Trade War

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University of Maryland
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Today

- TCJA, Recession and Trade War
- Inforum Outlook

Policy Issues

- Decline in U.S. Employment/Population Ratio

LUNCH

- Likely Economic Impacts of Tax Cut and Jobs Act (TCJA)
- Has the TCJA Worked?
- The Long Space Age

Overview

- Short review of Tax Cut and Jobs Act (TCJA) Analysis
- Outlook for Recession
- Trade War: Background and Analysis

REVIEW OF TCJA

The Promise of Tax Reform

"The tax cuts in the Senate Plan will pay for themselves" – Kevin Brady, Chairman of House Ways and Means Committee, November 30, 2017.

"The GOP tax overhaul means a $4,000-a-year pay raise for the average family by 2021" – Kevin Hassett, Chairman of the Council of Economic Advisors – January 29, 2018

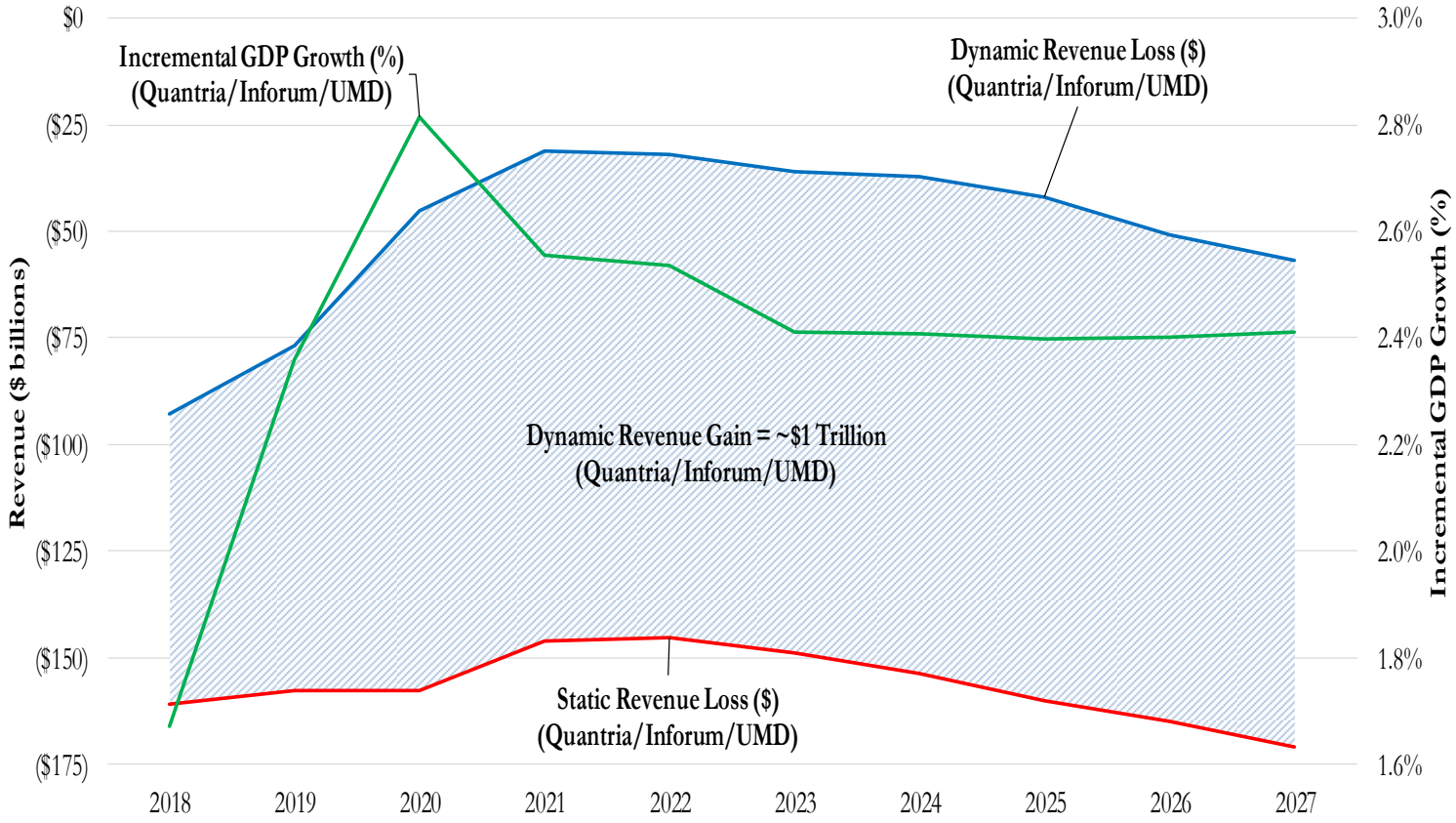
"In its April fiscal update, the Congressional Budget Office estimated that the Tax Cuts and Jobs Act (TCJA) would increase the federal debt by $1.889 trillion from 2018-2027."

"Real average hourly earnings have increased at little over 1 percent for 2018" – St. Louis Fed, August, 2018.

Can Tax Cuts Pay for Themselves?

- "Increased economic growth will pay for the tax cut." While not impossible, this is difficult.
- Fall 2017, Inforum/Quantria Study: Optimistic assumptions about the response of investment, labor productivity, labor force participation, and interest rates to see how much dynamic feedback would be possible. We assumed:
  - **Labor force participation** would increase in response to higher labor demand so that labor force would grow at an average of 0.6% from 2017 to 2027, compared to 0.51 in the base case.
  - **Labor productivity** as set to increase at 1.4% compared with 1.2% in the base.
  - **Fixed investment** was stimulated by the corporate tax cuts, and grew an average 3%, compared to 2.6% in the base.
  - An outcome was that average **GDP growth** was 2.1% compared to 1.9% in the base. The increase was an average 0.24% over the 10 year period.

Tax Cut with Strong Dynamic Feedback



How Much Faster Would GDP Need to Grow?

- The graph above compares:
  - **Static revenue loss.** Reducing tax rates, but assuming no increase in the tax base. The tax base is an adjusted measure of personal income for personal tax, and an estimate of taxable corporate profiits for corporate tax.
  - **Dynamic revenue loss.** Implementing a tax cut scenario with additional growth, enabled partly by assumptions of increased labor supply and labor productivity.
- By experimenting with faster growth-inducing assumptions, we can find a GDP growth rate where cumulative dynamic revenue loss is zero by 2027.
- Revenue loss occurs in all but the last year, so the model also accounts for additional interest expense of higher federal debt.
- The calculation indicates that GDP growth would need to be stimulated to a sustained level of **2.9%** to reach zero dynamic revenue loss by 2027, assuming no additional spending or tax cuts. This average growth rate of course includes any recession that may occur.
- Average potential GDP growth in the base is only **1.86**%, so this would imply a big increase in some combination of labor force and productivity growth.

Recent Macro and Year-Ahead Forecast

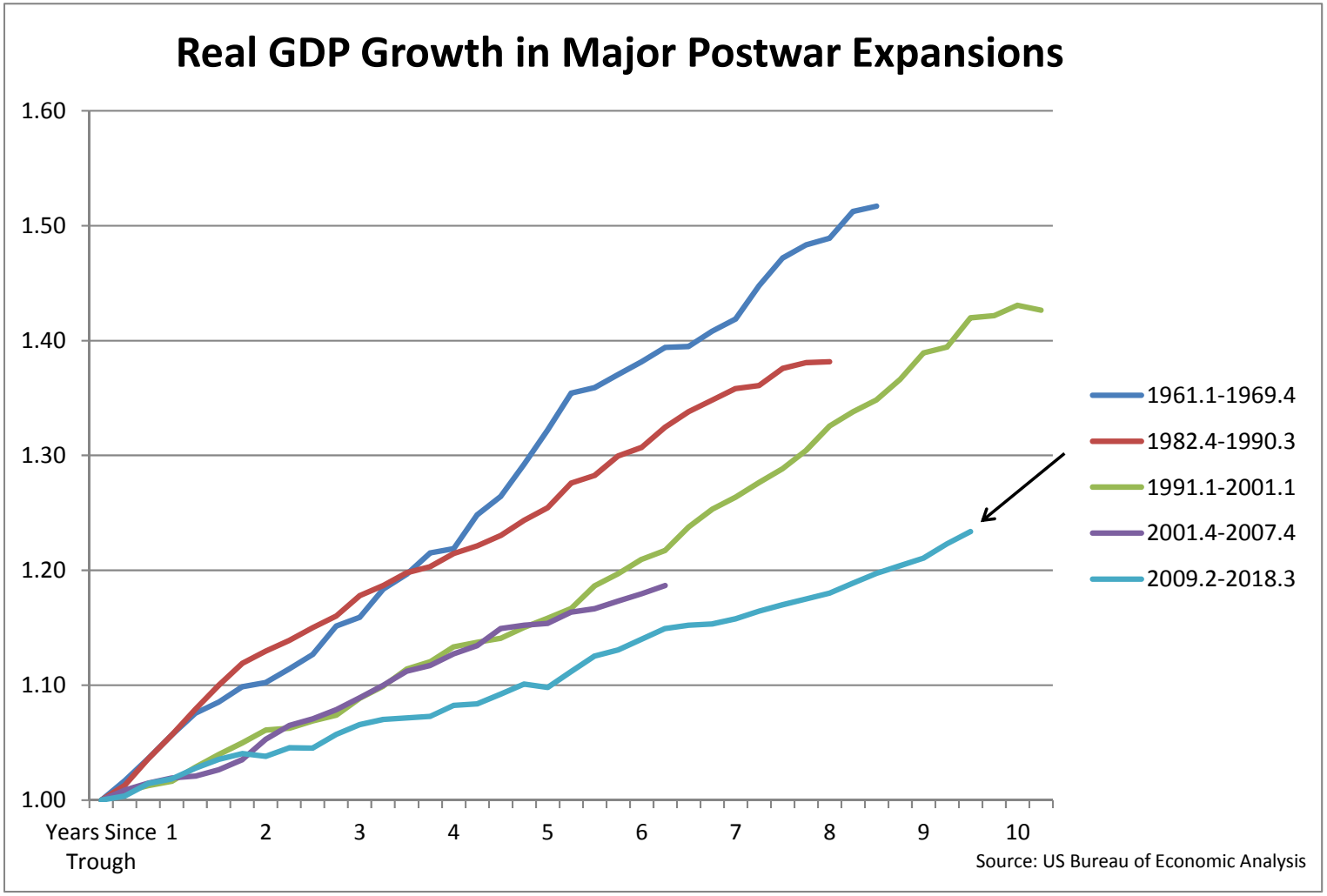
	2017	2018	2019 (Outlook)
Labor Force Participation Rate	62.8%	62.8%	62.8%
Labor Force Growth	0.7%	1.0%	1.0%
Labor Productivity Growth	0.6%	1.3%	1.4%
Unemployment Rate	4.4%	3.9%	3.6%
Real GDP Growth	2.3%	2.9%	2.7%
Real Disposable Income Growth	2.6%	2.5%	2.6%
Real Personal Consumption Growth	2.5%	2.7%	2.7%
Real Gross Private Fixed Investment Growth	4.8%	5.1%	4.6%
Real Imports Growth	4.6%	4.8%	4.0%
Real Exports Growth	3.0%	4.2%	3.1%
Real Government Growth	-0.1%	1.6%	1.9%
Federal Deficit (Billion $)	-659.8	-805.9	-949.4

