

The Trumpian Trade Policy Shift: Uncertainty, Market Volatility, Investment

Remarks by Steven J. Davis
U.S. Congressional Budget Office
Panel of Economic Advisers

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This presentation draws heavily on my research with collaborators in Arbatli et al. (2017), Altig et al. (2018), Baker, Bloom and Davis (2016), Baker et al. (2018a,b) and Davis et al. (2018). I am also grateful to participants in a recent workshop on “How to Link Trade Shocks to Macroeconomic Models” at the Peterson Institute for useful comments on related material and to Kevin Murphy for an insightful conversation on the sources of China’s vulnerability to recent trade policy developments.

Summary, 1

There has been a climate shift in trade policy. First and foremost, the Trump Administration has upended U.S. trade policy and undermined trade-related institutions and policy norms. Second, concerns related to China's rise and commercial policies have grown increasingly acute. They are not amenable to an early, easy resolution. Third, anti-globalist sentiments look to remain strong for long in several major economies. They have reshaped the policy landscape in ways hard to undo and with effects hard to foretell. Brexit is the leading case in point.

These developments have greatly intensified anxieties surrounding trade policy and its effects, created new uncertainties, and raised equity market volatility:

1. Since March 2018, newspaper-based indices of trade policy uncertainty for the U.S., China and Japan are running 200 to 700 percent above baseline levels from 1987 to 2015. These indices also jumped upwards in reaction to Trump's surprise election victory and his decision to pull the U.S. out of the TPP.

Summary, 2

2. Trade policy concerns have been a tiny source of uncertainty for the U.S. economy in recent decades except in (a) the period around the negotiation, ratification and introduction of NAFTA, and (b) the period since Donald Trump's election as U.S. President.
3. Trade policy concerns loom much larger in China, Japan and other trade-sensitive economies, especially after November 2016. Since U.S.-China trade frictions escalated in March 2018, trade policy gets attention in half of all articles about economic policy uncertainty (EPU) in mainland China's leading newspaper.
4. Trade policy news triggered daily jumps in U.S. equities $> |2.5\%|$ on 3 occasions since March 2018, as compared to only 7 times in the previous 118 years.
5. Trade policy gets attention in 26% of articles about equity market volatility in leading U.S. newspapers since March 2018, compared to 2.7% from 1985-2015. That is, trade policy went from a non-factor in U.S. equity market volatility in recent decades to one of the leading sources in recent months.

Summary, 3

The direct near-term effects of recent trade policy developments on U.S. gross domestic investment appear likely to be small:

6. Extrapolating from Cholesky-identified VARs fit to US data from 1985 to 2014 suggests that recent trade policy uncertainty will cut aggregate U.S. investment in 2019 by 1-2%. Even multiplying this figure by a factor of 2 or 3 yields a modest effect.
7. Questions about “recently announced tariff hikes and concerns about retaliation” in the July 2018 Survey of Business Uncertainty suggest an effect on U.S. domestic business investment in 2018-19 in the range of minus 3-4%.

The estimates in 6 and 7 are very rough, as discussed below. The actual effects could be larger.

Summary, 4

8. Recent trade policy developments will have bigger direct near-term effects on domestic investment in China. Very rough calculations and extrapolations from VARs fit to U.S. data suggest the recent jump in trade policy uncertainty could shave domestic investment in China by 5-10% in 2019.
9. China's economy is more vulnerable to trade policy shocks and uncertainty than the U.S. economy for several reasons:
 - China trades more with the ROW.
 - It benefits greatly from FDI that brings better technologies.
 - China's economy is more highly optimized to current and recent conditions by virtue of its very rapid growth and high investment rates in recent years.
 - It's economy is also highly optimized for a rules-based international trading system characterized by low trade policy uncertainty.

