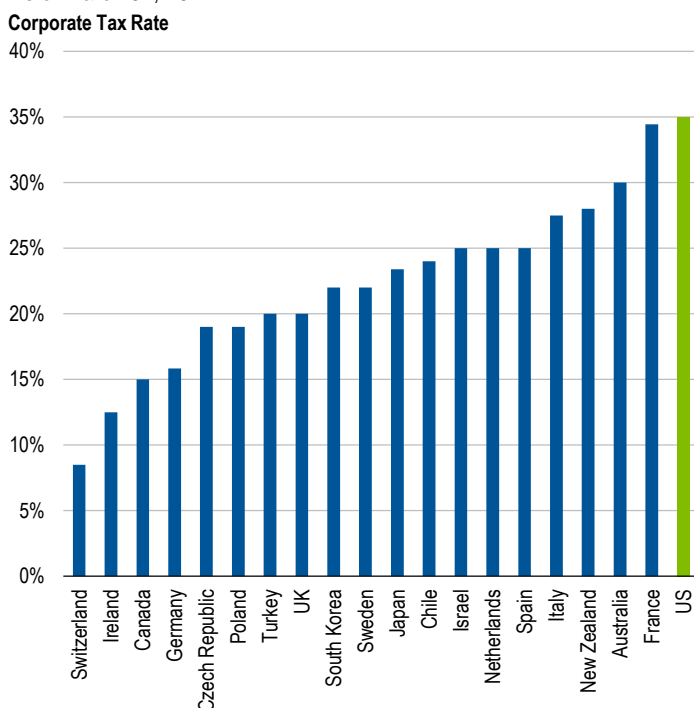
competitive disadvantage that US companies now suffer from being subject to a worldwide income tax differently from companies headquartered in most other countries.

The border adjustment proposal has generated a lot of confusion and controversy. This paper aims to clarify how the tax would work, assess its likely impact and discuss the criticisms raised against it.

The proposed corporate tax reform has other features, such as allowing for full immediate expensing of capital expenditures (currently 50% in the first year and the remaining on an accelerated depreciation schedule) and eliminating the net interest deduction (with ongoing discussions on the potential impact on financial sector firms and possible adjustments needed); however, these initiatives are not the focus of this paper.

High Statutory Corporate Tax Rate Relative to Peers

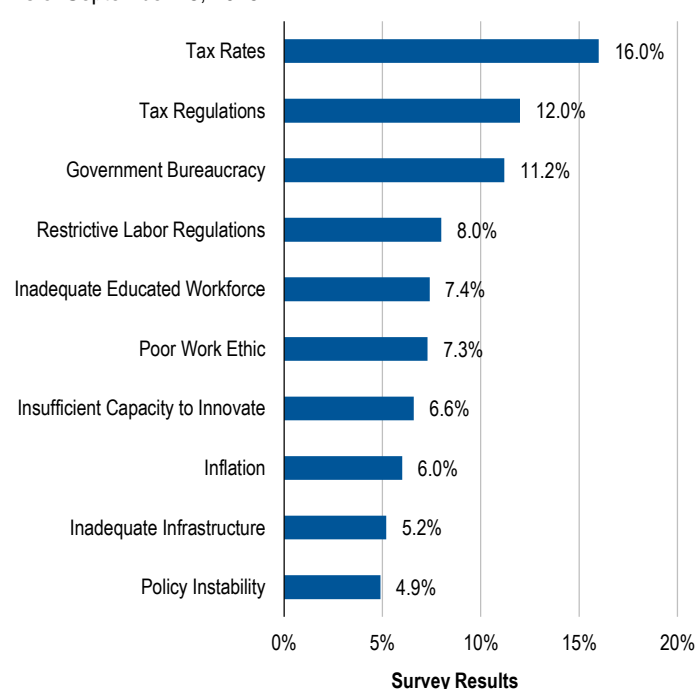
Exhibit 1: Corporate Income Tax Rate, Selected OECD Countries
As of March 31, 2017



Source: OECD, Tax Database, accessed on 3/31/17.

Perception of the US Tax System: The Global Competitiveness Report

Exhibit 2: US Top 10 Problematic Factors for Doing Business
As of September 28, 2016



Source: World Economic Forum, Global Competitiveness Report, 2016–2017.

How the Border-Adjusted Tax Would Work

In the new corporate income tax envisaged in the GOP reform blueprint, the border adjustment would work as follows:

1. Revenues from exports would be exempt from the taxable base for corporate tax.
2. The cost of domestic inputs would be subtracted from the tax base, but the cost of imported inputs would not.

Essentially, in the new regime the statutory corporate tax rate would be reduced from the current 35% to 20%, but to the extent a company exports its products, its revenues would not be subject to the tax. On the other hand, in calculating their taxable income, companies would no longer be allowed to deduct the cost of imports, thus implying a lower tax rate, but on a larger base than under the existing regime.

This border adjustment, while a new feature in the context of the US tax system, is common in international taxation. In particular, the VAT already adopted by all developed countries apart from the US has the same feature. The VAT works as follows: At every stage of production, VAT gets charged on the value of the product minus the cost of inputs. For example, when a tire manufacturer sells tires to a carmaker, the government charges VAT on the price of the tires minus the cost of rubber and other inputs—the “value added” by the tire manufacturer. The carmaker pays the tax as part of the price, and the tire manufacturer collects it and remits it to the government. The carmaker then builds the VAT it paid into the car price. When the carmaker sells the car to a domestic consumer, the government charges VAT on the price of the car minus the cost of the tires and other inputs—that is, on the value added by the carmaker.

At every stage, the seller collects a portion of the tax and remits it to the government. The tax gradually builds into the price; at the end of the chain, the final consumer bears the full burden of the tax.

If the carmaker exports the car, the government does not impose VAT on the final product, and refunds to the carmaker the tax paid. This makes the producer indifferent between selling at home or abroad: in the former case the consumer pays the VAT; in the latter the government reimburses it. Since the export price does not include tax, the importing country’s government imposes VAT on the entire value.

In summary, a VAT taxes imports and exempts exports—a border adjustment.

The border adjustment in the corporate income tax, therefore, has the same economic effect as a VAT.

The GOP corporate income tax proposal has an additional feature: it would exempt from the tax base all domestic inputs, including labor; a VAT instead taxes labor as part of the value added. This, however, does not affect the border adjustment.

In essence, the introduction of the border-adjusted corporate income tax would be equivalent to adopting a VAT while eliminating payroll taxes.

By exempting exports and taxing imports, a border-adjusted tax levies revenue on the trade deficit—we can think of the trade deficit as the tax base.

For purely domestic companies, namely companies which only use domestic inputs and sell their entire output in the US market, the border adjustment would have no direct effect. Instead, domestic companies would be impacted by the rate reduction and other elements of the corporate tax reform proposal such as the ability to immediately write off capital expenses and the inability to deduct net interest expenses. For companies importing or exporting products, the BAT would have an impact both directly—by changing the tax base—and indirectly, through any exchange rate changes that result from the BAT.

At least three reasons make the BAT a controversial policy proposal:

- **Politically contentious:** All tax reforms create winners and losers, but the border adjustment aspect raises the stakes for exporting and importing sectors (as illustrated by heavy lobbying efforts).
- **Uncertain economic implications:** The economic adjustment could potentially be disruptive to prices, profits, supply chains, trade flows and exchange rates. We would note, however, that all other advanced economies already have survived the imposition of border-adjusted consumption taxes (VATs), and have adjusted.
- **WTO compliance:** The WTO currently allows border adjustment for indirect taxes but not for direct taxes. The border-adjusted corporate income tax would therefore seem to be in violation of WTO rules; this could trigger complaints and retaliatory measures. However, as we noted above, the GOP proposal would be exactly equivalent to a VAT—which the WTO allows—plus the elimination of the payroll tax, a purely domestic tax decision that the WTO would have no jurisdiction over. WTO objections would therefore seem to have no defensible economic basis.