OUTLOOK FOR RECESSION

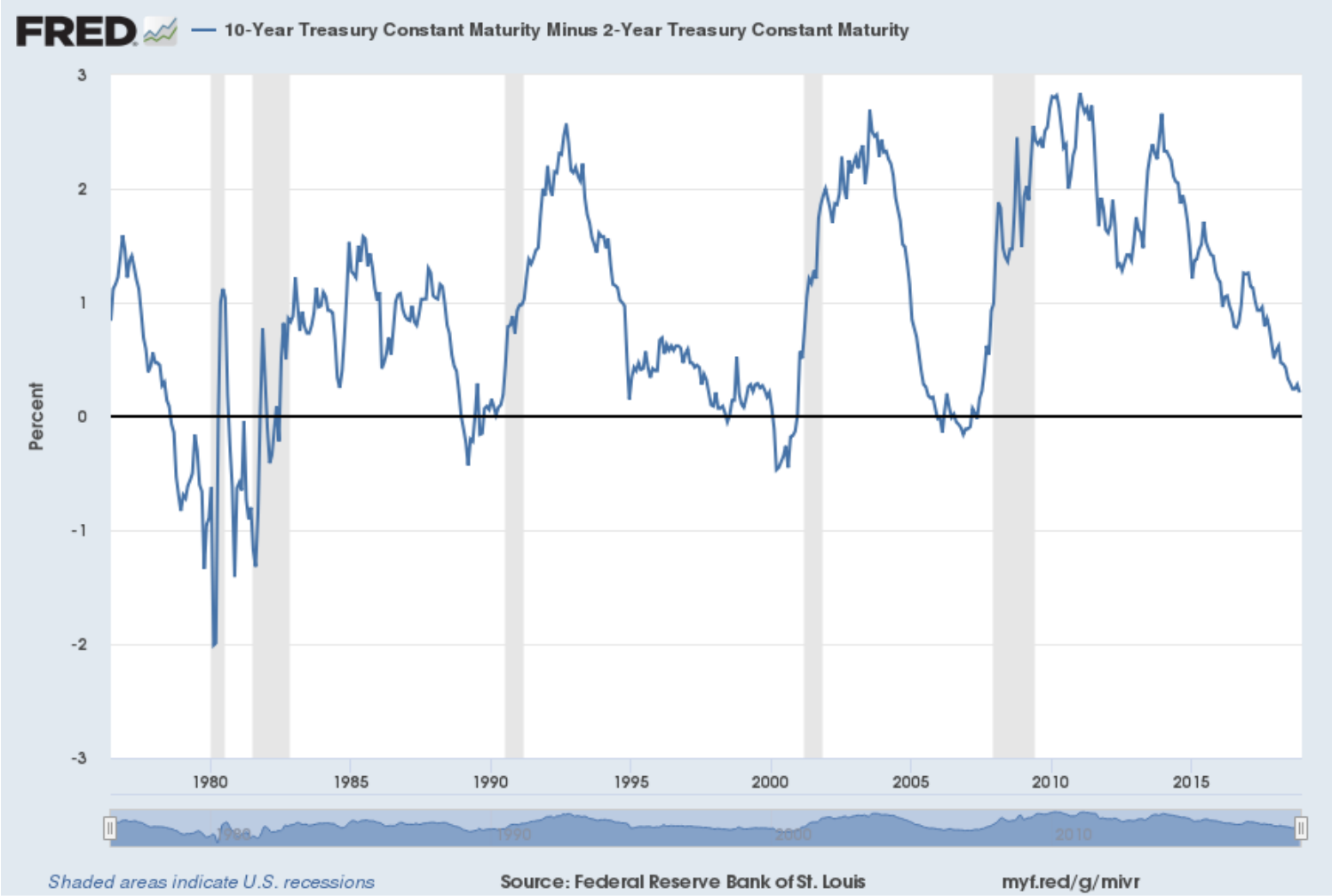
Recession 2020?

- Two major consensus surveys agree that growth should slow slightly in 2019, probably to 2.7% from 2.9% in 2018. This is still above potential.
- Blue Chip average for probability of recession in 2019 is 22% and 33.7% in 2020. However, there is a high variance on these probabilities, among the economists surveyed. (JP Morgan puts the 2020 probability at over 60%).
- On the one hand, the economy is growing strongly, while not overheating. There is no evidence of a bubble that may burst.
- Risks include:
  - Slowing global economy
  - Slower growth due to labor force supply constraints
  - Slowdown in stimulus from TCJA and federal spending increases
  - Fed rate increases possibly contributing to slowing residential construction
  - High level of corporate debt
  - Flattening yield curve
  - Uncertainty about international trade due to tariff threats
- The current expansion is over 9 years old. Growth has been lower than previous expansions, due to slower population, labor force and productivity.

2009-2018 Expansion: 2nd Longest, and Slowest



Yield Curve and Recent U.S. Recessions



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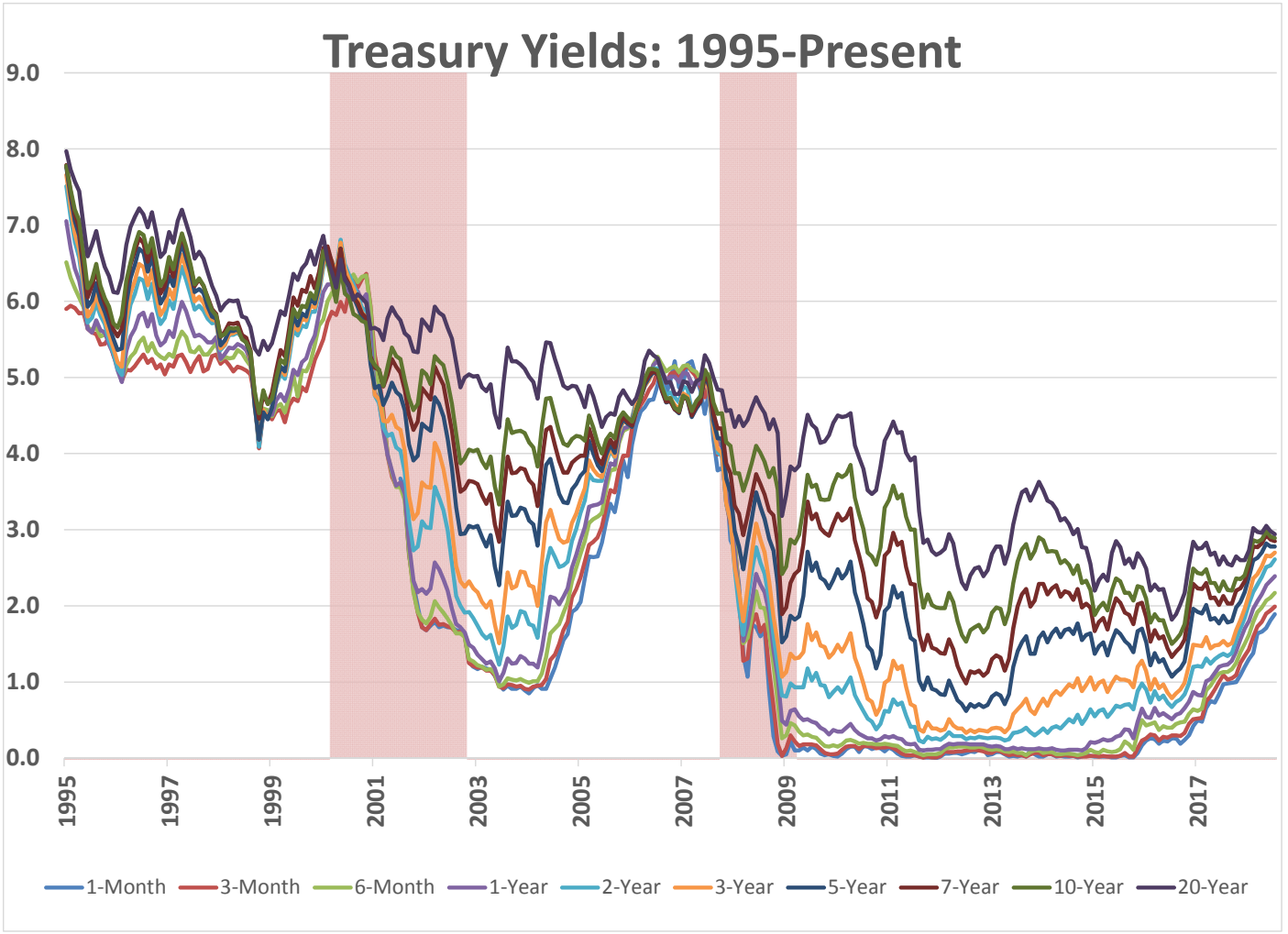
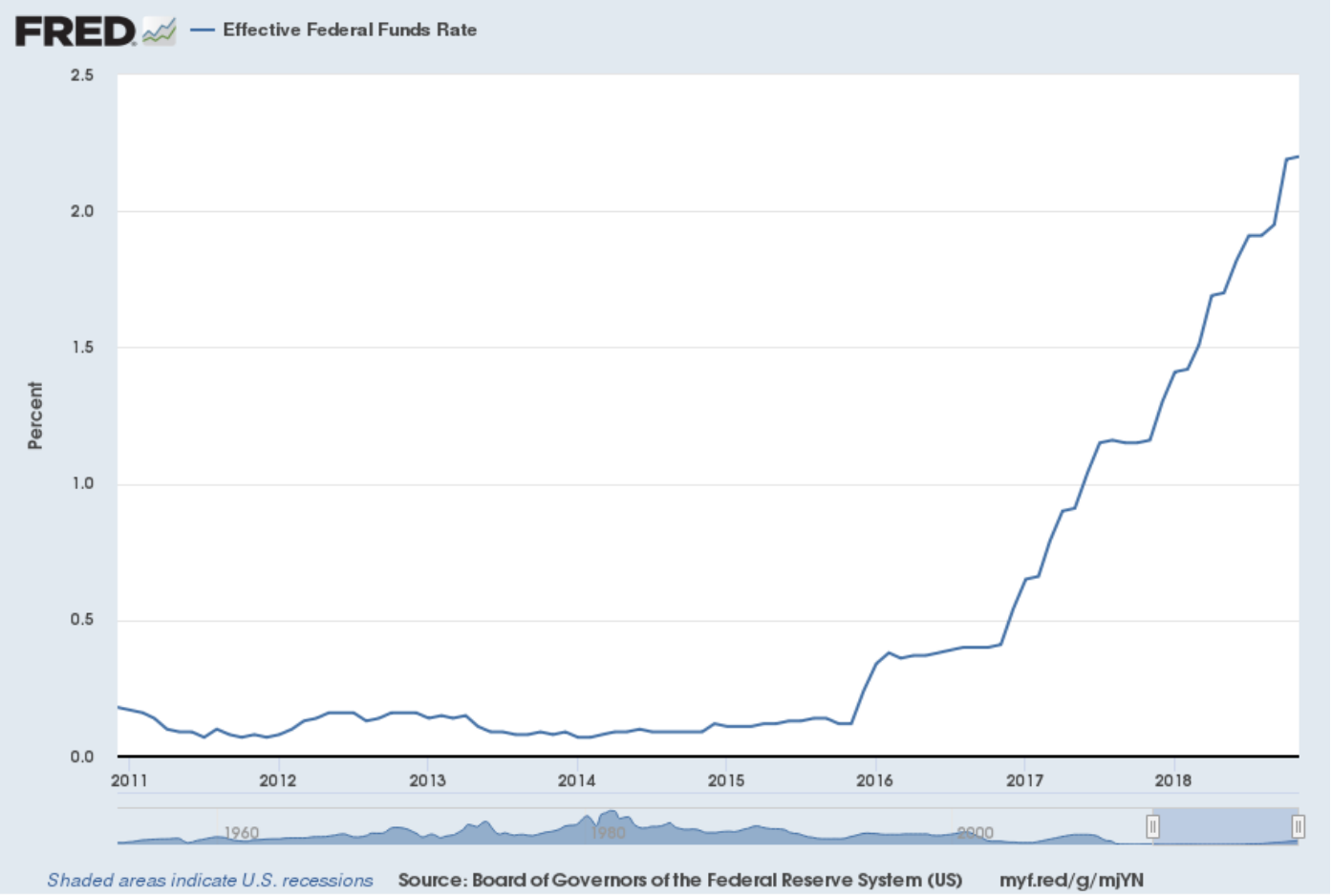