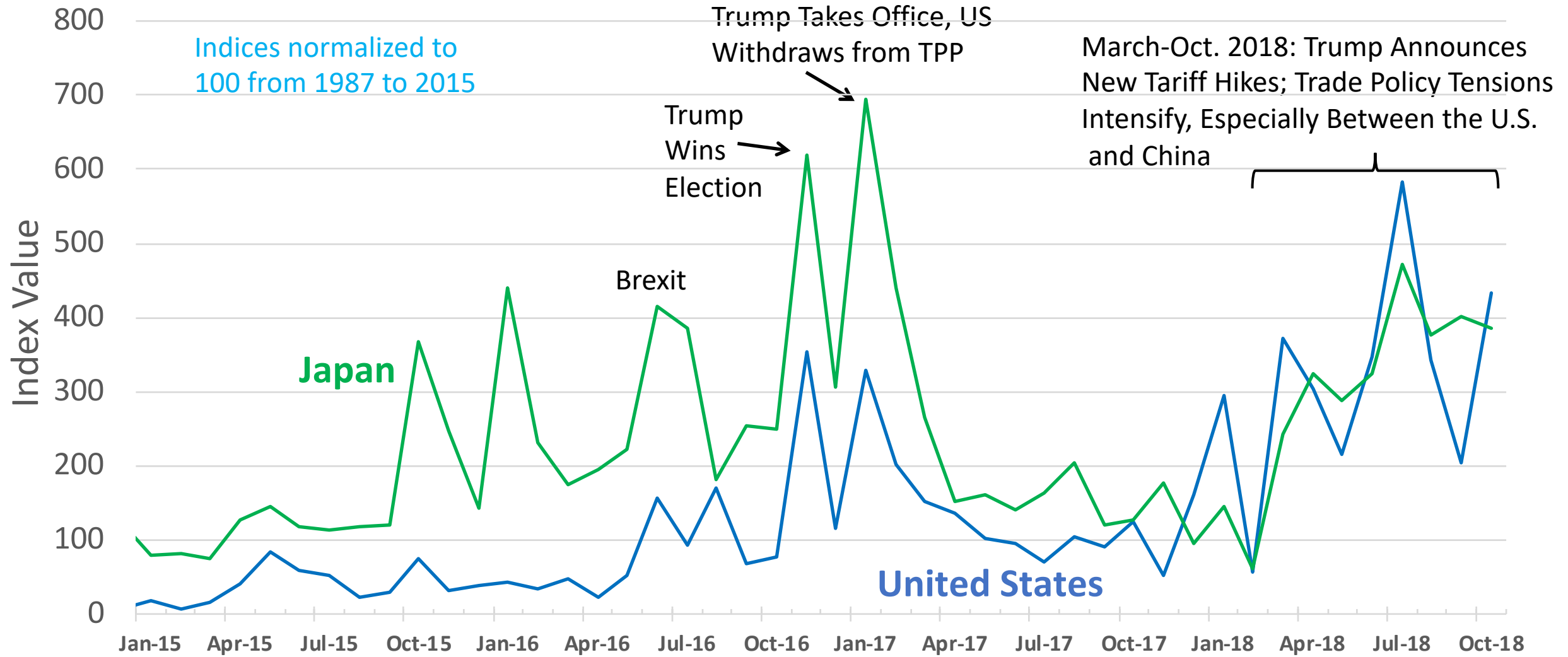
Summary, 5

10. Policy uncertainty and disruption effects on investor and business confidence are context dependent. I suggest below that the impact of recent trade policy developments on “confidence” is very modest in the current U.S. context but large in the current Chinese context.
11. As a corollary to my remarks about China’s vulnerability to trade policy shocks and uncertainty – and my assertion about confidence effects – the impact of recent trade policy developments on investment in China could be much larger than the 5-10% figure based on extrapolation from VARs fit to U.S. data.
12. Other U.S. trading partners, as well as economies woven into global supply chains, could also see material investment cutbacks in 2019 due to trade policy uncertainties.

