The Trumpian Trade Policy Shift Continues: Effects on Uncertainty, Volatility and Business Activity

Remarks by Steven J. Davis
U.S. Congressional Budget Office
Panel of Economic Advisers
Washington, DC
8 November 2019
Overview

1. Global EPU is at its highest levels since at least the mid 1990s.
3. U.S.: EPU has fluctuated around high levels since 2008, but the mix of policy concerns has shifted greatly under Trump, especially since 2018.
4. The recent TPU rise is extraordinary in several respects:
   – Magnitude and global character
   – Impact on financial markets
   – A U.S.-instigated shift in the climate surrounding trade policy, including higher trade barriers and much greater uncertainty
6. Some suggestive evidence of (trade) policy uncertainty effects on China’s economy.
1. Global EPU Is at Highest Levels Since at Least Mid 1990s

Three Text-Based Measures of Global Uncertainty

**Global Economic Policy Uncertainty Index:** A GDP-weighted average of newspaper-based EPU index values in 21 countries that make up 80% of global GDP at current prices. See Davis (2016). Each national EPU is normalized to a mean of 100 from 1997 to 2015 before calculating the Global EPU Index.

**World Uncertainty Index:** Based on the frequency of “uncertainty” in quarterly Economist Intelligence Unit reports for 143 countries. See Ahir, Bloom and Furceri (2019). The index is calculated as (“uncertainty” instances)/(total number of words) in the EIU country reports. Normalized to 100 from 1996Q1 to 2010Q4.

**Geopolitical Risk Index:** An index of global geopolitical risks based on eleven leading newspapers in Canada, the United Kingdom and the United States. "Geopolitical risks" are those associated with wars, terrorist acts, and tensions between states that affect the normal and peaceful course of international relations. See Caldara and Iacoviello (2018). Index is normalized to 100 from 2000 to 2009.
Global Economic Policy Uncertainty Index, January 1997 to September 2019

- Political turmoil in Brazil, France, South Korea,..., U.S. pulls out of TPP
- Trump Election
- Brexit Referendum
- Asian & Russian Financial Crises
- Gulf War II
- 9/11
- Global Financial Crisis
- Eurozone Crises, U.S. Fiscal Fights, China Leadership Transition
- European Immigration Crisis
- U.S.-China trade tensions begin to intensify

World Uncertainty Index: 1996Q1 to 2019Q3

Benchmark Geopolitical Risk Index from Caldara and Iacoviello (2019). The index is calculated by counting the number of articles related to geopolitical risk in each newspaper for each month (as a share of the total number of news articles). The index is then normalized to average a value of 100 in the 2000-2009 decade.
2. China: A Sharp EPU Rise in Recent Years, Much of It Tied to Trade Policy Uncertainty

Two Text-Based Measures of China EPU:
China EPU Based on Two Leading Mainland Newspapers, January 2000 to September 2019

- Iraq Invasion, SARS Outbreak (March)
- Latin American & Caribbean Elections (January)
- U.S. Subprime Mortgage & Financial Crisis (March-October)
- Europe Debt Crisis, Downgrade of U.S. Sovereign Credit Rating
- Global Financial Crisis
- Brexit, Trump Inauguration, European Elections (January – March)
- U.S. Government Shutdown (October)
- Trade War, Concerns about Populism & European Sovereign Debt (January – March)
- US-China Trade Policy Tensions Intensify
- China’s 2nd White Paper on US-China Trade Conflict, Rising Brexit Uncertainty (June)

Normalized to 100 from 2000 to 2018.
China EPU Index Based on the *South China Morning Post*, January 1997 to September 2019

Normalized to 100 from 1997 to 2011.
Comparison of the Two China EPU Indexes, Quarterly Averages of Monthly Values, 1995Q1 to 2019Q3

Both series normalized to a mean of 100 from 1995 to 2019.
## Trade Policy Share of EPU Articles, Selected Time Periods for Three Major Economies