2. Impact on Exchange Rates and Prices

Economic theory tells us that a border-adjusted tax, such as a VAT, should have no long-term impact on trade flows. The trade balance by definition equals a country's savings-investment balance. While a VAT, as a tax on consumption, would encourage savings, it would also encourage investment. The same argument applies to the BAT proposal. In theory, over the long term the net impact on the savings-investment balance will be neutral, and the exchange rate will appreciate so as to offset the extent to which the BAT would make imports less competitive (and exports more competitive). The mechanism would be as follows: In the absence of exchange rate adjustments, the BAT would raise the US-dollar (USD) price of the imports by the amount of the tax (and lower the USD price of exports). So an import that previously cost US\$100 would now need to have a price of US\$125, in order to allow the importer to pay the government a 20% tax and still recoup the cost of the import (with the converse being true for US exports). Increased demand for US exports and reduced US demand for

foreign imports would create a dearth of dollars (supplied by Americans buying imports and demanded by foreigners buying US exports). This would lead the dollar to appreciate to balance the increased demand for US exports and reduced US demand for imports.

We noted above that a BAT levies revenue on the trade deficit. Imports currently make up 14.7% of US gross domestic product (GDP), and exports 12% of GDP¹; thus the BAT would generate revenue on a tax base of 2.7% of GDP, or about US\$100 billion (bn) a year at a 20% tax rate. If the trade deficit remains unchanged, the BAT could generate over a trillion dollars over the next 10 years.

The standard economic theory prediction, however, assumes that the nominal exchange rate would adjust fully and rapidly. Indeed, the evidence on VAT reforms does tend to support a full pass through to (real) exchange rates over the long term, but not necessarily over the near term.²

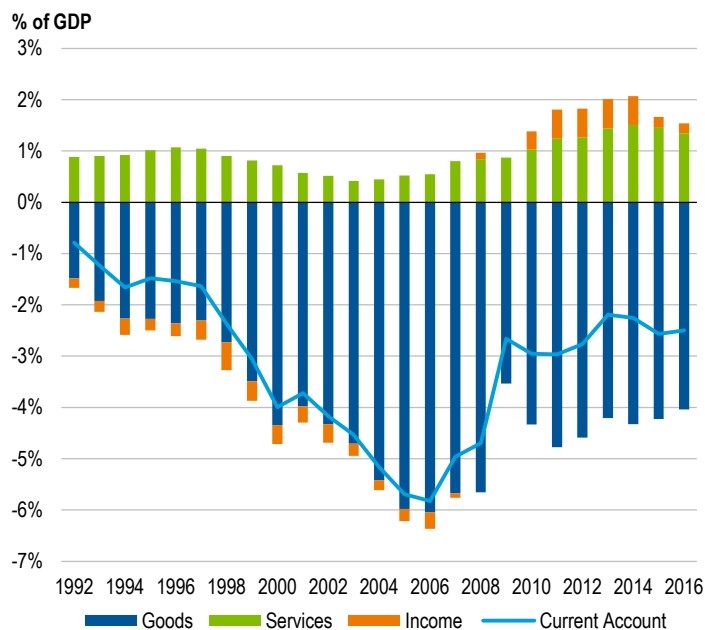
In practice, the nominal exchange rate would probably not adjust fully over the short term:

- A full adjustment requires the complete implementation of the policy, but that might be problematic for treating services exports and might create a potential for revenue leakage.
- Market frictions would likely hamper a quick adjustment of the nominal exchange rate; for example, import costs are often invoiced in dollars or hedged. Additionally, emerging countries might limit the initial adjustment of their currencies to avoid excessive volatility (although most emerging markets prefer weaker currencies to stronger ones). Finally, the US administration could try to talk down the dollar if it perceives it to have appreciated "too much" or if it believes some specific currencies have overshot their new fair value (the US has some leverage over NAFTA partners and mercantilist Northeast Asia, including even China, though probably less so on Germany/the eurozone—a bit more on this later).
- As will be discussed later, savings and investment might not in fact remain the same, a core assumption underpinning the revenue assumptions and the theoretical argument.

Persistent Current Account Deficits Driven by Trade in Goods

Exhibit 3: US Current Account Balance

1992–2016



Source: US Bureau of Economic Analysis.

1. Source: US Bureau of Economic Analysis.

2. See, for example, the study "Effects of Consumption Taxes on Real Exchange Rates and Trade Balances" by Freund and Gagnon (2017) from the Peterson Institute of International Economics (PIIE).

To the extent that the exchange rate does not fully adjust, prices will rise. Price adjustments could be quick and sizable in sectors where profit margins have little room to adjust. The energy sector provides a helpful illustration:

- In the oil market, a 20% BAT would immediately create a 25% premium for the domestic oil price [represented by West Texas Intermediate (WTI) crude] over imported oil (represented by Brent crude). Refiners will then be incentivized to source oil domestically, while US producers would prefer to export, so the WTI price will rise over the global oil benchmark until refiners are indifferent between purchasing domestically produced oil or imported oil. US consumers would see higher gasoline prices but probably not at the same scale as in 2010–2011 or even over the past 12 months.
- US oil producers enjoying a competitive advantage (under the assumption of a lower corporate income tax and an incomplete adjustment of the dollar) would respond to higher domestic prices by expanding investment and production. The supply response in turn could result in a surplus of global oil, which should depress the (Brent) price of oil. Market participants would anticipate these events, and the expected dollar appreciation should coincide with an oil price correction (typically the correlation is close to -0.8^3).

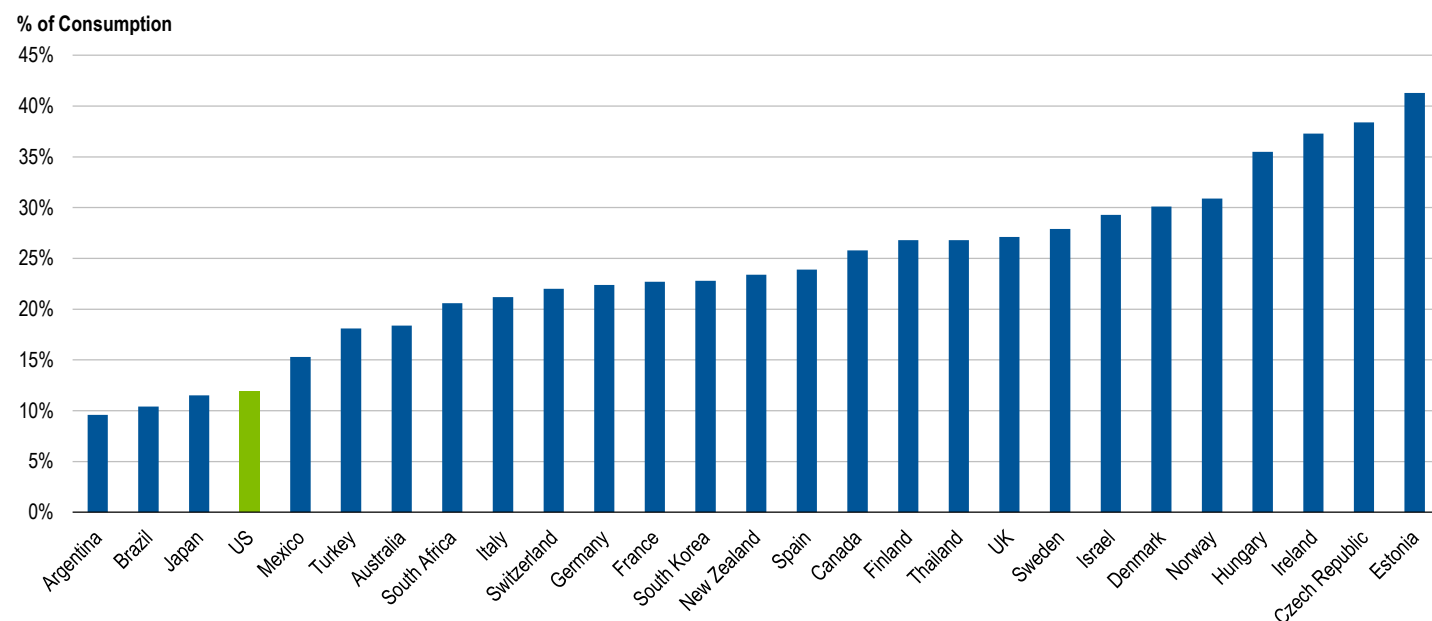
- The advantage of US oil producers over foreign producers will erode over time but not right away, as US shale activity and the cost structure of domestic and foreign producers, often dependent on long-term contracts, will respond with a lag.