Summary, 6

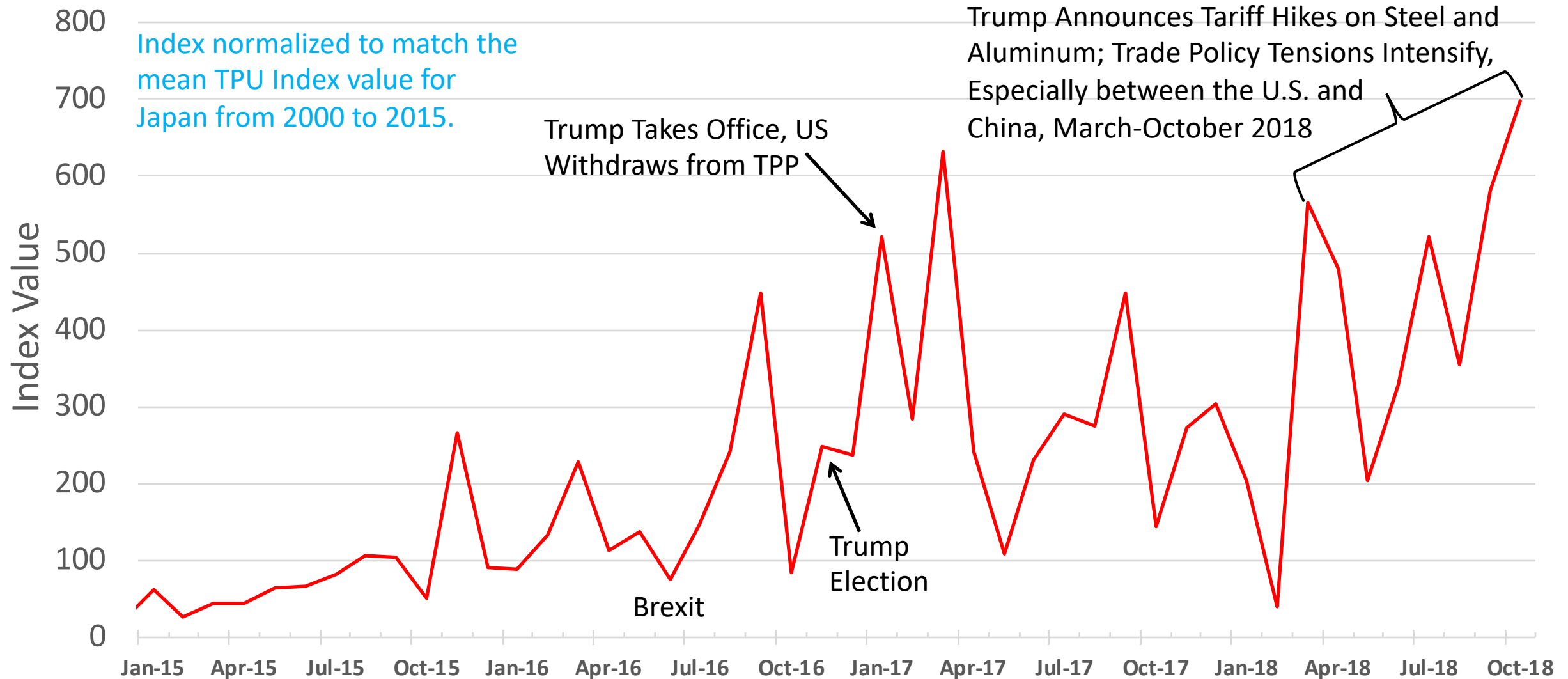
- 13. Remarks 8-12 imply that recent trade policy developments and uncertainties will have negative spillback effects on U.S. exports.
- 14. Higher trade barriers, stronger doubts about the durability of trade agreements, and a higher baseline level of trade policy uncertainty will drive an unwinding and re-orientation of cross-border supply chains and product distribution networks in the coming years.
 - This unwinding and re-orientation will involve a large re-direction of investment across production units, firms, sectors and countries.
 - Research on China's accession to the WTO and Portugal's accession to the EC indicates that the unwinding and re-orientation process will play out over many years.

Trumpian Trade Policy Uncertainty



Data downloaded from [PolicyUncertainty.com](https://policyuncertainty.com) on 3 November 2018. The U.S. series follows “Measuring Economic Policy Uncertainty” by Baker, Bloom and Davis in the *Quarterly Journal of Economics*, November 2016. The series for Japan follows “Policy Uncertainty in Japan” by Arbatli, Davis, Ito, Miake and Saito, NBER Working Paper No. 23411, May 2017.

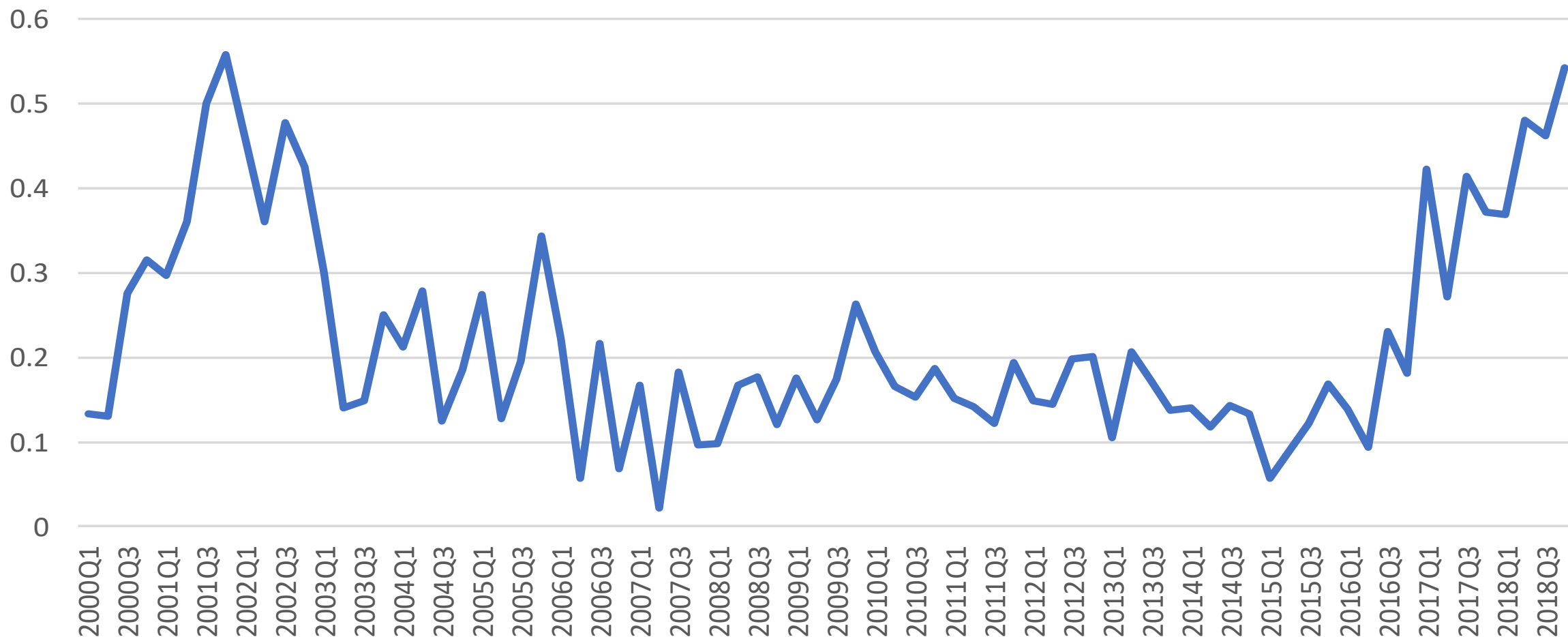
Trade Policy Uncertainty Index for China (Beta)