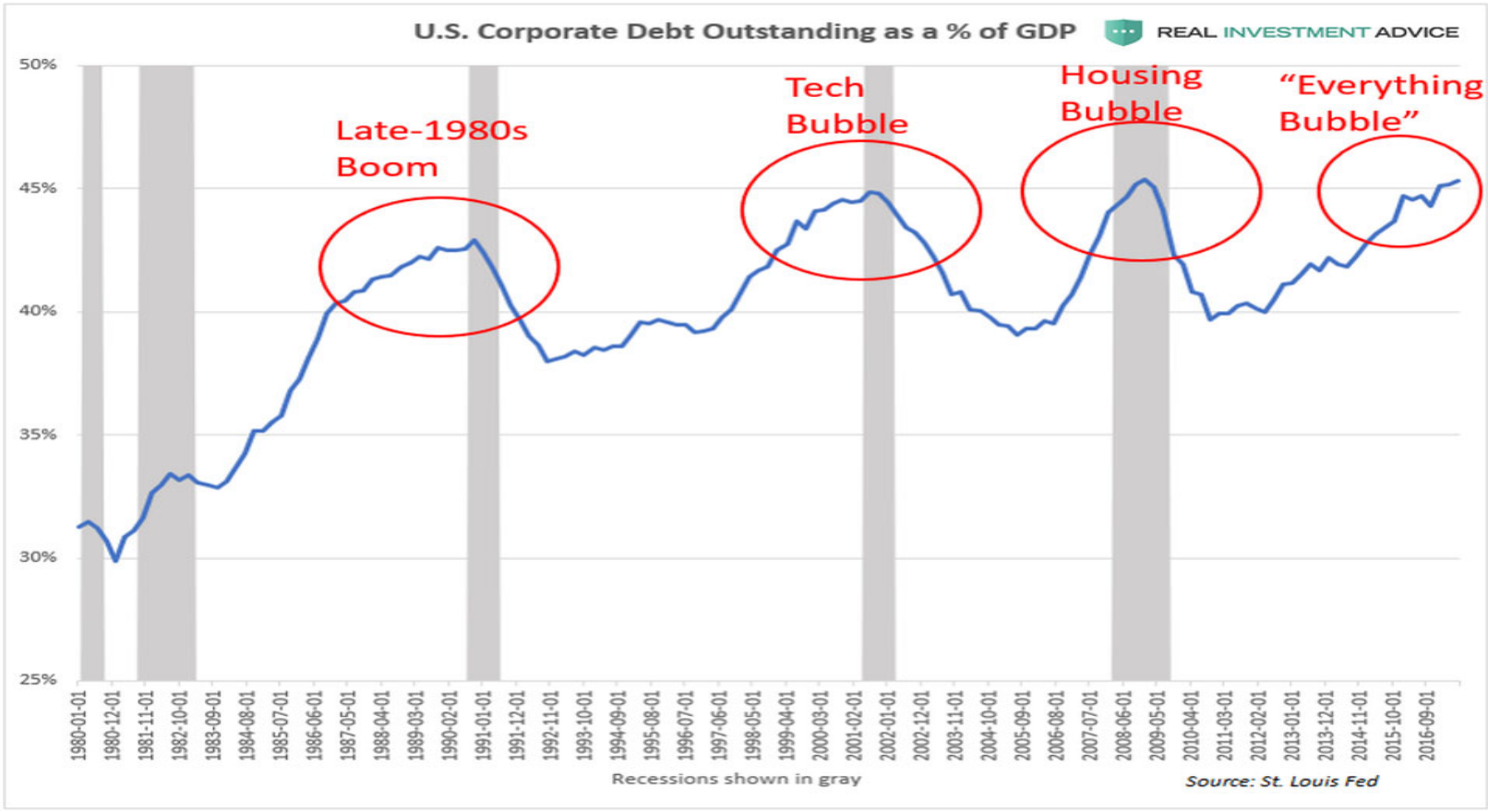
Effective Federal Funds Rate

The Fed is expected to raise the target another 25 basis points this month, with 3 more increases in 2019.



High Corporate Debt

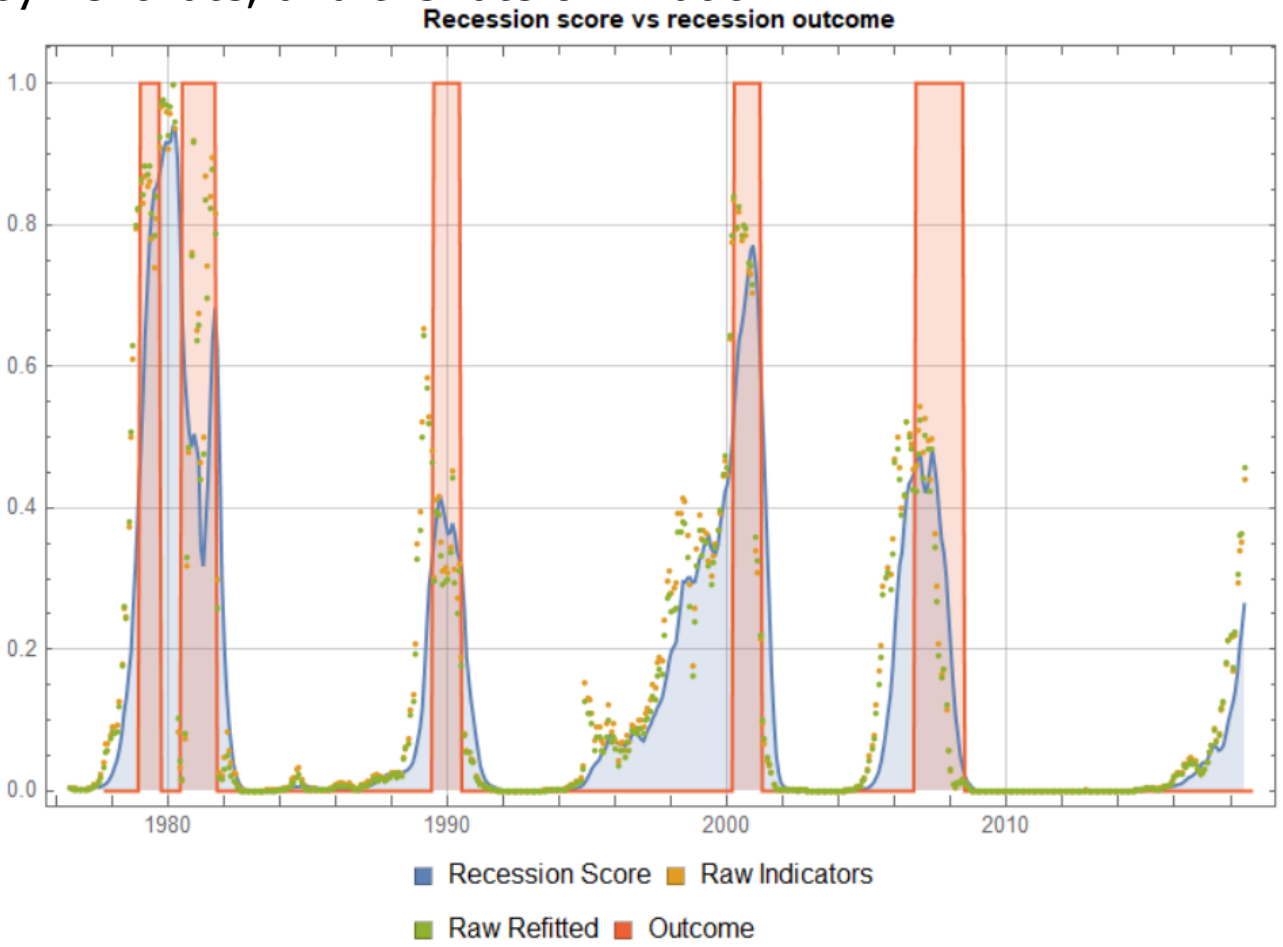
U.S. corporate debt is now at an all-time high of over 45% of GDP. This could pose risks for profitability and the stock market as interest rates rise.