More generally, a partial exchange rate adjustment would result in an increase in the price of imported goods—as the exchange rate appreciation would offset only part of the price increase due to the tax. This impact would be mitigated to the extent that sellers have scope to absorb the higher costs of imported inputs through margin contraction. With import content in consumer spending in the US estimated at around 12%, a full pass through to consumer prices would add 2.5 percentage points to headline inflation.⁴ However, if the exchange rate adjustment is around 50% and if the margin adjustment is around 25%, both fairly conservative assumptions, inflation would rise by a fairly modest 0.9 percentage point. As in the case of an oil price shock, this would be a one-time price level effect and, as such, have only a temporary impact on inflation.

US Import Content Is Relatively Low

Exhibit 4: Import Content of Consumption Expenditures

As of 2015



Source: National Bureau of Economic Research (NBER), “The International Price System,” Gita Gopinath, October 2015.

3. Source: Calculations by Templeton Global Macro using data sourced from Bloomberg.

4. Source: Table 9 in the NBER working paper, “The International Price System,” Gita Gopinath, October 2015.

3. Impact on Domestic Sectors and Trade Flows

Following the immediate price response, domestic production and trade patterns will adjust as firms respond to the new tax and competitive environment. While the benefit from a lower corporate statutory rate would be broadly shared, the BAT would have a differential impact across industries and sectors:

- Profits of US importers would be squeezed, while some exporters and import-competing firms would benefit.
- Foreign competitors would likely reduce pre-tax prices and accept somewhat lower profits in order to maintain their share in the US market.
- There would likely be some immediate disruption to supply chains (especially with multi-border crossings)—US companies would try to substitute domestic for imported inputs where possible.
- The valuation impact on US dollar and foreign-denominated assets would hurt Americans with foreign assets or foreigners with dollar-denominated debt.

The actual impact on a firm’s bottom line will depend on many factors and will vary greatly within sectors. However, by making some basic assumptions and using the Bureau of Economic Analysis’s input-output use tables, we can get a sense of the potential winners and losers. In the exercise that follows, we assume a 20% BAT together with a 15 percentage point corporate tax reduction (taking the corporate tax rate to 20%), while abstracting from the expected changes in the exchange rate, prices and demand.

Exhibit 5 plots the net tax reduction as a share of industry gross output against the industry size for context.⁵ As expected, the relatively small product categories of apparel, leather and allied products and textile mills and textile product mills are the big losers. Additionally, motor vehicles and parts dealers as well as computer and electronic products—both much larger product categories—are among the notable losers in terms of the immediate impact of the reform.⁶ On the other hand, sectors such as other transportation equipment (including aircraft) and chemicals would benefit. In other cases, the story is more nuanced: For example, oil and gas extraction firms benefit, while the producers of petroleum and coal products lose, echoing the tension between refiners and oil shale producers mentioned in the previous section.

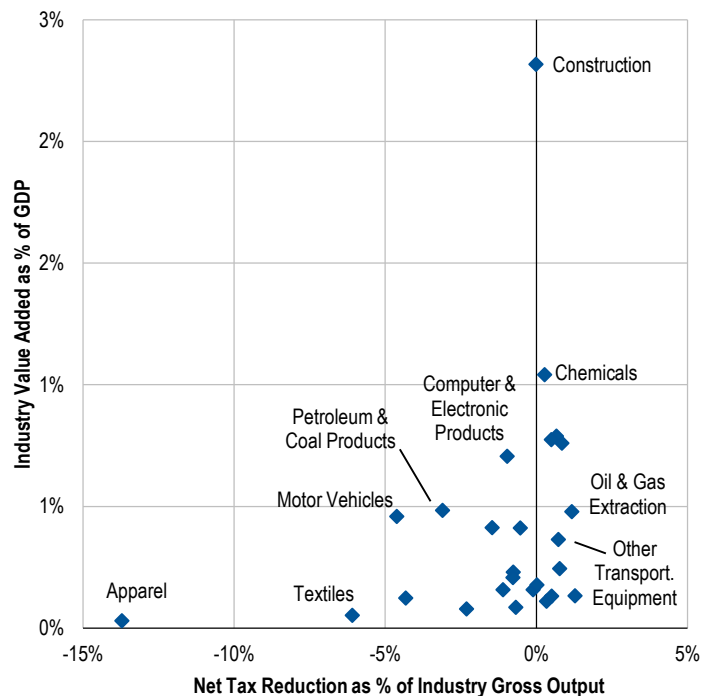
5. Of course, the actual net gain or loss across all sectors will depend on whether the GOP’s tax reform ends up being revenue neutral.

6. In a few sectors, such as apparel and autos, the estimated increase in tax liability (even after including corporate tax cuts) would represent a sizable fraction of overall profits.

Potential Sectoral Winners and Losers

Exhibit 5: Estimated Impact on Good Producing Industries (20% BAT and 15% Corporate Tax Cut)

As of 2015



Source: Calculations by Templeton Global Macro using data sourced from US Bureau of Economic Analysis. The blue diamonds in Exhibit 5 represent around 25 different goods-producing industries as categorized by the US Bureau of Economic Analysis. We labeled nine specific industries in this exhibit that we found important to our analysis. We left the other 16 industries unlabeled due to space constraints but kept them marked in the chart to show where most industries fall on the value-added spectrum. The y-axis is essentially a measure of how significant an industry is (value added) and the x-axis is essentially a measure of whether the industry would be a winner or loser from BAT and corporate tax cuts. Industries that are higher on the y-axis (e.g., construction) are essentially more significant (value added). Industries to the right of the 0% mark on the x-axis (e.g., oil and gas, chemicals, other transport equipment) would potentially benefit from BAT policy, while industries to the left of that mark (apparel, textiles, motor vehicles) could be negatively impacted.

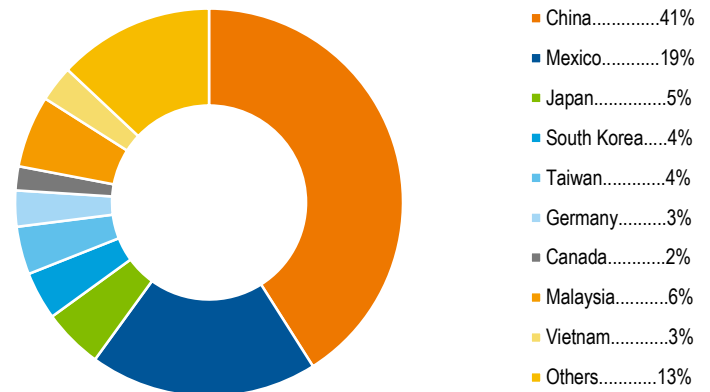
Just as US producers would be reluctant to completely pass on higher prices to their customers, foreign exporters may choose to forego some profits to maintain or expand their market share. The two large “losing” sectors discussed above capture well the pattern of US trade deficits against major trading partners. Using the UN Comtrade dataset for imports by destination confirms that the autos and parts category is mainly a NAFTA story, with an important contribution from the advanced Asian exporters (with China accounting for only 5%). In contrast, Asia and especially

Import Penetration: Examples of Two Major Product Categories

Exhibit 6: US Imports of Vehicles and Parts by Source (HS Code 87)
As of 2015



Exhibit 7: US Imports of Electrical, Electronic Equipment by Source (HS Code 85)
As of 2015



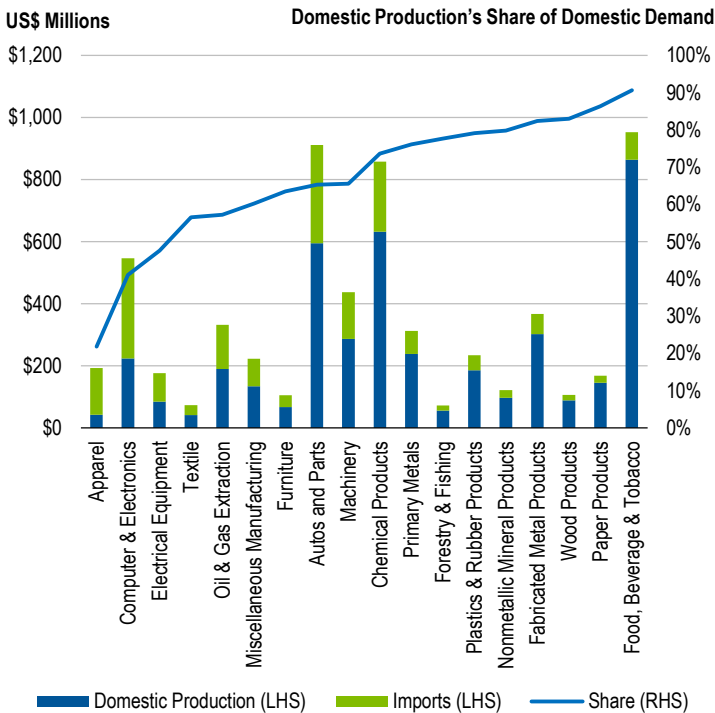
Source: UN Comtrade Database, 2015. HS codes are from the internationally recognized Harmonized System of tariff nomenclature that assigns specific names and numbers to classify specific traded products.