Source: "Economic Policy Uncertainty in China Since 1946: The View from Mainland Newspapers," Steven J. Davis, Dingquian Liu and Xuguang Simon Sheng, paper in progress. **This beta version is based on just one mainland newspaper – The Renmin Daily, also known as The People's Daily.**

Trade Policy Has Become the Leading Source of Economic Policy Uncertainty (EPU) for China

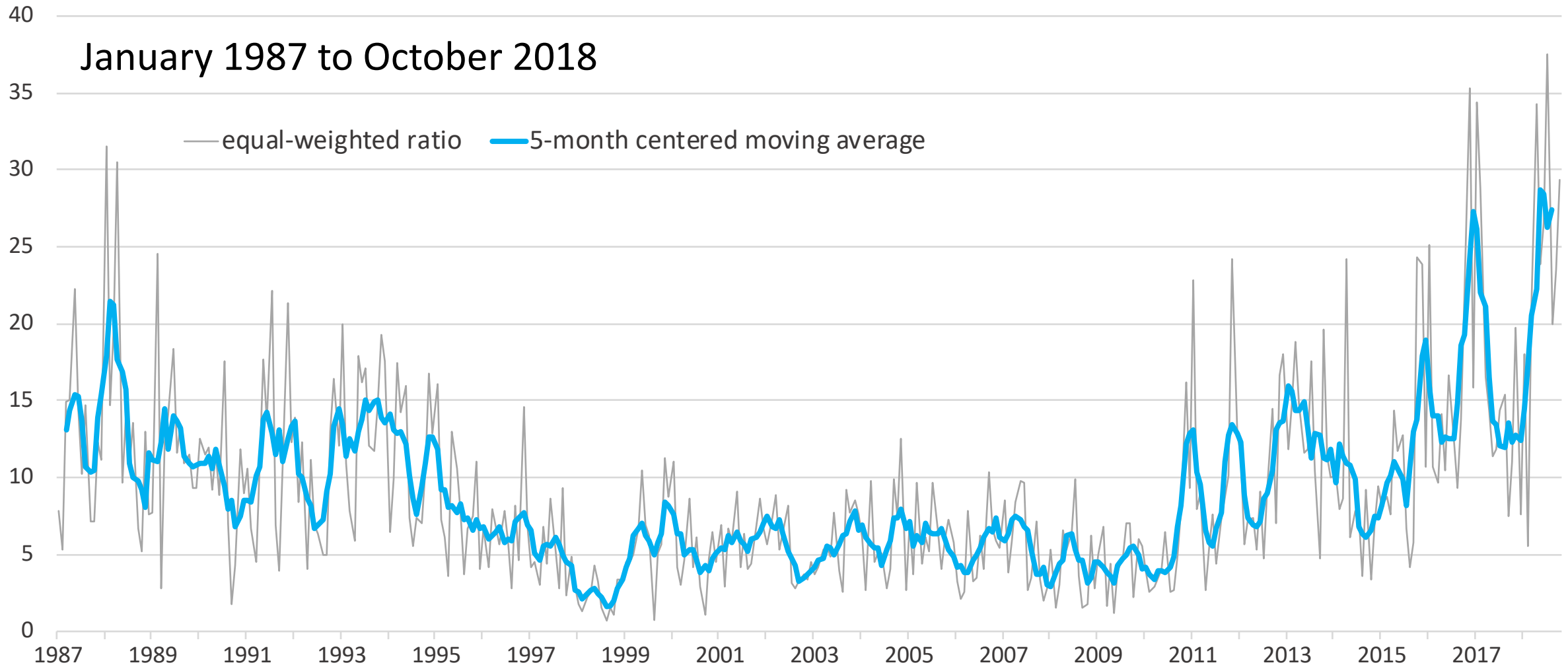
Quarterly China TPU_count/EPU_count (2000Q1-2018Q4)