<table>
<thead>
<tr>
<th>Time Period</th>
<th>United States</th>
<th>Japan</th>
<th>China</th>
</tr>
</thead>
<tbody>
<tr>
<td>1987-2015</td>
<td>4</td>
<td>8</td>
<td>16</td>
</tr>
<tr>
<td>2000-2015</td>
<td>2</td>
<td>7</td>
<td>20</td>
</tr>
<tr>
<td>NAFTA: January 1992 to June 1995</td>
<td>11</td>
<td>11</td>
<td>10</td>
</tr>
<tr>
<td>China WTO Accession: Jan 2000 to Dec 2002</td>
<td>3</td>
<td>5</td>
<td>36</td>
</tr>
<tr>
<td>November 2016 to December 2018</td>
<td>9</td>
<td>20</td>
<td>39</td>
</tr>
<tr>
<td>March-December 2018</td>
<td>15</td>
<td>27</td>
<td>48</td>
</tr>
<tr>
<td>January-July 2019</td>
<td>12</td>
<td>29</td>
<td>42</td>
</tr>
</tbody>
</table>

Note: Table entries report the percent of articles about Economic Policy Uncertainty that discuss trade policy matters in leading newspapers for the indicated countries. They are tabulated from data developed by Baker et al. (2016) for the United States, Arbatli et al. (2019) for Japan and Davis et al. (2019) for China. Reproduced from Davis (2019).
The next several charts draw on newspaper-based measures constructed by Baker, Bloom and Davis (2016), as updated at [www.PolicyUncertainty.com](http://www.PolicyUncertainty.com). The website includes data for several other policy categories as well. Each index is normalized to a mean of 100 from 1985 to 2009.

- U.S. EPU has fluctuated around (mostly) high levels since 2008.
- The mix of concerns has shifted dramatically, especially since 2018:
  - Away from fiscal policy, healthcare, and financial regulation
  - Toward trade policy, first and foremost
  - Toward national security policy and monetary policy, starting from a low base in each case.
Fiscal Policy Uncertainty Index, 1985 to 2019Q3, Quarterly

Notes: The index reflects the frequency of newspaper articles about economic policy uncertainty and fiscal policy, as indicated by terms like "fiscal footing", balanced budget", and "Gramm-Rudman."
**Healthcare Policy Uncertainty Index, 1985 to 2019Q3, Quarterly**

- **Clinton healthcare reform initiative**
- **Bush announces Medicare reform initiative, leading to Medicare Act of 2003**
- **Affordable Care Act: Legislative and electoral battles, uncertainty about effects, constitutional challenges, implementation snafus**
- **ACA repeal efforts early in Trump Presidency**

**Notes:** The index reflects the frequency of newspaper articles about economic policy uncertainty and healthcare policy matters, as indicated by terms like "healthcare," "hospital," "health insurance," and "Medicare."
Financial Regulation Uncertainty Index, 1985 to 2019Q3, Quarterly

Notes: The index reflects the frequency of newspaper articles about economic policy uncertainty and financial regulatory matters, as indicated by terms like "bank(ing) supervision," "Glass-Steagall," and "Dodd-Frank."
U.S. Trade Policy Uncertainty Index, January 1985 to July 2019

Notes: The index reflects the frequency of newspaper articles about economic policy uncertainty and national security uncertainty, as indicated by terms like "no-fly zone," "9/11," and "armed forces."
Monetary Policy Uncertainty Index, 1985 to 2019Q3, Quarterly

Notes: The index reflects the frequency of newspaper articles about economic policy uncertainty and monetary policy matters, as indicated by terms like "federal reserve," "monetary policy," "open market operations," "money supply," "quantitative easing," and "fed funds rate".
U.S. industries with greatest concern about TPU, 2018Q3 to 2019Q2

<table>
<thead>
<tr>
<th>Sector</th>
<th># of firms</th>
<th>Mean PRiskTrade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Textile Mill Products</td>
<td>7</td>
<td>1.528</td>
</tr>
<tr>
<td>Primary Metal Industries</td>
<td>23</td>
<td>0.865</td>
</tr>
<tr>
<td>Miscellaneous Manufacturing Industries</td>
<td>14</td>
<td>0.827</td>
</tr>
<tr>
<td>Railroad Transportation</td>
<td>5</td>
<td>0.696</td>
</tr>
<tr>
<td>Security and Commodity Brokers</td>
<td>60</td>
<td>0.646</td>
</tr>
<tr>
<td>Trucking and Warehousing</td>
<td>14</td>
<td>0.540</td>
</tr>
<tr>
<td>Furniture and Fixtures</td>
<td>13</td>
<td>0.504</td>
</tr>
<tr>
<td>Fabricated Metal Products</td>
<td>33</td>
<td>0.484</td>
</tr>
<tr>
<td>Nondepository Institutions</td>
<td>34</td>
<td>0.468</td>
</tr>
<tr>
<td>Electronic and Other Electric Equipment</td>
<td>151</td>
<td>0.465</td>
</tr>
</tbody>
</table>