Source: RealInvestmentAdvice.com

Recession Risk

Below is a graphical illustration of results of "a simple U.S. recession predictor" produced by *Seeking Alpha*. The predictor is based solely on the yield curve, the unemployment rate, and the rate of inflation.



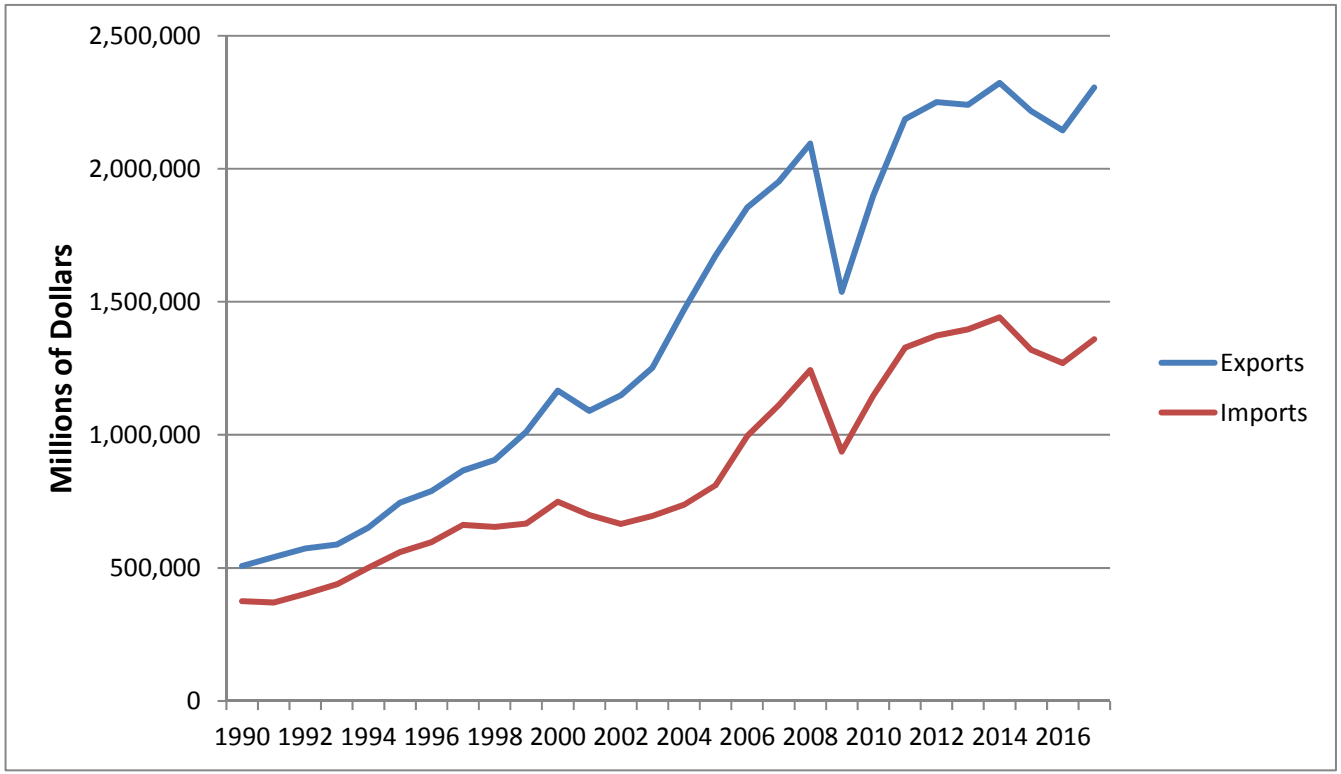
TRADE WAR

Thinking About Trade

- Products traded between countries are determined partly by *comparative advantage*, partly by *price discrimination* (branding) and partly by *strategic investments and location decisions* by multinational companies.
- Trade deficit or surplus is determined simultaneously with savings balances in the household, business and government sectors. Causality runs both ways.
- Increasing shares of total trade (imports + exports) to GDP has been trending generally upward, with a few interruptions. This is based on reductions in the cost of transportation and information flows, as well as foreign investment by MNCs. This is one face of globalization.
- Globalization contributes to economic growth, but can also be disruptive. It is related to the secular decline and stagnation of US manufacturing, but helps reduce costs for consumers and business.
- The anti-globalization attitudes in many countries are driven by perceptions that trade is unfair.
- Particularly vis-a-vis China, there are important concerns about protection of intellectual property and fair access to Chinese markets.

US Merchandise Trade

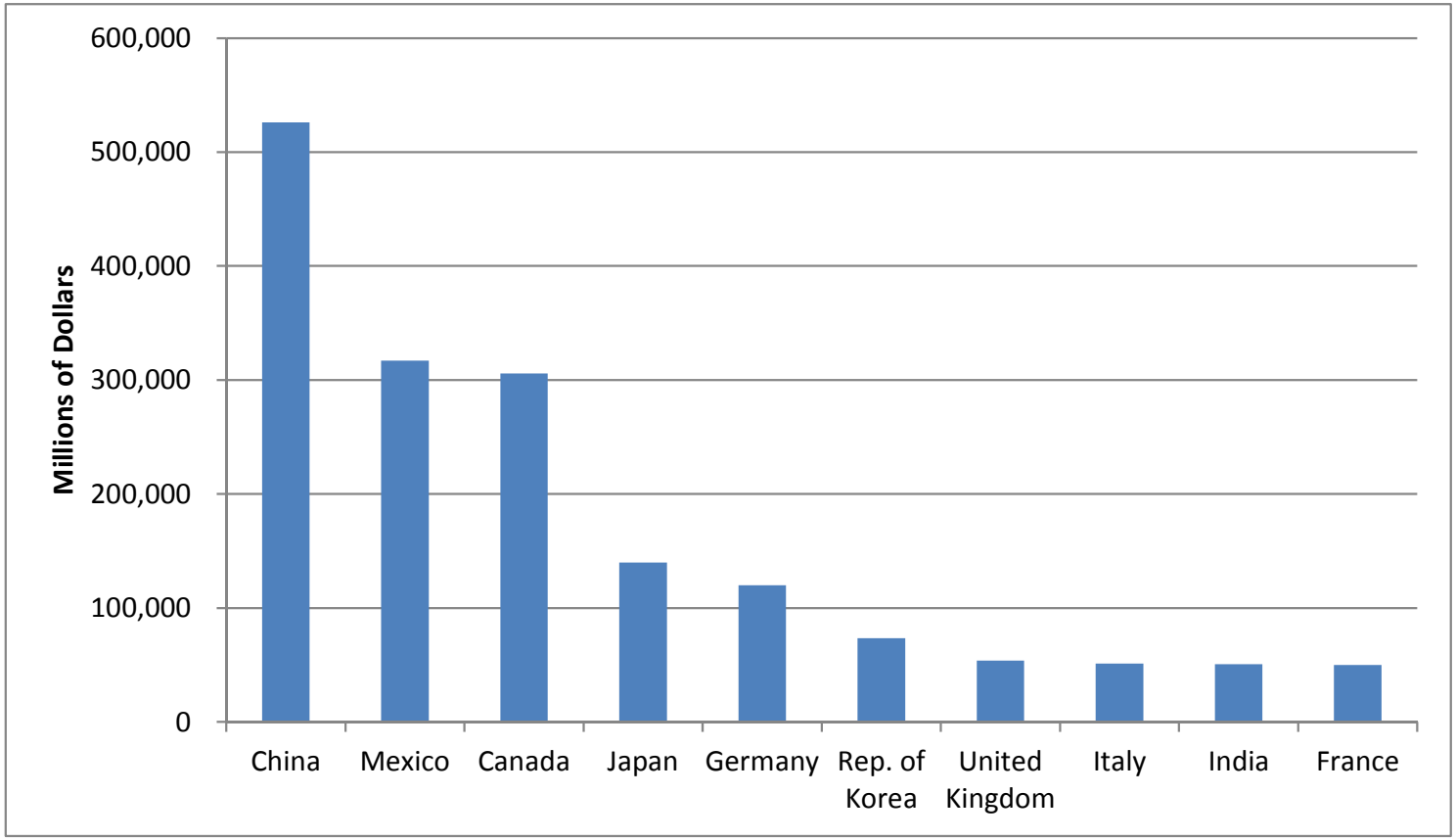
Since well before the 1990s, the US has run a merchandise trade deficit. The total deficit in 2017 was $945.4 billion, up from $131.5 billion in 1990. This is larger than the total trade deficit, as the US runs a surplus in services trade.



Source: UN Comtrade

Top 10 Sources of US Imports

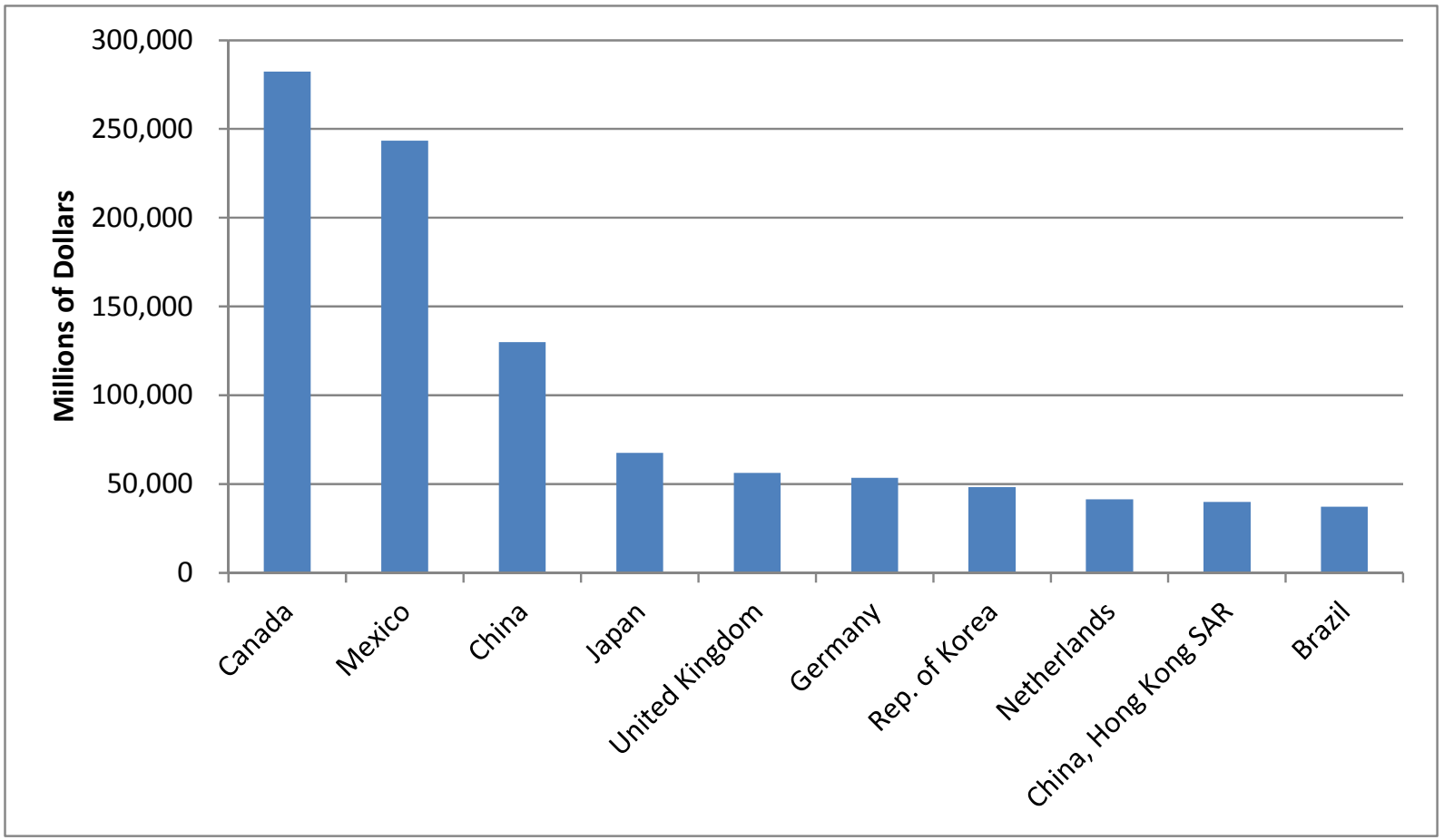
China is by far the largest exporter to the US, followed by Mexico and Canada. These 3 countries provide nearly 50% of total US imports.