Source: "Economic Policy Uncertainty in China Since 1946: The View from Mainland Newspapers," Steven J. Davis, Dingquian Liu and Xuguang Simon Sheng, paper in progress.

It's Also Become a Major Source of EPU for Japan

Monthly Time Series for the Ratio, $100 * (\text{Raw TPU Count}) / (\text{Raw EPU Count})$



Source: “Policy Uncertainty in Japan” by Arbatli, Davis, Ito, Miake and Saito, NBER Working Paper No. 23411, May 2017.

Trade Policy Uncertainty as a Percent of All EPU Articles: China, Japan and the United States, Selected Periods

Table Entries Report 100(TPU Articles)/(All EPU Articles)

Time Period	United States	Japan	China
1987-2015	4	8	--
2000-2015	2	7	20
NAFTA: January 1992 to June 1995	11	11	--
China WTO Accession: Jan 2000 to Dec 2002	3	5	36
November 2016 to October 2018	9	20	39
March-October 2018	16	27	52

Daily U.S. Equity Market Jumps > |2.5%|, All Jumps and Number Triggered by Trade Policy News

	Years	# of Daily Jumps	Trade Policy as Primary Trigger	Trade Policy as Secondary Trigger
Pre-Fed Era	1900-13	100	0	0
World War I	1914-19	63	0	0
1920s	1920-28	32	1	0
Depression Era	1929-38	466	4	1
World War II	1939-45	51	1	0
Early Postwar	1946-72	63	0	0
Inflation & Oil Shocks	1973-79	27	0	0
Disinflation & Growth	1980-94	65	0	0
Boom, Recession, Recovery	1995-06	95	0	0
Global Financial Crisis	2007-10	109	0	0
Post GFC	2011-17	32	0	0
2018 (Through October)	2018	6	2	1
All		1109	8	2

Trade policy news triggered 10 of 1109 large daily U.S. equity market jumps since 1900. Three of those 10 jumps were in March-October 2018.

Notes: Based on human readings of next-day news accounts in the *Wall Street Journal*. Trained human readers classify the journalist's interpretation of the stock market jump into 16 policy and non-policy categories, one of which is International Trade Policy, following definitions set forth in our coding guide. See "What Triggers Stock Market Jumps?" by Scott Baker, Nick Bloom, Steven J. Davis and Marco Sammon, work in progress.

International Trade Policy, Coding Guide Definition: News reports, forecasts or concerns that pertain to international trade and commercial policies including tariffs, import quotas, voluntary export restraints, trade agreements, trade subsidies, and WTO cases.

Example: WSJ article about 2.52% drop in S&P 500 on 22 March 2018.