China are the main source of imported computer and electronic products (as well as most other manufactured consumer goods). Moreover, the fact that many of the imports from countries such as China and Mexico are exported by US firms means that retaining market share will likely be an important priority.

Finally, in the event of limited exchange rate adjustment accompanied by higher-than-anticipated consumer price increases, US firms would have the opportunity to expand domestic production, narrowing the trade deficit.⁷ As the US is a large and diversified economy, relatively less dependent on trade

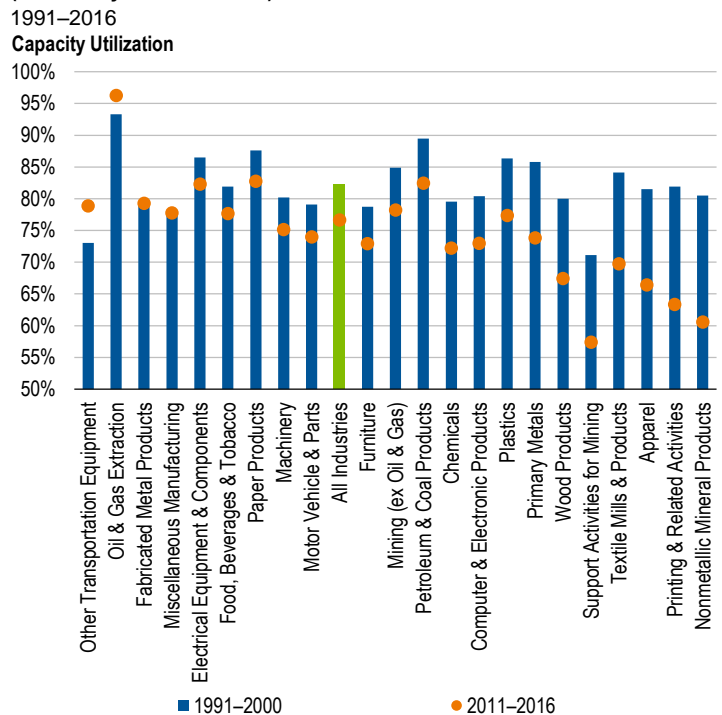
Potential for Import Substitution

Exhibit 8: Domestic Demand Met by Domestic Production
As of 2015



Source: US Bureau of Economic Analysis.

Exhibit 9: Capacity Utilization, the '90s vs. Post-Global Financial Crisis (Ranked by Relative Slack)
1991–2016



Source: US Bureau of Economic Analysis. The Post-Global Financial Crisis figures are for the period of 2011 through 2016. Relative slack is the difference between an economy's productive capacity (i.e., the amount of goods and services that could be produced if all labor and capital were fully used) and its actual level of economic output.

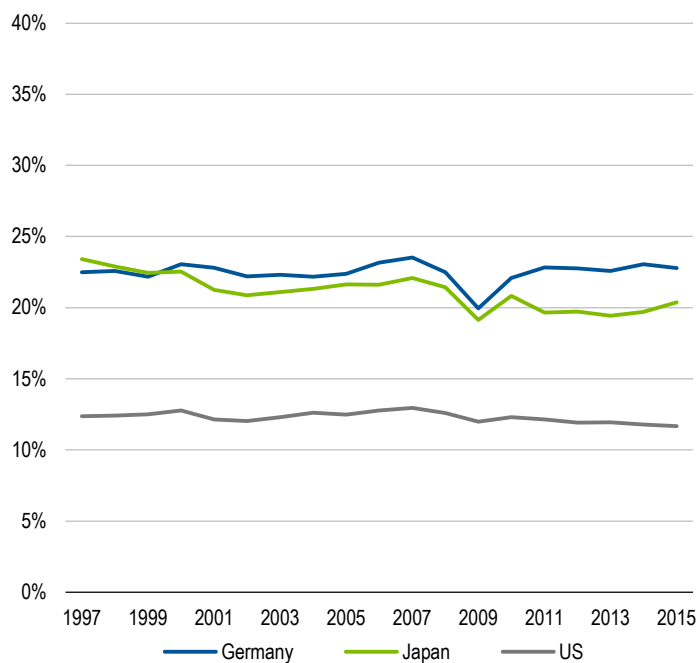
7. Some element of import substitution is to be expected, which should benefit the manufacturing sector. On net, the manufacturing sector would likely see higher taxes, even after offsetting the corporate tax gains, while the service sector and the mining sector would likely experience the largest reductions, per the static analysis above.

Little Upside for Manufacturing Employment

Exhibit 10: Value Added in Manufacturing

1997–2015

% of GDP



Source: Thomson Reuters Datastream.

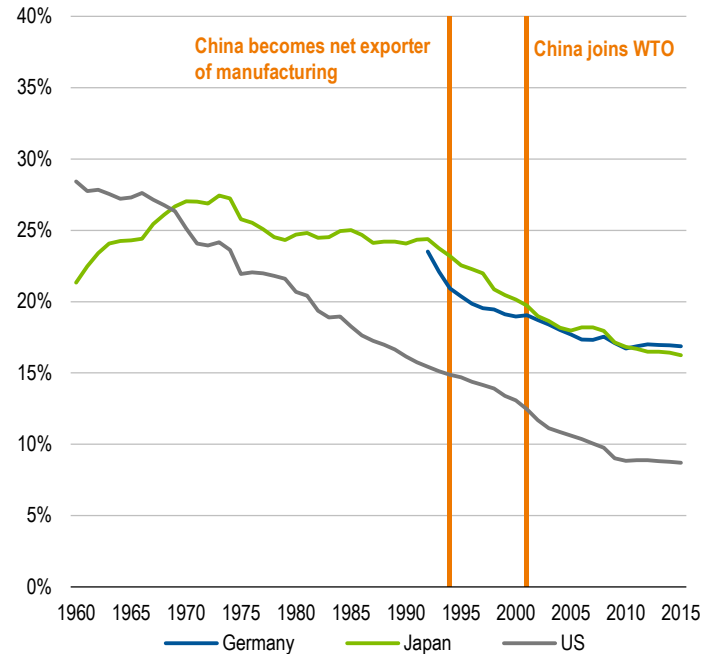
than most other countries, US firms should be well placed to respond to stronger domestic demand and increase their market share at the expense of foreign competitors. Only in two sectors, apparel and computer and electronic products, does domestic production account for less than 50% of total domestic demand.

Import substitution has the potential to revive some dormant sectors of the economy, which have seen better days. There might be limits to this impact, however. Sectors with high or moderate slack (with the cutoffs in Exhibit 9 at primary metals and furniture, respectively), which should be able to react quickly to

Exhibit 11: Employment in Manufacturing

1960–2015

% of Total



Source: Thomson Reuters Datastream. The figures for Germany start after the reunification of East and West Germany in 1990.

increased domestic demand, account together for only 7% of value-added output. The long-term decline of US manufacturing employment has also played out in the other large advanced exporters of manufactured goods, and academic studies suggest it has been driven by technological change as well as by globalization. Bolstering domestic production and employment in these sectors, therefore, might hinge on investment and productivity gains as much as on import substitution. To the extent that tax reform contributes to improving the business environment, it could, of course, help boost investment.

4. The Longer-Term Macro Impact

As a momentous change in the US tax system, the tax reform would have an important longer-term macro impact; this will be shaped both by the precise execution of the tax reform and by the broader fiscal policy and international trade policy stance.