Source: UN Comtrade

Top 10 Destinations for US Exports

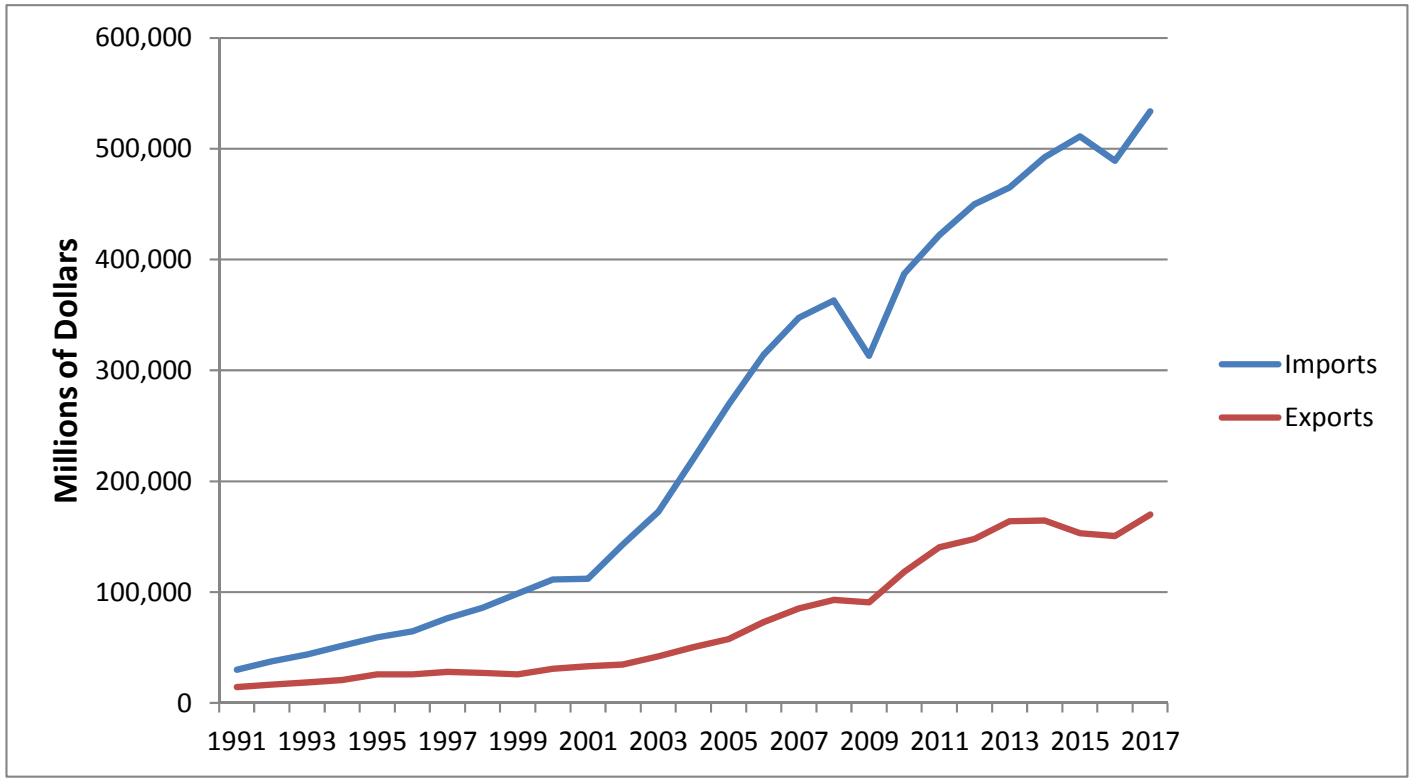
China is the 3rd largest destination for US exports, behind Canada and Mexico. These 3 countries buy 42% of the total.



Source: UN Comtrade

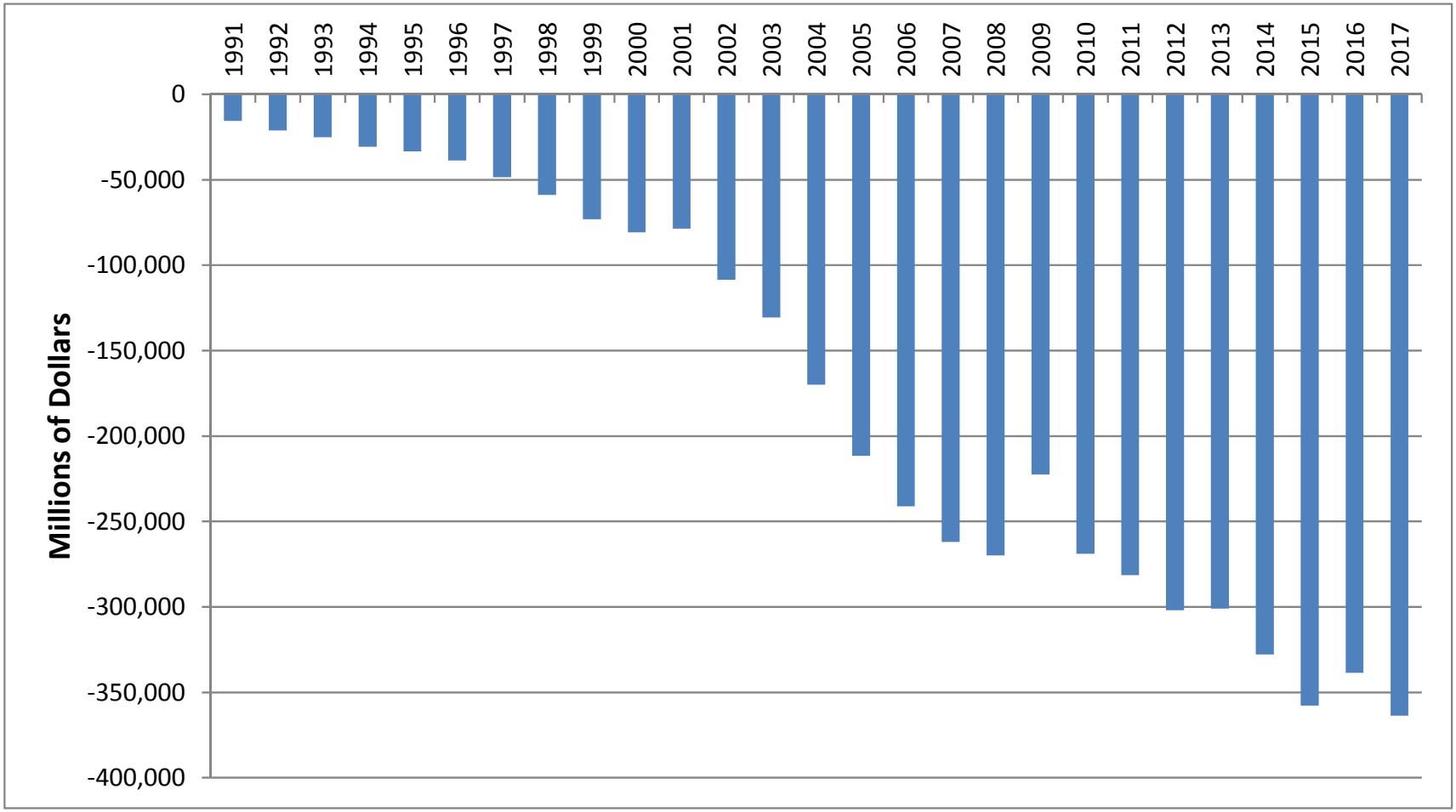
US/China Bilateral Trade

The bilateral deficit with China has grown faster than the total. The China deficit was $373.7 billion in 2017, up from $15.6 billion in 1991.