Source: Personal communication with Tarek Hassan, based on the textual analysis of corporate earnings conference calls in Hassan et al. (2019).

Notes: This table lists the top 10 sectors with the highest average PRisk-Trade across all firms with four earnings calls between 2018q3-2019q2. Firms headquartered outside of the US or with less than four earnings calls in 2018q3-2019q2 are excluded. The sample is restricted to sectors with at least five firms. Sectors are classified according to a 2-digit SIC.
U.S. industries with biggest rise since 2015 in concerns about TPU

Table 4: Top 10 affected 2-digit SIC sectors (change)

<table>
<thead>
<tr>
<th>Sector</th>
<th># of firms</th>
<th>Mean change in PRiskTrade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Miscellaneous Manufacturing Industries</td>
<td>10</td>
<td>0.816</td>
</tr>
<tr>
<td>Trucking and Warehousing</td>
<td>10</td>
<td>0.620</td>
</tr>
<tr>
<td>Primary Metal Industries</td>
<td>20</td>
<td>0.550</td>
</tr>
<tr>
<td>Railroad Transportation</td>
<td>5</td>
<td>0.423</td>
</tr>
<tr>
<td>Furniture and Fixtures</td>
<td>12</td>
<td>0.418</td>
</tr>
<tr>
<td>Apparel and Accessory Stores</td>
<td>26</td>
<td>0.406</td>
</tr>
<tr>
<td>Security and Commodity Brokers</td>
<td>53</td>
<td>0.385</td>
</tr>
<tr>
<td>Electronic and Other Electric Equipment</td>
<td>127</td>
<td>0.346</td>
</tr>
<tr>
<td>Textile Mill Products</td>
<td>7</td>
<td>0.346</td>
</tr>
<tr>
<td>Wholesale Trade – Nondurable Goods</td>
<td>28</td>
<td>0.299</td>
</tr>
</tbody>
</table>

Notes: This table lists the top 10 sectors with the highest average change in PRiskTrade between 2015 and 2018q2-2019q2. This change is calculated by first calculating, at the firm level, average PRiskTrade in 2015 and 2018q2-2019q2, then taking the difference, and finally averaging this difference within sectors. Firms headquartered outside of the US or with less than four earnings calls in 2018q3-2019q2 are excluded. The sample is restricted to sectors with at least five firms. Sectors are classified according to a 2-digit

Source: Personal communication with Tarek Hassan, based on the textual analysis of corporate earnings conference calls in Hassan et al. (2019).
4. The Recent TPU Rise Is Extraordinary in Several Respects

- Magnitude and global character
- Impact on financial markets
- A U.S.-instigated shift in the climate surrounding trade policy – higher tariffs, erosion of institutional constraints, bilateral not multilateral orientation, conflation of trade policy with other concerns (national security, technology leadership, immigration, etc.), and much, much greater uncertainty

See Amiti et al. (2019), Baker, Bloom and Davis (2019) and Davis (2019) for a fuller discussion of the extraordinary character of the recent rise in trade policy uncertainty.
Average U.S. tariffs on Chinese imports are currently at 21%, up from 12% in January 2019 and 3% in March 2018. They were slated to rise to 24% by January 2020, but President Trump recently suspended further hikes -- for the moment. Chinese tariffs on U.S. goods are set to reach 25% by January 2020.