As domestic production and trade flows respond to the adjustment in prices and profits, the broader impact of tax reform and the implied fiscal trajectory on growth as well as trade policy would shape the new environment. The overall GOP fiscal reform blueprint has several positive attributes that would potentially improve the business environment, boosting productivity, competitiveness and growth:⁸

- **Lower taxes:** An ambitious tax reform would see a significant reduction in the statutory corporate tax rate. Personal income taxes may also be cut.
- **Greater efficiency:** As important, a successful reform would simplify and improve the efficiency of the US tax system—often perceived as highly complex and wasteful.
- **Repatriation:** A territorial system would diminish the incentives to keep profits overseas. A one-time low tax rate is likely to induce the return of untaxed accumulated profits held abroad, which could lift domestic activity. It has also been suggested that the tax liability on repatriated profits could potentially be offset by tax credits designed to incentivize investment in infrastructure projects.⁹

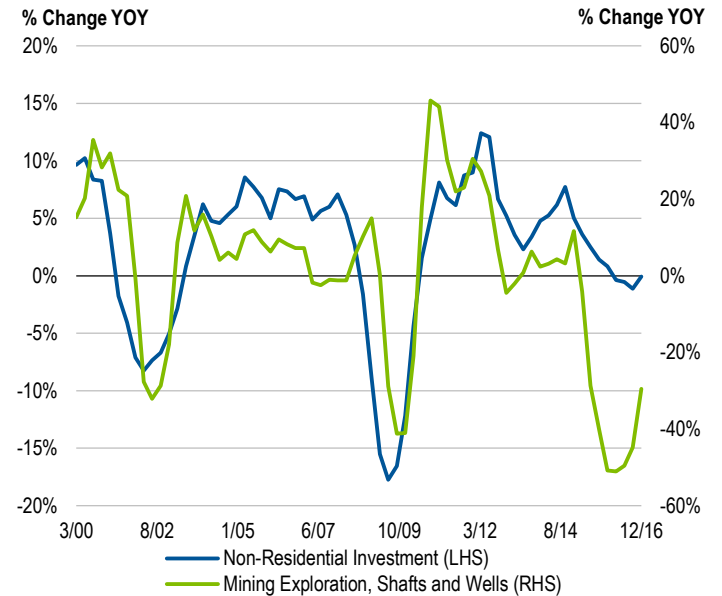
While the US economy already stands poised for a cyclical recovery in investment, a successful corporate tax reform would go a long way in promoting the incentives for real investment over the long term. Since weak investment has been identified as a potential drag on productivity growth since the global financial crisis, this shift in incentives could have strong and long-lived benefits.

The longer-term macro impact would also depend on whether the tax reform would be revenue neutral or result in a more expansionary fiscal stance—which remains uncertain at this juncture. Moreover, on the spending side, plans to significantly increase defense expenditures and potentially boost infrastructure investment may also affect fiscal dynamics. A sizable deficit expansion would have a stronger impact on growth in the near term but might undermine the longer-term outlook.

Real Investment Appears Set to Recover

Exhibit 12: US Real Investment

March 2000–December 2016

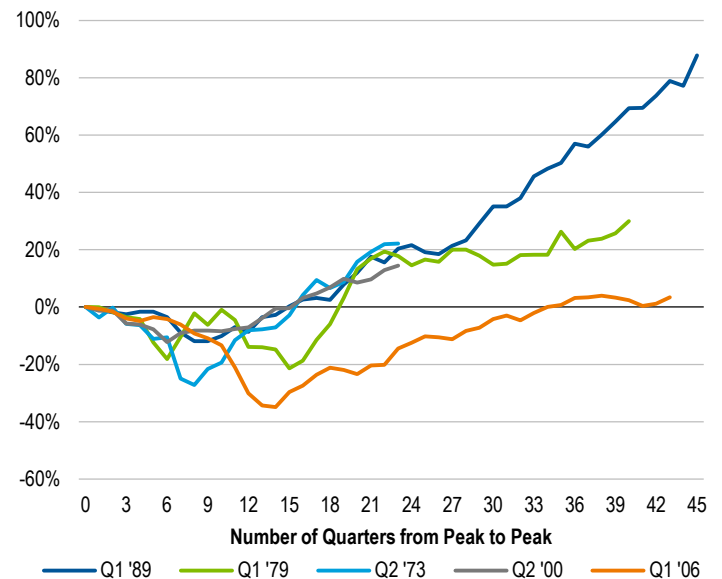


Source: US Bureau of Economic Analysis.

Exhibit 13: US Real Private Fixed Investment, Recent Cycles

As of April 2017

% Change from Pre-Recession Peak



Source: Thomson Reuters Datastream, April 2017.

These exhibits show the recent bottoms in investment cycles. Exhibit 12 shows that the most recent data point to an improving trend supported by a recovery in the investment component linked to shale oil. Exhibit 13 shows that the investment recovery in this cycle (since 2009) has been weak relative to the other cycles.

8. This is supported by several studies, for example, Jens Arnold and Cyrille Schwelnuus, "Do Corporate Taxes Reduce Productivity and Investment at the Firm Level? Cross-Country Evidence from the Amadeus Dataset," (2008), OECD Economics Department Working Paper No. 641, 9/30/08.

9. See a plan authored by Wilbur Ross and Peter Navarro, "Trump versus Clinton on Infrastructure," October 2016.

A second major source of longer-term uncertainty comes from the impact of the “America First” agenda on international trade (see also the next section). The US trade balance could be impacted by a number of factors, pulling in different directions.

Remembering that, as we noted earlier, the trade balance equals the difference between savings and investments, consider:

- The BAT is integral to a transition from an income tax to a synthetic consumption tax, which should raise savings.
- On the other hand, lower taxes and a better business environment would tend to raise investment.
- The new US administration seems eager to confront global distortions that have pushed down US savings rates, such as excess savings and sizable trade surpluses in China and Europe...
- ...but if the US adopts a BAT, other countries could lodge complaints at the WTO and potentially launch retaliatory trade measures—though the US would likely note that a BAT would simply level the playing field with trading partners that already have a border-adjusted tax (VAT). A separate deterrent for countries that run trade surpluses would be that rather than *increasing* tax revenues the border adjustment to corporate income would *reduce* revenues.
- Finally, tighter monetary policy in response to higher inflation and/or stimulatory fiscal policy along with a stronger dollar could boost foreign savings and attract substantial financial flows to the US, pulling the current account balance in a negative direction.

Therefore, the impact on the US trade deficit is a priori ambiguous. Yet growth matters more than trade balances; if the GOP administration’s policies can meaningfully improve the incentives for real investment, which will lead to higher potential growth, then the resistance to trade deficits will likely fade. If, however, growth disappoints, then the view of international trade as a zero-sum game would likely become stronger.

5. Risk of Trade Wars

Compared to ad hoc import tariffs, a BAT would be a more transparent and less contentious way of boosting US manufacturing, from a global political perspective—but it would cause tensions nonetheless. And regardless of whether the BAT is adopted or not, there are good reasons to expect that disputes about trade policies and exchange rate misalignments will be a major and recurring theme over the next four years:

- A case can be made that the US does have legitimate complaints about the working of the global trading system.
 - Prevailing international tax agreements pose some disadvantages to countries using income taxes as opposed to consumption taxes; the US can insist on a more symmetric treatment within the current WTO framework.
 - Global trade imbalances have contributed to workers displacement in the US.¹⁰
- The US has leverage over its trading partners and seems to be willing to take risks to get its way.
 - Given the protectionist mood of the US electorate, protectionist threats by the US administration should be perceived as credible.
 - The US consumer accounts for roughly 1/3 of global consumption, while the US share of global GDP is around 1/4.¹¹ It is far easier to ramp up domestic production than to develop an organic and prosperous consumer base. Current account surplus countries suffer much more in trade confrontations than large and diversified deficit countries. Historical episodes support the view that surplus countries would yield rather quickly.¹²

- However, the current structure of the global system will make it difficult for the US to achieve its objectives unilaterally.
 - The global economy is far more interdependent than in the 1980s, economic power is more evenly spread, and multilateral trade agreements and pro-trade norms are more deeply entrenched.
 - Direct and coordinated policy to affect the dollar (such as in the 1985 Plaza Accord) so that it would not offset trade policy might be resisted domestically (since this is not the US Federal Reserve's objective) and globally. However, there are some signs of tacit coordination between the major central banks as there is a growing realization of the interdependence and limitations of monetary policy in a global perspective.