U.S. Stocks Sell Off on Concerns About Trade

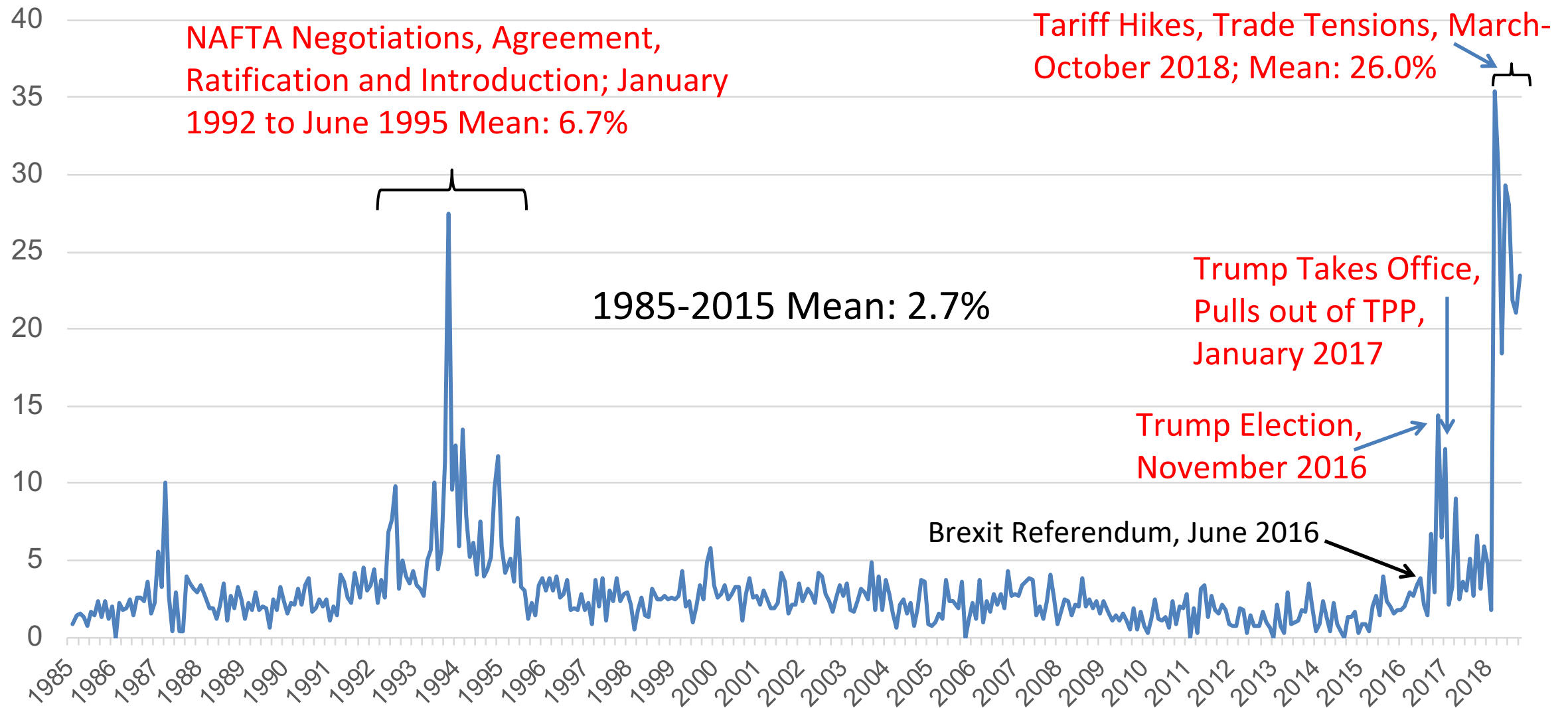
Trade-war fears, along with broader concerns about technology companies and the outlook for economic growth and interest rates, intensified Thursday, sending the Dow Jones Industrial Average tumbling more than 700 points and adding to fears that stocks could be headed for a larger reckoning.

Thursday's selling, which sent shares of manufacturers, aluminum producers and steelmakers sharply lower, culminates months of growing investor anxiety over U.S. trade policy. It came as many say the market was already under pressure, gripped by concern over rising interest rates and sliding technology shares.

Trade tensions ratcheted higher as the [Trump administration said it would impose tariffs on tens of billions of dollars of Chinese imports](#) on top of duties on steel and aluminum imports, provoking the ire of officials from China to Germany to Mexico.

... Investors are concerned that China will retaliate, leading to "tit for tat" escalations of policies hindering trade and leading to slower growth, he said....

Percent of Articles about Equity Market Volatility in Leading U.S. Newspapers that Discuss Trade Policy Matters, 1985 to October 2018



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 (2018).

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 October 2018 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}
- **Stock (M)arket:** {“stock market”, equity, equities, “Standard and Poors”, “Standard & Poors”, “Standard and Poor”, “Standard and Poor’s”, “Standard & Poor’s”}
- **(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, TransPacific Partnership}, {Federal Maritime Commission}, {International Trade Commission}, {Jones Act}, {trade adjustment assistance}

Investment Channels, 1

- **Wait-and-see behavior:** Highly elevated trade policy uncertainty, prompting investment cutbacks and delays
- **Less confidence, more anxiety:** Reducing risk tolerance and expected future demand → lower asset prices, higher credit spreads → negative effects on investment
- **Adaptive responses:** Persistently higher tariffs and erosion of rules-based trading system → retreat from global supply chains and distribution networks → a re-direction of investment and input sourcing → higher costs and lower productivity + near-term & medium-term adjustment costs

Investment Channels, 2

Investment depends on expectations about the future. Traditionally, economists have relied on stark assumptions about expectations formation and model-based approaches to their quantification. Unfortunately, our understanding of how agents form and revise their expectations is highly imperfect. Otherwise sound models can yield misleading predictions because they are welded to flawed theories of expectations.

Another approach is to measure expectations directly in a model-free manner. The need for direct observations on expectations is especially acute in transitional and non-stationary environments. As a related point, it's treacherous to extrapolate from the past when seeking to assess the effects of recent trade policy developments, given their highly unusual character. These remarks motivate Empirical Approach 2 below.