Reproduced from Bown (2019) as of 11 October.
Newspaper-Based Index of Trade Policy Uncertainty

Source: Caldara et al. (2019)

1960 to 2019Q2
Figure 1: Trade Policy Uncertainty in Firms Earnings Calls

Source: Caldara et al. (2019)
World Trade Uncertainty Index of Ahir, Bloom and Furceri (2019), based on Economic Intelligence Unit Country Reports.
Percent of Articles about Equity Market Volatility in Leading U.S. Newspapers that Discuss Trade Policy Matters, 1985 to September 2019

NAFTA Negotiations, Agreement, Ratification and Introduction; January 1992 to June 1995 Mean: 6.7%

Tariff Hikes and Escalating Trade Tensions, March 2018 to September 2019; Mean: 24.2%

1985-2015 Mean: 2.7%

Trump Election, November 2016

Trump Takes Office, Pulls out of TPP, January 2017

Brexit Referendum, June 2016

Note: Computed from automated readings of newspaper articles about Equity Market Volatility and (Equity Market Volatility + Trade Policy) in 11 major U.S. newspapers. Source: Baker, Bloom, Davis and Kost (2019).
Constructing the Preceding Chart

Compute the ratio, \( \frac{\text{count of EMV articles that mention Trade Policy}}{\text{count of EMV articles}} \), in each month from January 1985 to September 2019 and plot the monthly time series.

The “count of EMV articles” in the denominator is the number of articles in 11 leading U.S. newspapers that contain at least one term in each of the following three sets:

- **(E)conomy**: \{economic, economy, financial\}
- **(V)olatility**: \{uncertain, uncertainty, volatility, volatile, risk, risky\}

The numerator is the count of the subset of EMV articles that also contains one or more terms in **Trade Policy**: \{trade policy\}, \{tariff, import duty\}, \{import barrier, import restriction\}, \{trade quota\}, \{dumping\}, \{export tax, export duty\}, \{trade treaty, trade agreement, trade act\}, \{wto, world trade organization, Doha round, Uruguay round, gatt\}, \{export restriction\}, \{investment restriction\}, \{Nafta, North American Free Trade Agreement\}, \{Trans-Pacific Partnership, Trans-Pacific Partnership\}, \{Federal Maritime Commission\}, \{International Trade Commission\}, \{Jones Act\}, \{trade adjustment assistance\}
<table>
<thead>
<tr>
<th></th>
<th>Number of Daily Stock Market Jumps Greater than</th>
<th>Number Attributed to Trade Policy News</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1900 to 2017</td>
<td>1,103</td>
<td>7</td>
<td>0.6%</td>
</tr>
<tr>
<td>2018 to August 2019</td>
<td>13</td>
<td>5</td>
<td>38.5%</td>
</tr>
</tbody>
</table>

Note: This table is a tabulation of results in Baker, Bloom, Davis and Sammon (2019), who consider all daily jumps in the U.S. stock market greater than 2.5%, up or down, since 1900. They classify the reason for each jump into 16 categories based on human readings of next-day (or same evening) accounts in the *Wall Street Journal*. The table reports the number of jumps and the number attributed primarily to news about trade policy. The five jump dates in the recent period attributed primarily to trade policy, and the corresponding value-weighted returns on the S&P 500, are 22 March 2018, -2.52%; 26 March 2018, 2.72%; 4 December 2018, -3.24%; 5 August 2019, -2.98%; and 23 August 2019, -2.59. All but one of the earlier jumps attributed primarily to trade policy occurred in the 1930s.
5. Survey Evidence of Trade Policy Effects on U.S. Business Activity

1. The Atlanta Fed-Chicago-Stanford *Survey of Business Uncertainty* recently fielded special questions to business executives about the effects of trade policy developments on investment, sales and employment at their firms. The survey data show moderate negative effects in the first half of 2019, with larger effects in goods-producing sectors.
   - Capital expenditures: -2.7% in the private sector, -6.2% in manufacturing
   - Sales: -1.5% in the private sector, a loss of about $260 billion
   - Employment: -0.18%, equivalent to a loss of about 40,000 jobs per month

2. The 2019:H1 capex effects are larger than 6 and 12 months earlier. We did not previously ask about sales and employment.