Although a deeper discussion of trade is beyond the scope of this update, we will conclude with two additional points. First, analysts and commentators frequently assume that the desire of the US government to recalibrate trade policy will result in a trade war with serious negative consequences to the global economy.¹³ Although possible, this scenario is probably not the most likely outcome or useful baseline to have in mind. It would be more likely to result in some combination of concessions and disappointments. Second, the degree of cooperation vs. confrontation will naturally vary across trade partners. We will discuss the US relations with Mexico and China to illustrate this theme.

The US Commerce Department could do a lot to “level the playing field” by insisting on symmetrical trade treatment within the WTO framework or in bilateral trade negotiations. However, the US cannot easily confront unbalanced global trade without restraining

10. Recent research in international trade and labor economics on the “China Shock” goes against the conventional view that the plight of the manufacturing sector is all about technology. See Autor, Dorn and Hanson, “The China Shock: Learning from Labor-Market Adjustment to Large Changes in Trade,” 2016.

11. Source: IMF World Economic Outlook, January 2017.

12. For example, in 1971, Japan and Germany yielded to the US's threat approach (which involved a temporary surcharge of 10% on US imports). Additionally, Great Britain is often given as an example of a nation that fared well in the trade wars of the 1930s, by relying on trade within its empire, after a decade of disappointing growth, in part due to an overvalued exchange rate [see Barry Eichengreen's book *Golden Fetters* (1996)].

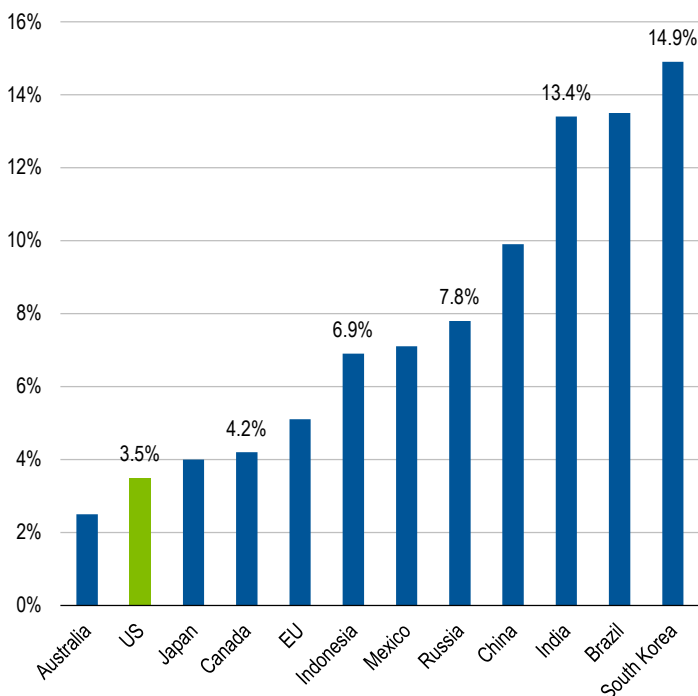
13. The PIIE has a full-blown trade war scenario, which leads to a global recession. See Noland, Hufbauer, Robinson and Moran, “Assessing Trade Agendas in the US Presidential Campaign,” 2016. In this hypothetical scenario, employment in the US in 2019 (the trough of the recession) falls by nearly 4.8 million private sector jobs, more than 4% below baseline private sector employment.

Unfair Trade and Unbalanced Trade

Exhibit 14: Average Tariff Rate in the Major Economies

As of 2016

Tariff Rate



Source: WTO, World Tariff Profiles, 2016.

inflows of excess financial savings from the rest of the world to the US. For this reason, greater reallocation of resources from traded sectors to non-traded sectors had to take place in the US over the past two decades, as growing trade deficits in consumer goods were not offset by rising surpluses in capital goods (see Exhibit 15), in contrast to what happened in Germany, Japan and South Korea—countries with a similar comparative advantage to the US in high-skill, capital-intensive industries.

The International Monetary Fund's (IMF's) assessment of external imbalances lends some support to the US administration's arguments that the global trading system is unbalanced if not unfair. As part of their monitoring effort, IMF staff assess the external position of member countries—reviewing exchange rates, current account balances, capital flows, international reserves and other related variables—and provide a normative evaluation of excess imbalances relative to fundamentals. In its most recent External Sector Report, the IMF warns about the risk of excess current account imbalances and calls for a cooperative approach: "A further widening of imbalances could also give rise to protectionist policies, with pervasive effects on global growth. Thus emphasis needs to be given to a broad-policy approach (including fiscal and structural policies) that bolsters global

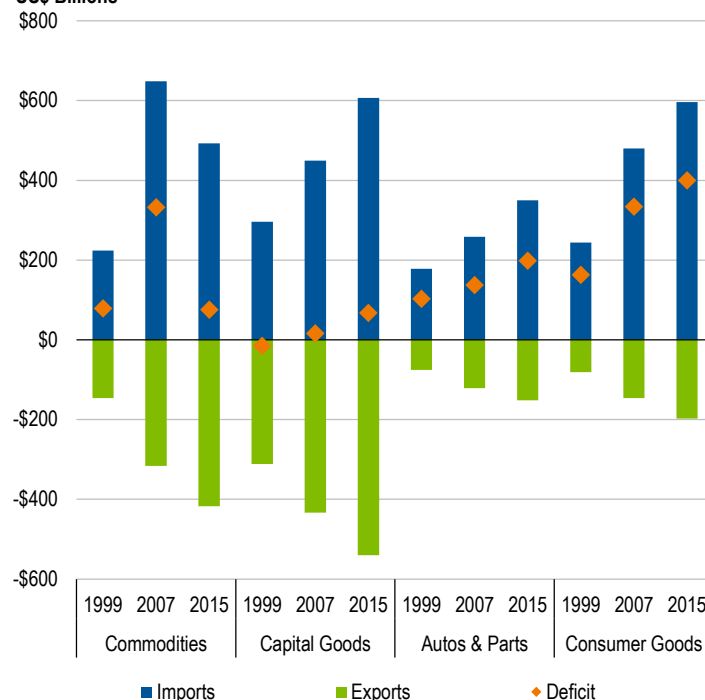
14. Source: IMF External Sector Report, July 2016.

15. Bilateral trade in Table 1 is as of December 2016. IMF assessments in Table 1 are based on data for 2015 that was published in July 2016.

Exhibit 15: US Trade by Product Categories

1999–2015

US\$ Billions



Source: US Bureau of Economic Analysis.

demand while containing risks and minimizing negative impact on external balances."¹⁴

Of course, countries set their policies mainly to achieve domestic objectives, and exchange rates do not necessarily adjust, so that external imbalances tend to persist. In that light, a less malign interpretation of new US trade policies (or the threat of implementing those policies) could be seen as a way to nudge trade partners to boost their own domestic demand. By applying trade restrictions in a limited and well-thought-out manner, the US government can probably pressure its trade partners to make some concessions. Countries with an external assessment stronger than warranted by fundamentals, according to the IMF's calculations, accounted for more than 70% of the US's trade deficit in goods as of December 2016, as shown in Table 1.¹⁵ In the table on the next page, the last column describes how the IMF assessed the actual external position of various countries with the US, relative to what would be warranted by their underlying fundamentals. So, for example, in the table on the next page, the actual goods trade surplus that Germany has with the US is *substantially stronger* than one would expect given the underlying fundamentals of the German economy.