Source: UN Comtrade (includes Hong Kong)

US/China Bilateral Trade Deficit



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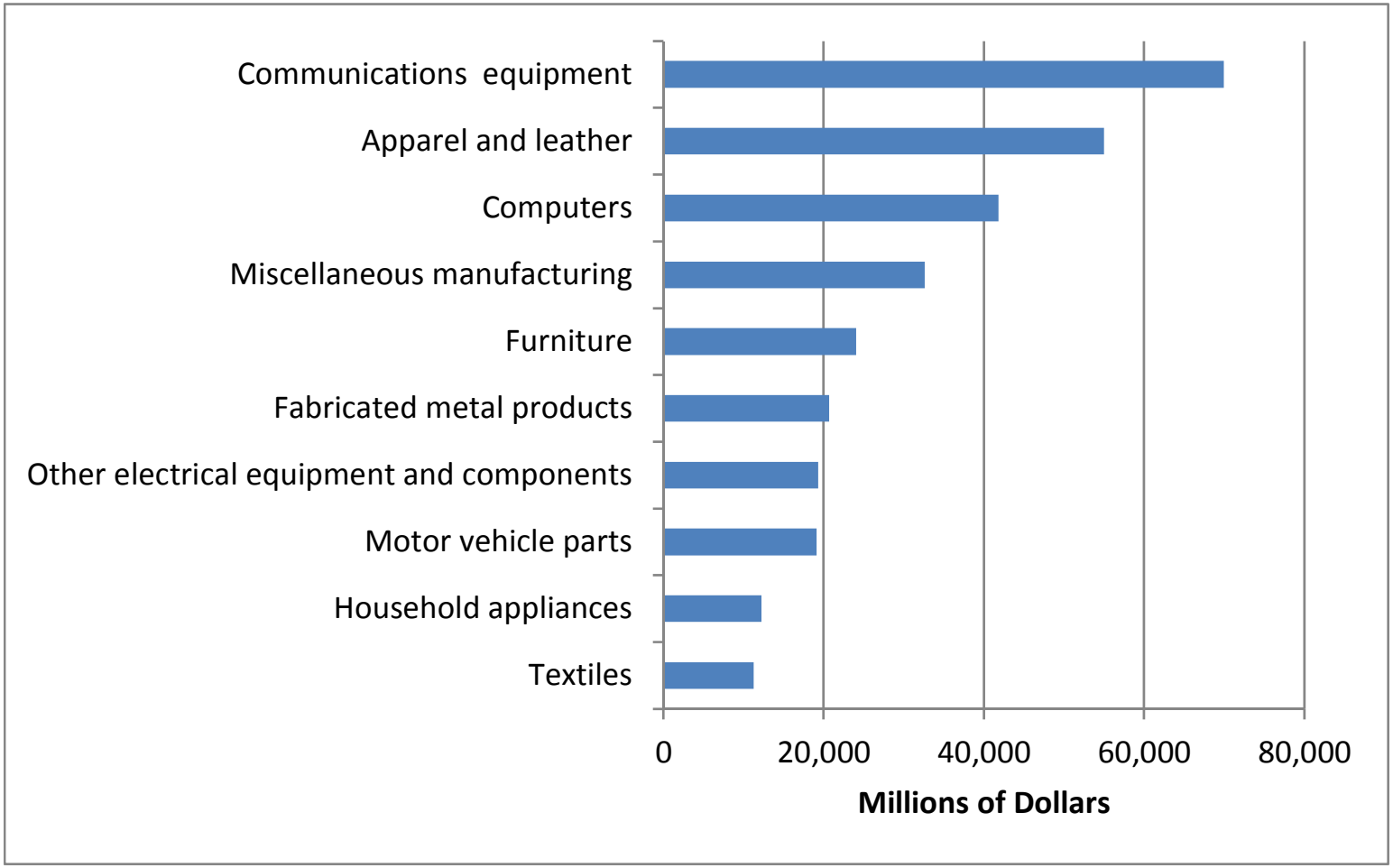
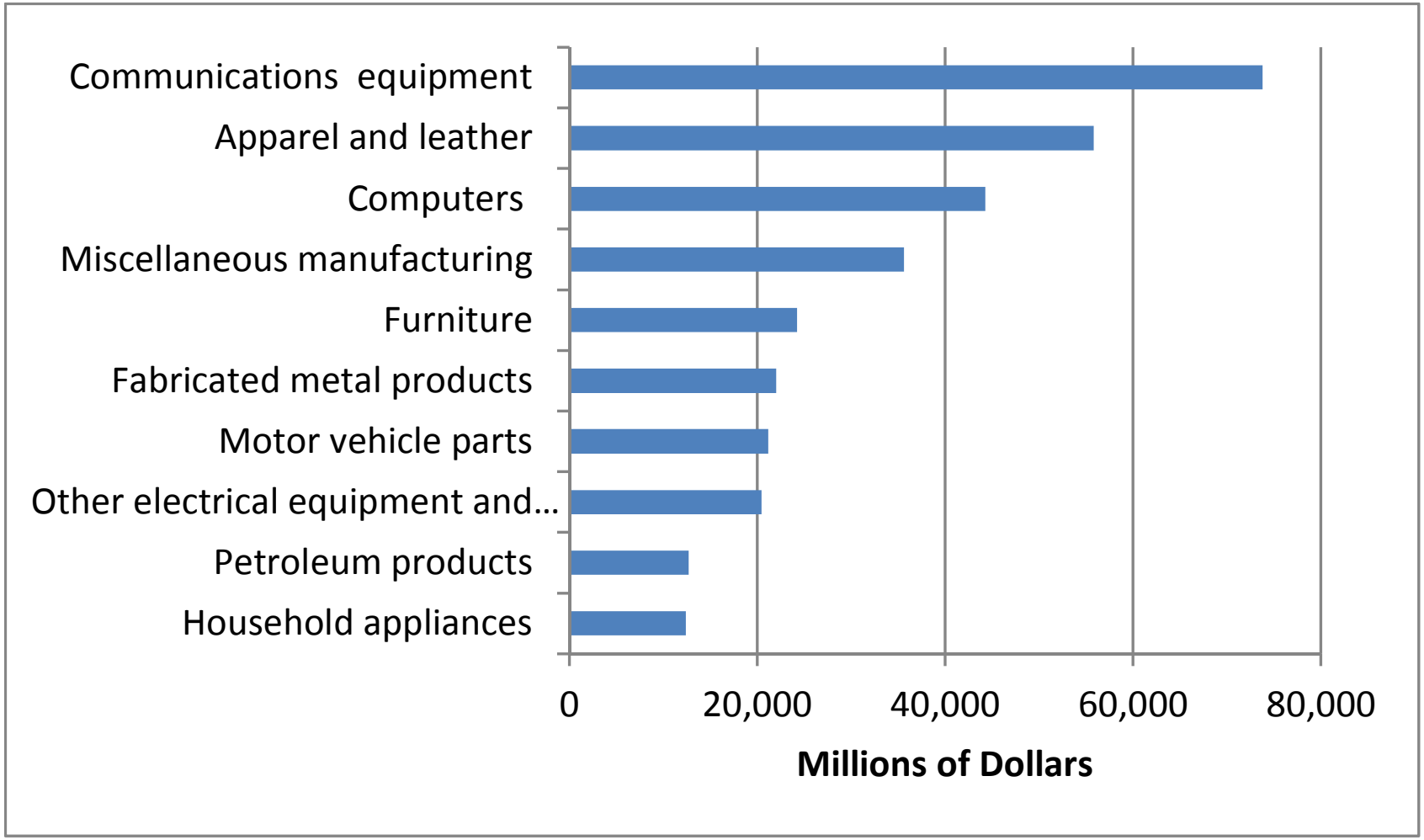
Top 10 US Exports to China



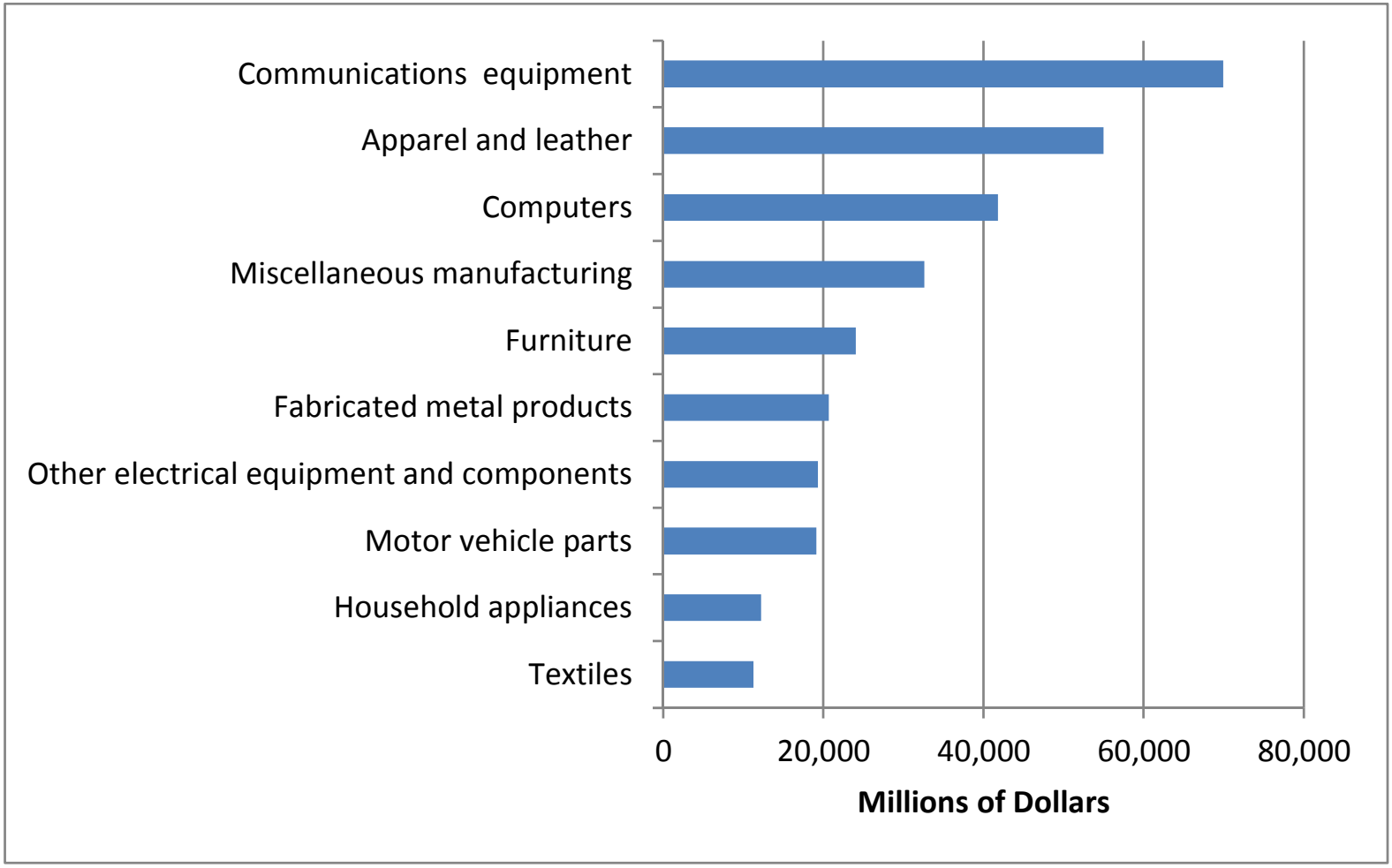
Source: UN Comtrade converted to Inforum NAICS Classification