Assessing Direct Near-Term Effects of the Trade Policy Shock on U.S. Investment, 1

Empirical Approach 1: Extrapolate EPU shock effect from Cholesky-identified VARs fit to US data from 1985 to 2014.

- Baker, Bloom and Davis (2016) find that a 90-point EPU innovation foreshadows a 4-8% drop in aggregate investment, with peak effects 6-9 months later.
- Based on newspaper accounts of EPU, trade policy developments add up to an EPU shock that is (at most) one-fourth as large as a 90-point EPU innovation. That yields an investment drop of only 1-2%.

Caveats:

1. Sample variation in U.S. EPU movements is dominated by fiscal policy matters, with important secondary roles for national security matters and healthcare policy. This observation suggests that much caution is warranted when extrapolating VAR-based evidence to recent trade policy developments.

Assessing Direct Near-Term Effects of the Trade Policy Shock on U.S. Investment, 2

Caveats (continued):

2. Related, recent trade policy developments are of a highly unusual character. For one thing, they involve a major departure from the traditional U.S. role as chief architect and guarantor of a global liberal trading order. That's another reason to exercise extreme caution in extrapolating from the VAR results.
3. The evidence above on stock market volatility points to a larger role for trade policy developments than suggested by newspaper accounts of EPU. Even for an EPU innovation that is 2 or 3 times larger, however, the VAR-based evidence suggests that the recent jolt of trade policy uncertainty will depress aggregate U.S. investment expenditures by only 2-6%.

Assessing Direct Near-Term Effects of the Trade Policy Shock on U.S. Investment, 3

Empirical Approach 2: Ask firms directly how they think new tariffs will affect their capital expenditures.

- My collaborators and I did so in a set of special questions put to firms in the Atlanta Fed/Chicago Booth/Stanford Survey of Business Uncertainty.
- The survey results point to small direct effects of trade policy developments on U.S. domestic business investment.
- Ballpark estimated effect on domestic investment by U.S. manufacturers:
(30% "reassessing" capex due to tariff worries) X (60% of 2018-19 capex at risk) X (net impact = $-0.31 + 0.16 = -0.15$) = 2.7%
Including the 67% who merely put capex "under review" as of July 2018, and assuming they shake out across "postponed", "dropped," etc., in the same proportion as the other "reassessing" firms = 4.4%

Assessing Direct Near-Term Effects of the Trade Policy Shock on U.S. Investment, 4

Advantage of Survey Approach: It replaces assumptions about expectations and extrapolations from past with direct evidence on business decision makers' plans. These plans presumably reflect their perceptions and expectations.

Caveats:

1. The sample size is quite small. I've made use of point estimates from thinly populated cells, most of them not limited to manufacturing firms.
2. The survey asks about "recently announced tariff hikes and concerns about retaliation." → Responses reflect a mix of anticipation and uncertainty effects.
3. The survey went to field in July 2018 – before most new tariff hikes took effect, and before major escalations in U.S.-China trade policy tensions that included announcements about much larger tariff hikes to come. For this reason, I see the likely effect as larger than suggested by the survey results, possibly much larger.

Exhibit 2: Share of Firms Reassessing Capital Expenditure Plans Because of Tariff Worries

Survey of Business Uncertainty (July 9 – 20)

Have the recently announced tariff hikes or concerns about retaliation caused your firm to re-assess its capital expenditure plans? (for 2018 and 2019)

Firm Type	Number of Responses	<u>Percent Responding</u>		Among firms re-assessing, an average 60 percent of their 2018-19 capital expenditure plans are affected.
		Yes	No	
All	330	19	81	
Goods Producers	129	25	75	
Service Providers	201	14	86	
Manufacturers	89	30	70	
Retail & Wholesale Trade, Transportation, Warehousing	53	28	72	

Source: Survey of Business Uncertainty conducted by the Federal Reserve Bank of Atlanta, Stanford University, and University of Chicago Booth School of Business. Reproduced from “[Are Tariff Worries Cutting into Business Investment](#),” *Macroblog*, 7 August 2018.

Exhibit 3: *How Firms are Reassessing their Capital Expenditure Plans*

Survey of Business Uncertainty (July 9 – 20)

How have recent tariff hikes or concerns about retaliation caused your firm to re-assess its capital expenditure plans?

	Under review	Postponed	Dropped	Accelerated	Newly Added
Share of firms (n=58)	67%	22%	9%	14%	2%

Note: 61 respondents said they are re-assessing their capital expenditure plans, and 58 of those answered the question shown in this exhibit. Respondents were allowed to check more than one option, but in practice only 6 respondents did.