IMF's External Assessment Supports Claims of Unbalanced Trade

Table 1: US Bilateral Goods Balances and the IMF's External Assessment

Trade Partner (by Size of Deficit)	2016 (US\$ bn)	2015 (US\$ bn)	% of US GDP (2015)	% of Partner's GDP (2015)	IMF Multilateral External Assessment vs. Fundamentals (2015)
China (1)	-347.0	-338.0	1.9%	3.0%	Moderately Stronger
Germany (2)	-64.9	-68.5	0.4%	2.0%	Substantially Stronger
Japan (3)	-68.9	-62.5	0.3%	1.5%	Moderately Stronger
Mexico (4)	-63.2	-55.9	0.3%	4.9%	In Line with Fundamentals
South Korea (5)	-27.7	-25.9	0.1%	1.9%	Moderately Stronger
Italy (6)	-28.5	-25.7	0.1%	1.4%	In Line with Fundamentals
India (7)	-24.3	-21.4	0.1%	1.0%	In Line with Fundamentals
France (8)	-15.8	-16.2	0.1%	0.7%	Moderately Weaker
Canada (9)	-11.2	-14.4	0.1%	0.9%	Moderately Weaker
Taiwan (10)	-13.3	-13.6	0.1%	2.6%	Substantially Stronger
UK (11)	1.1	-2.5	0.0%	0.1%	Weaker
Saudi Arabia (12)	1.1	-2.0	0.0%	0.3%	Substantially Weaker
All Others	-64.3	-36.3			
Total	-726.9	-682.9	3.5%		US: Moderately Weaker

Source: IMF External Report 2016; US Census Bureau 2016. Bilateral trade is as of December 2016. IMF assessments are based on data for 2015 that was published in July 2016.

From the US point of view, the trade deficit with China is especially jarring, though it is also significant with several other key trading partners. But there are also important distinctions in terms of the nature of trade and production linkages. Contrasting the trade relations of the US economy with respect to China and Mexico is revealing in this context. Mexico is far more open and

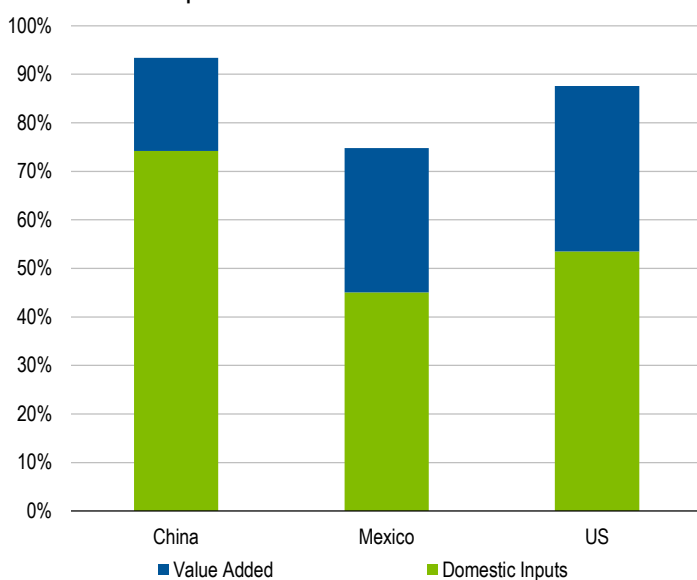
closely integrated to the US economy, the destination of around 80% of Mexico's merchandise exports¹⁶; it sources a smaller share of its inputs domestically, whereas in China more than 90% of the manufacturing output is produced domestically.¹⁷ Similarly, trade with China is also dramatically skewed in terms of the ratio of imports to export vis-a-vis the US (see Exhibit 16).

Trade Linkages with China and Mexico

Exhibit 16: Manufacturing Industry (Domestic Share of Total Output)

As of December 2016

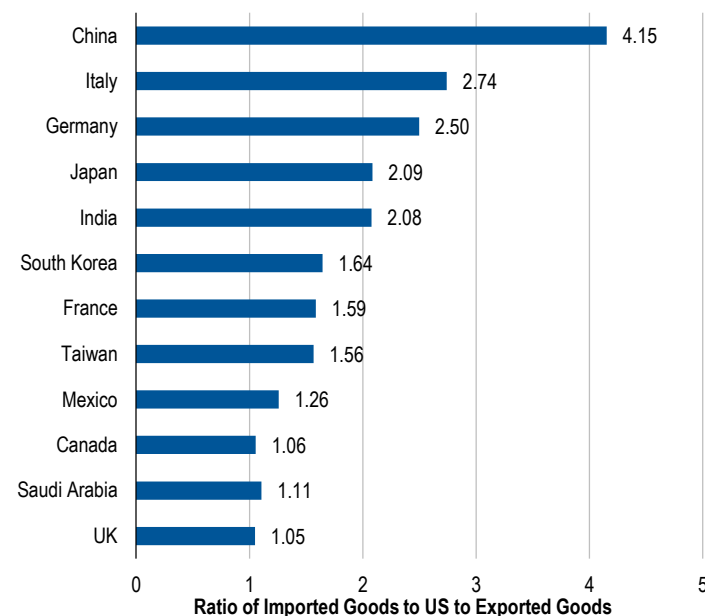
% Share of Total Output



Source: US Bureau of Economic Analysis.

Exhibit 17: US Bilateral Trade in Goods, Imports/Exports

As of December 2016



Source: US Census Bureau.

16. Source: US Bureau of Economic Analysis.

17. Source: OECD, Trade in Value Added (TiVA) Database, October 2015.

Although on bilateral trade grounds, the US has far less to lose in a confrontation with China, the overall relationship is much more complicated and poses considerable risks for both sides, with geopolitical aspects potentially overshadowing trade relations. Nevertheless, there are good reasons to expect that the new administration will adopt a more confrontational stance toward China and that the relations could well be rocky:

- A large share of WTO investigations have targeted China,¹⁸ and the new team at the Department of Commerce will support and encourage US firms seeking protection from China's notorious nontariff trade barriers or concealed assistance to exporters.¹⁹ Moreover, it has already been floated that they will likely pursue non-WTO channels (or tariffs) to process disputes.²⁰
- Although China has been intervening to defend its currency in the last two years, concerns about the undervalued yuan from an earlier era have shaped perceptions. The Treasury Department could label China as a currency manipulator, though according to its own analysis, China meets only one of the three criteria for such designation.²¹ Given the managed nature of the Chinese currency, the US might resist an appreciation of the dollar vs. the yuan, through the threat of the currency manipulation designation, as long as the bilateral trade balance remains so skewed.

- Unlike Mexico, which may offer to open its energy market to US firms, for instance, it would be harder for China to grant concessions to US firms in China. Although China would be wise not to escalate trade disputes, as it would only work to reduce its trade surplus faster, it could exact a high price from large US multinationals operating in China.²²

The asymmetry between China and the US with respect to the trade position is reinforced by the stark difference between their consumer markets. Over the long term, China will likely develop a deep consumer base, but currently it is only a third of the size of the US market. Moreover, the country's large population and high level of inequality—which combine to form an attractive market for luxury goods, as shown by number of Audi sales, for example—hide the fact that the purchasing power of middle- and upper-middle income households is still quite limited. Nearly 70% of China's population continues to live within the global “poor” or “low income” categories, defined as less than US\$10 per person, per day.²³ Decades of rapid economic progress have led to a growing middle class, roughly another quarter of the population, but at incomes of US\$10–\$20, this group still straddles the US poverty line.²⁴ From the remaining 8% of the population, we narrow our focus on a smaller subset of Chinese consumers, as shown in Table 2, which pass the US\$30,000 annual income per

The Chinese Consumer Is Not Ready To Take the Lead

Table 2: Chinese Consumer Market Relative to Peers

As of December 31, 2016*

	US	EU	China	Japan	Brazil
GDP (\$T, 2016)	18.6	16.4	11.2	4.9	1.8
Private Consumption (\$T, 2016)	12.8	9.2	4.1	2.8	1.1
Number of Households with Annual Income Greater than US\$30,000 (Million, 2011, PPP-Adjusted)	86.4	101.8	16.1	27.5	11.5
Oil Consumption (Millions of Barrels per Day)	19.4	12.4	12.0	4.2	3.2
Number of Audis Sold in 2015 ('000)	202.2	595.8	570.9	29.4	17.2

*This table uses data that was available as of 12/31/16. However, underlying figures may be from earlier time periods.

Source: **GDP:** US Bureau of Economic Analysis, OECD, Brazilian Institute of Geography and Statistics, UK Office National Statistics, Eurostat; **Private Consumption:** US Bureau of Economic Analysis, World Bank World Development Indicators, OECD; **Household Income:** World Bank PovcalNet, OECD; Oil: BP Statistical Review of World Energy, June 2016; **Audis:** Audi US, “Audi AG: New Record Year with 1.8 Million Deliveries in 2015,” 1/8/16.