Top 10 US Imports from China



Source: UN Comtrade converted to Inforum NAICS Classification

US Deficits with China



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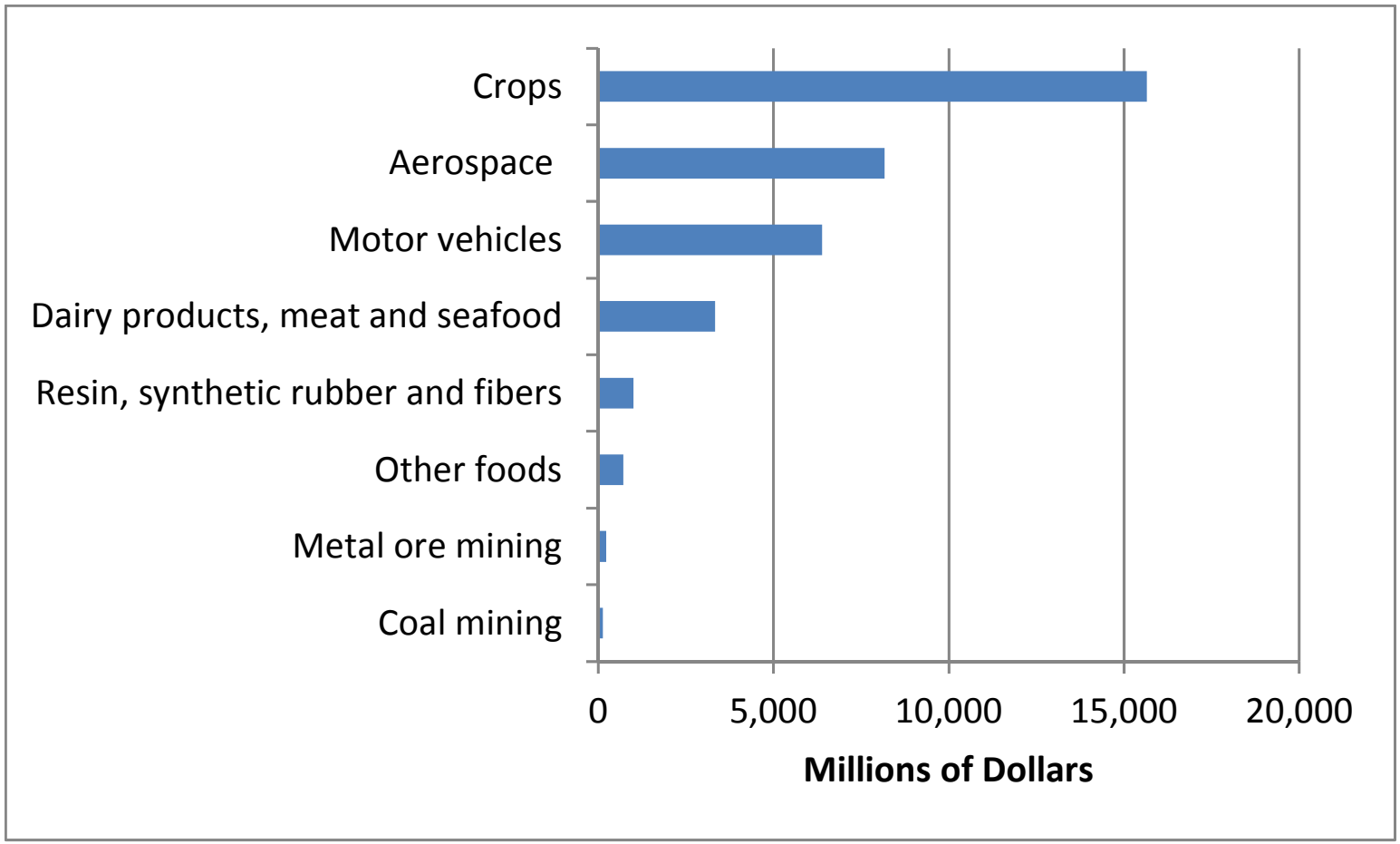
US Surpluses with China



Source: UN Comtrade converted to Inforum NAICS Classification

Section 232 – Trade Expansion Act of 1962

- The President may impose tariffs based upon a recommendation by the Secretary of Commerce if an article being imported is in such quantities or under such circumstances as the threaten or impair national security.
- Factors to be considered include:
  1. Domestic production required for national defense requirements.
  2. Capacity of domestic industry to meet such requirements.
  3. Availability of human resources, products, raw materials and other supplies and services essential to national defense.
  4. Growth requirements of domestic industries to meet dfense requirements.
  5. Loss of investment, specialized skills and productive capacity.
- Recent investigations:
  - April 20, 2018 – Steel imports
  - April 27, 2018 – Aluminum imports
  - July 20, 2018 – Autos and auto parts

Section 301 – Trade Act of 1974

- The President may take action, including retaliation, for unfair trade practices that burden or restrict U.S. Commerce.
- The most recent actions have been focused on enforcing intellectual property (IP) rights.
- Section 301 cases can be initiated by the U.S. Trade Representative or as a result of a petition filed by a firm or industry group.
- Recent investigation:
  - August 18, 2017 – USTR initiated investigation into unfair practices in China relating to technology transfer, intellectual property and innovation.
  - March 22, 2018 – President directed USTR to take appropriate action, including increased tariffs on selected Chinese imports. USTR developed a list of products that benefit from Chinese industrial policies, including "Made in China 2025". Products were removed where tariffs were considered to cause "significant disruptions" to the U.S. economy. This list includes roughly $50 billion of US imports from China.
  - July 6, 2018 – First tranch of 25% tariffs announced, on about $34 billion of Chinese goods.
  - August 23, 2018 – Second tranch of 25% tariffs, on an additional $16 billion.
  - September 24, 2018 – List of tariffs developed on additional $200 billion. These will start at 10% but be raised to 25% in January, 2019.

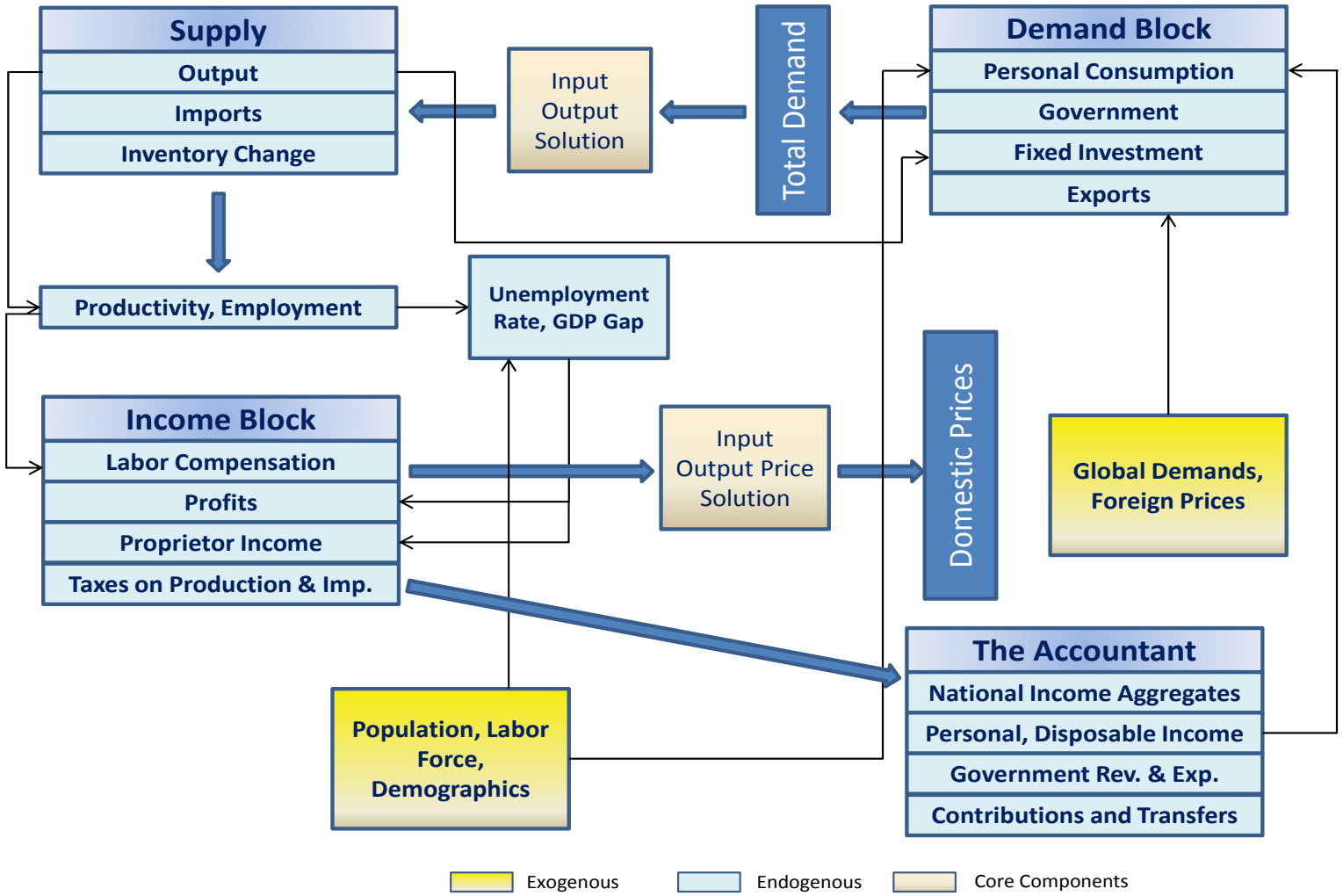
Analysis of Section 301 Tariffs and China Retaliation

- Although there are several simultaneous trade actions occurring, it is useful to focus on the bilateral US/China actions.
- We used the Inforum *LIFT* model to approach answers to the following questions:
  - What is the impact of tariffs imposed on Chinese goods on US import prices?
  - How does this translate into prices paid by consumers and business for imports?
  - How much tariffs will be collected in total?
  - How much will US imports decline in response to the tariffs?
  - What will be the impact of Chinese tariffs on US exports?
  - What is the net effect on the overall trade balance?
  - What are the impacts on GDP, disposable income, personal consumption and investment?

The LIFT Model

- LIFT is an interindustry macroeconomic model of the U.S., with IO demand and price relationships at its core, but also a dynamic aggregative model.
- Econometric equations are included for all vectors of final demand, value added, employment and hours. There are 121 commodities and 71 industries in the model.
- The model structure is useful for understanding how changes in import prices affect average prices paid in the U.S. and imports by commodity.
- Price changes affect consumers, but also industries that purchase imported goods for intermediate consumption.
- Benefits and costs can be expected to be different for each industry.

The LIFT Model



Implementation in the LIFT Model

- Compile UN Comtrade imports and exports data by bilateral trading partner at the LIFT 121 NAICS sectoring.
- Calculate shares of US imports from China by commodity subject to the Section 301 tariffs.
- Calculate the import price change (exogenous to LIFT).
- Model the impacts of these import price changes on trade, personal consumption and consumer and GDP deflators.
- Calculate shares of US exports to China subject to retaliatory tariffs.
- Calculate implied changes in average price to China and the associated reduction in exports to China. Introduce the export changes to LIFT as an exogenous assumption.
- Estimate total customs duties collected and include them in Federal taxes on production and imports (TOPI).