3. Forward-looking questions indicate that firms anticipate somewhat larger negative effects of trade policy on employment and capex in 2019:H2.
Exhibit 1: Share of Firms that Cut or Postponed Capital Expenditures in the First Half of 2019 Because of Tariff Worries

Survey of Business Uncertainty (Jul 8-19, Aug 12-23, and Sep 9-20, 2019)
Did tariff hikes and trade policy tensions cause your firm to cut or postpone capital expenditures in the first half of 2019?

<table>
<thead>
<tr>
<th>Response</th>
<th>Count</th>
<th>Percent Responding “Yes” Unweighted</th>
<th>Capital-Stock Weighted</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td><strong>Private Sector</strong></td>
<td>12.0 [1.7]</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Goods Producers</strong></td>
<td>20.3 [3.4]</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Service Providers</strong></td>
<td>7.7 [1.8]</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Manufacturers</strong></td>
<td>22.1 [4.3]</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Construction</strong></td>
<td>16.7 [6.9]</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Trade, Transport, Warehousing</strong></td>
<td>15.3 [4.7]</td>
</tr>
</tbody>
</table>

Note: Standard errors are reported in brackets

Source: Survey of Business Uncertainty conducted by the Federal Reserve Bank of Atlanta, Stanford University, and the University of Chicago Booth School of Business. For more information, see “Surveying Business Uncertainty” by David Altig, Jose Maria Barrero, Nick Bloom, Steven J. Davis, Brent Meyer and Nick Parker, NBER Working Paper No. 25956, June 2019.
Exhibit 2: Estimated Impact of Tariff Hikes and Trade Policy Tensions on Capital Investment Expenditures by U.S. Businesses in First Half of 2019

Based on Firm-Level Responses in the July, August, and September 2019 Waves of the Survey of Business Uncertainty

<table>
<thead>
<tr>
<th></th>
<th>(1) Percentage Impact on Capital Expenditures</th>
<th>(2) Impact on 2019:H1 Capital Spending ($ billions)</th>
<th>(3) Number of Survey Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private Sector</td>
<td>-2.7 [0.7]</td>
<td>-39.6 [10.0]</td>
<td>373</td>
</tr>
<tr>
<td>Reweighted</td>
<td>-2.5 [0.6]</td>
<td>-35.8 [9.2]</td>
<td></td>
</tr>
<tr>
<td>Construction</td>
<td>-18.3 [6.2]</td>
<td>-5.7 [1.9]</td>
<td>29</td>
</tr>
</tbody>
</table>

Notes: Column (1) reports the capital-stock weighted mean of firm-level responses to questions about whether tariff hikes and trade policy tensions caused the firm to alter its capital expenditures in the first half of 2019 and, if so, in what direction and by what percentage amount. To obtain the private sector dollar impact in column (2), we multiply column (1) by one-half times the annualized 2019:Q2 value of nominal private nonresidential fixed investment in the U.S. Bureau of Economic Activity’s National Income and Product Accounts. For manufacturing and construction, we multiply by the corresponding nominal value for the sector in 2018, scaled up by 1.0091 to reflect the percentage growth of private sector investment from 2018:Q4 to 2019:Q2. The “Reweighted” row reflects a re-weighting of the SBU data to match the one-digit industry distribution of private sector capital stocks. Standard errors reported in brackets.

Source: BEA; Authors’ calculations using data from the Survey of Business Uncertainty conducted by the Federal Reserve Bank of Atlanta, Stanford University, and the University of Chicago Booth School of Business.

Based on Firm-Level Responses in the July, August, and September 2019 Survey of Business Uncertainty

A. Employment Results

(1) Percentage Impact on Employment | (2) Employment Impact in 2019:H1 (1000s of employees) | (3) Number of Survey Responses
---|---|---
Private Sector | -0.18 [0.11] | 236 [143] | 389
Reweighted | -0.14 [0.10] | 181 [128] |

B. Sales Results

(1) Percentage Impact on Sales | (2) Sales Impact in 2019:H1 ($ billions) | (3) Number of Survey Responses
---|---|---
Private Sector | -1.55 [0.30] | -259.4 [50.2] | 356
Reweighted | -1.15 [0.26] | -193.1 [44.0] |

Point estimates for 2019:H1 imply about $110,000 in lost sales per lost job.

The 2018 ratio of nominal gross output to nominal value added in the private sector is 1.81.