18. According to the WTO's most recent report on G20 trade measures (mid-May 2016–mid-October 2016), the product categories of steel, chemicals, and plastics and rubber continue to account for the largest share of antidumping and countervailing investigations. In the period covering the first half of 2016, China was the target of 59% of antidumping initiations in steel products and 31% in chemical products.

19. Persistent issues include the protection and enforcement of intellectual property rights and widespread use of industrial policies to benefit state-owned enterprises and domestic companies, such as forced technology transfers, export restraints and import bans of particular products to favor domestic production, concealed export subsidies and financial support to companies in excess-capacity industries. See the “2016 United States Trade Representative Report to Congress on China's WTO Compliance,” January 2017.

20. See *Financial Times* article, “Trump Team Looks to Bypass WTO Dispute System,” 2/26/17.

21. China has a large bilateral trade surplus with the US, significantly above the US\$20 billion threshold. However, the share of its current-account surplus is less than 3% and it is not currently intervening to weaken its currency by purchasing FX reserves at over 2% of GDP. Of course, China has met all three conditions from 2004 to 2010.

22. The accumulated stock of foreign direct investment of US corporations in China since 1990 is estimated at just below US\$230 billion. See paper by the Rhodium Group, “Two Way Street: 25 Years of US-China Direct Investment.”

23. Source: World Bank PovcalNet. PovcalNet is a World Bank database that provides detailed income distributions across low income countries.

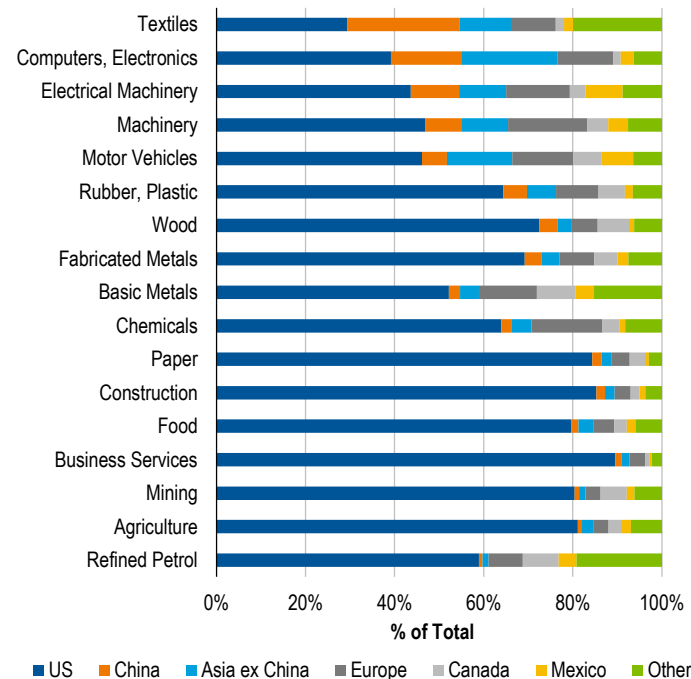
24. Source: World Bank PovcalNet.

household threshold (expressed in 2011 PPP-adjusted dollars²⁵). In that sense, only 16.1 million Chinese households (or about 3.5% of the population) live in the relative comfort of a typical consumer in the rich economies (vs. 27.5 million households in Japan and 86.4 million in the US).²⁶

It is also worth keeping in mind that China is in a delicate process of economic adjustment and without the positive contribution of net exports to GDP growth it would have to rely even more on public investment to maintain its high level of growth, potentially worsening its financial imbalances. Therefore, over the medium term, China's inability to absorb excess production from the rest of the world on the same scale as the US has been doing over the past decade means that it is probably incapable of assuming the role of the US in the current global trading system.

China's Problem Is Asia's Problem

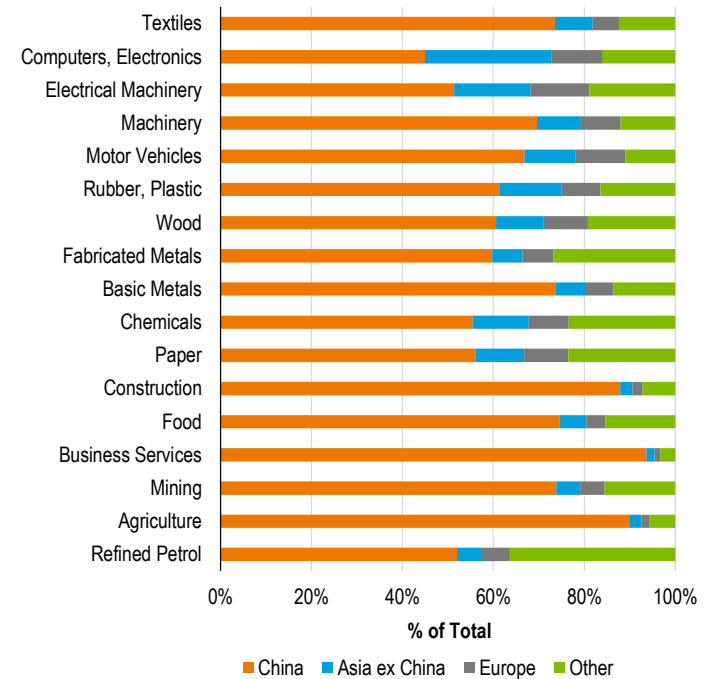
Exhibit 18: Origin of Value Add of US Final Demand 2011



Source: WTO; OECD, TiVA Database, accessed February 2017.

Importantly, there are wider regional implications of a potential escalation in the trade tensions between the US and China. Even though China accounts for 50% of the US goods trade deficit, in value-added terms its contribution is less than 20%²⁷ (see also Exhibit 16). Other major Asian exporters, especially Japan, South Korea and Taiwan, contribute significantly more in value-added terms than the headline numbers show, with the final products being processed and assembled in China. For example, just three product categories—computers and electronics, general machinery and electrical machinery—accounted for 46% of total US imports from China in 2011, or roughly US\$190 bn.²⁸ As one might expect, they rely on complex supply chains across Asia, with Japan, Taiwan and South Korea contributing 20.3%, 5% and 3.7%, respectively, to value add in the production of those goods (see Exhibits 18 and 19).

Exhibit 19: Origin of Value Add in Chinese Exports 2011



Source: WTO; OECD, TiVA Database, accessed February 2017.

25. Adjusting for PPP (purchasing power parity) attempts to equalize the purchasing power of different currencies by eliminating different price levels between countries, enabling comparison.
 26. Source: World Bank PovcalNet, OECD. Such a Chinese family, for the most part, should be able to own their own apartment in a top-tier city, drive foreign-made vehicles, and experience certain luxuries like travelling abroad and shopping in department stores.
 27. Source: WTO; OECD, TiVA Database, accessed February 2017.
 28. Source: WTO; OECD, TiVA Database, accessed February 2017.

Conclusion

We believe the long-overdue and deep reform of the US corporate tax system envisioned in the GOP's blueprint could give an important long-term boost to productivity, competitiveness and economic growth. The BAT would be a centerpiece of the reform: it would bolster the competitiveness of US firms; it would eliminate the existing incentive to keep profits offshore; and it would raise the revenue needed to fund a substantial cut in the statutory corporate income tax rate (currently the highest in the OECD).

Implementing a BAT would be equivalent to adopting a VAT, which most US trading partners already have, and eliminating the payroll tax—a purely domestic policy decision. It would level the playing field.

Trading partners, however, would likely appeal to the WTO and might launch retaliatory measures—though the US could rightly argue that the WTO's current stance of only allowing border adjustment for indirect taxes has no defensible economic rationale. In the current environment of rising protectionist sentiment, the risk of heightened trade tensions would be real—though we believe the risk of all-out trade wars is limited.

We expect that the USD would appreciate, but not enough to fully offset the impact of the BAT on the competitiveness of imports and exports. As a consequence, higher import prices would impart a temporary boost to inflation, which we estimate to be about one percentage point; some US import-competing firms would have the chance to gain market share through import substitution, though the extent to which they succeed would also depend on investment and productivity gains; and exporters would benefit, while importers, including large retailers and refineries, would suffer. Assuming that, as we believe, trade tensions would be kept under control, the greatest impact would come from the improvement in the business environment, which should spur investment and result in faster productivity growth and accelerating economic activity—already presaged by the sharp post-election climb in business sentiment.

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