Sample of Section 301 Products Subject to Tariff

HTS Subheading	Product Description
5407.83.00	Woven fabrics, less than 85 percent by weight of synthetic filaments, mixed mainly or solely with cotton, of yarns of different colors
5407.84.00	Woven fabrics, containing less than 85 percent by weight of synthetic filaments, mixed mainly or solely with cotton, printed
5407.91.05	Woven fabrics of synthetic filament yarn nesoi, containing 36 percent or more by weight of wool or fine animal hair, unbleached or bleached
5407.91.10	Woven fabrics of synthetic filament yarn nesoi, mixed mainly or solely with wool or fine animal hair, unbleached or bleached, nesoi
5407.91.20	Woven fabrics of synthetic filament yarn nesoi, unbleached or bleached, nesoi
5407.92.05	Woven fabrics of synthetic filament yarn nesoi, containing 36 percent or more by weight of wool or fine animal hair, dyed
5407.92.10	Woven fabrics of synthetic filament yarn nesoi, mixed mainly or solely with wool or fine animal hair, cont. <36% wool/fine animal hair, dyed
5407.92.20	Woven fabrics of synthetic filament yarn nesoi, dyed, nesoi
5407.93.05	Woven fabrics of synthetic filament yarn nesoi, containing 36% or more by weight of wool or fine animal hair, of yarns of different colors
5407.93.10	Woven fabrics of synthetic filament yarn nesoi, mixed mainly or solely with wool or fine

HS 4-digit Bilateral Trade Data: US Imports from China

HS 4-digit	Commodity	US Imports from China
5401	Sewing thread of man-made filaments, whether or not put up for retail sale	5,145,937
5402	Synthetic filament yarn (other than sewing thread), not put up for retail sale, including synthetic monofilament of less than 67 decitex	287,889,141
5403	Artificial filament yarn (other than sewing thread), not put up for retail sale, including artificial monofilament of less than 67 decitex	1,123,788
5404	Synthetic monofilament of 67 decitex or more, of which no cross-sectional dimension exceeds 1mm; strip and the like (e.g. artificial straw) of synthetic textile materials of an apparent width not exceeding 5mm	17,016,397
5405	Artificial monofilament of 67 decitex or more, no cross-sectional dimension exceeds 1mm; strip and the like (e.g. artificial straw), of artificial textile materials of a width not exceeding 5mm	96,439
5406	Man-made filament yarn (other than sewing thread), put up for retail sale	5,544,273
5407	Woven fabrics of synthetic filament yarn, including woven fabrics obtained from materials of heading no. 5404	232,260,915
5408	Woven fabrics of artificial filament yarn including woven fabrics obtained from materials of heading no. 5404	5,430,921

Impact of Section 301 Tariffs on Average US Import Prices

	Commodity	Total Merchandise Imports	Merchandise Imports from China	Share subject to 25% tariff	Value subject to tariff	Amount of Tariff	Percent Increase in Average Import Cost
42	Communications and audio-video equipment	145,056	86,424	0.258	22,297	5,574	3.8
20	Apparel and leather	130,693	54,392	0.148	8,050	2,012	1.5
41	Computers and peripheral equipment	87,041	49,869	0.206	10,273	2,568	3.0
57	Miscellaneous manufacturing	73,162	39,043	0.200	7,809	1,952	2.7
55	Furniture	54,086	26,907	0.647	17,409	4,352	8.0
33	Fabricated metal products	63,674	23,630	0.140	3,308	827	1.3
51	Motor vehicle parts	119,680	22,706	1.000	22,706	5,677	4.7
49	Other electrical equipment and components	52,895	22,657	0.720	16,313	4,078	7.7
24	Petroleum and coal products	70,223	13,810	1.000	13,810	3,452	4.9
47	Household appliances	29,148	13,191	0.550	7,255	1,814	6.2

Impact of Tariffs on Chinese Goods in the LIFT Model

1. **Calculate share subject to tariffs and impact on average import price for each commodity (top line).**
2. **Calculate impact on weighted price (average of domestic and imported price – middle line)**
3. **Calculate impact on consumer price (bottom line)**

Percent Change in Prices, Trade War vs. Base

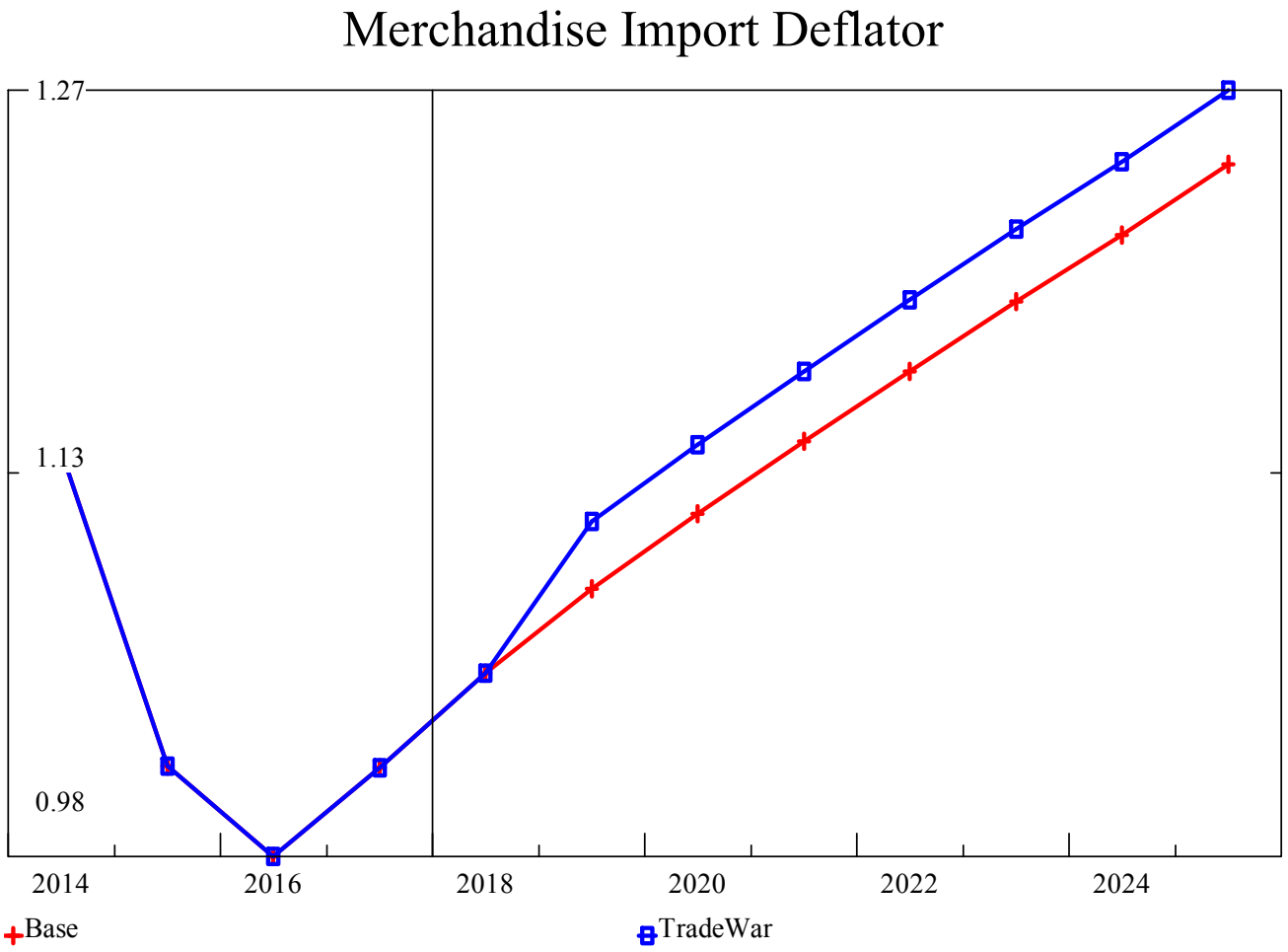
	2019		
Household Appliances			
Import Price	6.2	Chinese Share of Imports	45%
Weighted Price	3.9	Import Share of Total Use	59%
Consumption Price	3.5		

Imports decline in response to the higher price.

Personal consumption of each consumption good responds to prices and income.

Higher consumption prices reduce real disposable income.

Aggregate Merchandise Import Deflator



Impact of Retaliatory Tariffs in the LIFT Model

1. **Calculate share subject to tariff and impact on China's average import price for each commodity**
2. **Calculate impact on exports to China.**

	Commodity	Total US Exports	Exports to China	Share Subject to Chinese tariff	Value Subject to tariff	Amount of Tariff	Price increase to China	Reduction in Chinese Imports
1	Crop production	55,377	17,512	0.630	11,033	2,758	15.8%	-23.6%
27	Other chemicals	93,549	7,360	0.955	7,029	1,757	23.9%	-35.8%
43	Semiconductors and other electronic components	34,629	7,131	0.130	927	232	3.3%	-4.9%

Exports to China decline in response to the higher Chinese import price.

Summary of Macroeconomic Impacts for 2019

Year: 2019	Base Case Scenario	Trade War Scenario	Difference
Real GDP Growth	2.5%	1.8%	-0.7%
Unemployment Rate	3.8%	4.4%	0.6%
Real Disposable Income Growth	2.8%	2.0%	-0.8%
Real Personal Consumption Growth	2.5%	1.8%	-0.7%
Real Gross Private Fixed Investment Growth	4.3%	3.4%	-0.9%
Real Imports Growth	5.3%	3.6%	-1.7%
Real Exports Growth	4.2%	2.5%	-1.7%
Trade Balance (Billion$)	-$733.0	-$775.6	-42.6
Federal Deficit (Billion $)	-$1,002.3	-$1,031.5	-29.2

Caveats

- We have not yet analyzed the tariff scenario in the context of the full Inforum Bilateral Trade model.
- If we did, the decline in Chinese imports of US goods would be larger, factoring in slower growth in China.
- We have also not yet assumed exchange rate adjustments, such as a depreciation of the yuan. This would mitigate the import price increases in the U.S., and U.S. imports from China would not fall by as much. However, China's imports of U.S. goods would fall even more than in this simulation.
- Aggregate changes in net exports and the foreign balance need to be consistent with US savings behavior (business, household, government). Reduction in imports from China may show up as increases in imports from other countries, such as Vietnam, the Philippines or Mexico.

Thank you!