Source: Authors’ calculations using data from the Survey of Business Uncertainty conducted by the Federal Reserve Bank of Atlanta, Stanford University, and the University of Chicago Booth School of Business.
Notes to Exhibit 3:

In Panel A, column (1) reports the employment-weighted mean response to questions about whether tariff hikes and trade policy tensions caused the firm to alter its employment level in the first half of 2019 and, if so, by what percentage amount. We deleted three questionable responses to the employment question that we could not verify. To obtain the aggregate employment impact in column (2) we multiplied the column (1) value by the average nonfarm private sector payroll employment in the first half of 2019. The “Reweighted” row reflects a re-weighting of the SBU data to match the one-digit industry distribution of private sector payroll employment.

In Panel B, column (1) reports the sales-weighted mean response to questions about whether tariff hikes and trade policy tensions affected the firm’s sales in the first half of 2019 and, if so, by what percentage amount. To obtain the aggregate sales impact in column (2) we multiplied the column (1) value by Nominal Gross Output: Private Industries. According to the BEA, Gross Output is, “principally, a measure of an industry’s sales or receipts. These statistics capture an industry’s sales to consumers and other final users (found in GDP), as well as sales to other industries (intermediate inputs not counted in GDP). They reflect the full value of the supply chain by including the business-to-business spending necessary to produce goods and services and deliver them to final consumers.” The “Reweighted” row reflects a re-weighting of the SBU data to match the one-digit industry distribution of private sector gross output.

Standard errors reported in brackets.
Exhibit 4: Estimated Percentage Impact of Tariff Hikes and Trade Policy Tensions on Outcomes in the Second Half of 2019

Based on Firm-Level Responses in the July, August, and September 2019 Survey of Business Uncertainty

<table>
<thead>
<tr>
<th></th>
<th>Estimated Percentage Impact on:</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1) Capital Expenditures (2) Employment (3) Sales</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private Sector</td>
<td>-3.8 [0.8]</td>
<td>-0.4 [0.1]</td>
<td>-1.5 [0.2]</td>
<td></td>
</tr>
<tr>
<td>Goods Producers</td>
<td>-7.8 [2.0]</td>
<td>-0.8 [0.3]</td>
<td>-2.0 [0.4]</td>
<td></td>
</tr>
<tr>
<td>Service Providers</td>
<td>-1.0 [0.4]</td>
<td>-0.1 [0.1]</td>
<td>-1.1 [0.2]</td>
<td></td>
</tr>
<tr>
<td>Manufacturers</td>
<td>-5.5 [2.2]</td>
<td>-0.9 [0.4]</td>
<td>-2.3 [0.5]</td>
<td></td>
</tr>
<tr>
<td>Construction</td>
<td>-21.2 [6.0]</td>
<td>-0.7 [0.4]</td>
<td>-2.2 [1.0]</td>
<td></td>
</tr>
<tr>
<td>Trade, Transport, Warehousing</td>
<td>-2.9 [1.3]</td>
<td>-0.1 [0.3]</td>
<td>-1.8 [0.4]</td>
<td></td>
</tr>
</tbody>
</table>

Notes: This exhibit follows the same approach as Exhibits 2 and 3 using capital stock, employment and sales weighting in columns (1), (2) and (3), respectively. Standard error reported in brackets.

Source: Authors’ calculations using data from the Survey of Business Uncertainty conducted by the Federal Reserve Bank of Atlanta, Stanford University, and the University of Chicago Booth School of Business.
More on the Survey of Business Uncertainty and the Special Questions about Trade Policy Effects

1. For more info on the Survey of Business Uncertainty, see Altig et al. (2019a).
2. For results based on the special SBU trade policy questions fielded in July, August and September 2019, see “New Evidence Points to Mounting Trade Policy Effects on U.S. Business Activity” by Altig et al. (2019b).
3. The survey questions can be viewed at the following links:
   – Employment - https://frbaressurvey.co1.qualtrics.com/jfe/form/SV_eCFmK3TfP4Vs6lT
   – Sales Revenue – https://frbaressurvey.co1.qualtrics.com/jfe/form/SV_2mkJxrcLtJySxEh
   – Capital Expenditures - https://frbaressurvey.co1.qualtrics.com/jfe/form/SV_eJ9D3aXVxuOaLWZ
Some Effects Not Likely to Be (Fully) Captured by Our Survey Results

1. The passthrough of tariff hikes to consumers in the form of higher prices and to firms in the form of lower margins and profits. Evidence in Amiti et al. (2019), Cavallo et al. (2019) and Fagelbaum et al. (2019) suggests that recent U.S. tariff hikes were largely passed on to U.S. consumers and importers.

2. Tariff hikes and trade policy tensions slow growth in the global economy, with negative blowback effects on the U.S. economy.
3. The climate shift in trade policy is likely to entail persistently higher tariffs, the weakening of a rules-based trading system, less durability of and confidence in trade agreements, and a higher baseline level of trade policy uncertainty. This shift will drive an unwinding and re-orientation of cross-border supply chains and product distribution networks. See Heise et al. (2017) for a related argument. It may also prompt firms to build costly redundancies into their supply chains. Consequences:

• Extra adjustment costs in the near- and medium-term.
• Higher production costs, even in the long term.
• Reduced incentives to innovate by U.S. firms that rely on low-cost foreign production to implement technological advances (Lovely and Liang, 2018).
6. Suggestive Evidence for China

Variables Considered in Monthly VAR Systems

<table>
<thead>
<tr>
<th>Variable</th>
<th>Transformation</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Real Investment</td>
<td>$100 \times \ln\left(\frac{\text{Nominal Gross Investment}}{\text{Investment Deflator}}\right)$</td>
<td>702.93</td>
<td>98.64</td>
</tr>
<tr>
<td>Real Exports</td>
<td>$100 \times \ln\left(\frac{\text{Nominal Export}}{\text{GDP Deflator}}\right)$</td>
<td>651.44</td>
<td>47.10</td>
</tr>
<tr>
<td>Shanghai Stock Market Index</td>
<td>$100 \times \ln(SSE)$</td>
<td>773.10</td>
<td>36.21</td>
</tr>
<tr>
<td>China EPU (Mainland)</td>
<td>China EPU (Mainland)</td>
<td>100</td>
<td>68.74</td>
</tr>
<tr>
<td>China EPU (SCMP)</td>
<td>Baker et al. China EPU (SCMP)</td>
<td>100</td>
<td>86.83</td>
</tr>
<tr>
<td>China TPU (Mainland)</td>
<td>Trade Policy Uncertainty (Mainland)</td>
<td>100</td>
<td>140.92</td>
</tr>
</tbody>
</table>

The VAR evidence on the next few slides is from Davis, Liu and Sheng (2019).
Percent Responses of Real Investment to Unit Standard Deviation China EPU Innovations, Monthly Data

Cholesky Ordering:
\( \ln(\text{Shanghai Stock Index}), \)  
China EPU, \( \ln(\text{Gross Real Investment}) \).

VARs include one lag of each variable and linear time trends.

Standard deviation of innovations
Our China EPU: 37.31
BBD China EPU: 40.37
Percent Responses of Real Investment to Unit Standard Deviation Innovations in China EPU (Mainland)

Baseline specification is the same as preceding figure.

VARs include linear time trends.

“Alternative Order 1” is China EPU, ln(Shanghai Stock Index), ln(Gross Real Investment)

“Alternative Order 2” is ln(Shanghai Stock Index), ln(Gross Real Investment), China EPU
Percent Responses of Real Investment to China EPU and China TPU Innovations Compared, Monthly Data

VARs include one lag of each variable and linear time trends.

Cholesky Ordering:
\( \ln(\text{Shanghai Stock Index}), \) China EPU, \( \ln(\text{Gross Real Investment}) \)

Standard deviation of innovations
Our China EPU: 37.31
Our China TPU: 88.71
Percent Responses of Real Exports to Unit St. Deviation China EPU Innovations, Monthly Data

VARs include one lag of each variable and linear time trends.

Cholesky Ordering:
\( \ln(\text{Shanghai Stock Index}), \)  China EPU, \( \ln(\text{Real Exports}) \)

Standard deviation of innovations
Our China EPU: 38.91
BBD China EPU: 40.86