Source: Survey of Business Uncertainty conducted by the Federal Reserve Bank of Atlanta, Stanford University, and University of Chicago Booth School of Business. Reproduced from "[Are Tariff Worries Cutting into Business Investment](#)," *Macroblog*, 7 August 2018.

July 2018 Reuters Survey of Japanese Firms

Survey Question: How is your firm likely to change its previously planned capital expenditure for the [2018] fiscal year in response to rising trade tensions between the U.S. and China and Europe?

253 large- and medium-sized firms responded. In the field from July 2 to 13.

1. 24% of respondents report a wait-and-see stance: They may defer or cut their previously planned capital expenditures for fiscal year 2018 in response to trade policy tensions.
2. The share of firms adopting a wait-and-see stance is larger for manufacturing firms, echoing our finding in the SBU.
3. About half the firms that produce iron and steel, nonferrous metals, textiles, pulp or paper are taking a wait-and-see stance.

Confidence Effects on Investment

Policy uncertainty and disruption effects on investor and business confidence are context dependent.

- Against the backdrop of the Trump Administration's tilt towards a more growth-friendly regulatory stance, the Tax Cut and Jobs Act of 2017 and strong U.S. macroeconomic performance, recent trade policy developments appear to have had little negative effect on confidence in the United States (at least thus far).
- China offers a contrasting example: Trade policy concerns are highly salient, economic growth is slowing, and there are questions about the soundness of China's financial system. In the Chinese context, recent trade policy tensions appear to have material negative effects on investor and business confidence.

Why China's Economy Is Especially Vulnerable To Trade Policy Shocks and Uncertainty, 1

1. China trades a lot with the United States and the ROW.
2. FDI into China from the U.S. and other rich countries is large and important, partly because it facilitates technology transfer to China.
3. Because its economy has grown so rapidly and invested so heavily in recent years, China's private-sector capital stock, public infrastructure, and supply-chain network are highly optimized for the relative prices, technologies, and trading rules that define the current and recent global environment.
 - Shocks to the level and structure of tariffs, for example, move the global environment away from one for which China's economy is well suited. That undermines its productivity, raises its cost structure, and creates the need for costly adjustments.

Why China's Economy Is Especially Vulnerable To Trade Policy Shocks and Uncertainty, 2

4. The situation differs for long-developed economies with legacy structures more attuned to an earlier era characterized by greater trade frictions. Because their economies are not as highly optimized to the recent environment, the same trade policy shock is likely to have smaller negative effects on their productivities and cost structures. It could even bring the global environment closer to one that suits their economies.

Why China's Economy Is Especially Vulnerable To Trade Policy Shocks and Uncertainty, 3

5. China installed its capital stock and developed its public infrastructure and supply-chain network during a period of relatively stable trade policies and a reasonable expectation that the rules-based trading system built up over decades (and very much supported by the United States) would continue to prevail in the foreseeable future. In other words, China's economy is optimized for a global environment with low trade policy uncertainty. That leaves it highly vulnerable to trade policy shocks and to a persistent rise in trade policy uncertainty.

Assessing Direct Near-Term Effects of the Trade Policy Shock on China's Investment

- Based on articles in the Renmin Daily, numbers in Davis et al. (2018) suggest that trade policy developments may have generated an upward EPU shock of 90-100 basis points since March 2018 for China.
- Extrapolating from the Cholesky-identified VAR fit to US data, a trade-policy induced EPU shock of this magnitude could lead to a peak drop in China's gross domestic investment of 5-10% in early to mid 2019.
- Obviously, it would be better to estimate a VAR system directly on Chinese data and exploit China's greater experience with and exposure to trade policy uncertainty. That's on the agenda.
- My remarks above on slides 26-29 suggest that the negative effects of trade policy uncertainty on China's domestic investment could be much larger than suggested by the VAR results for the United States.
- The key point is that recent trade policy developments are likely to have larger direct near-term effects in China (and other trade-sensitive economies) than in the United States, possibly much larger.

A Re-Orientation of Supply Chains and Product Distribution Networks, 1

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 in the coming years. One feature of this process will be a large re-direction of investment across production units, firms, sectors and countries.

Previous research on Portugal's accession to the EC and China's accession to the WTO indicates that the unwinding and re-orientation process will play out over many years. See Handley and Limao (2015, 2017) and Pierce and Schott (2016) as well as Crowley et al. (2018).

A Re-Orientation of Supply Chains and Product Distribution Networks, 2

For a discussion of how the Trump Administration's tariff hikes hurt U.S. multinational firms and countries that participate in cross-border supply chains, see Lovely and Liang (2018). For evidence of a broader shift toward tariff hikes on intermediate inputs in the past decade, see Brown (2018).

References, 1

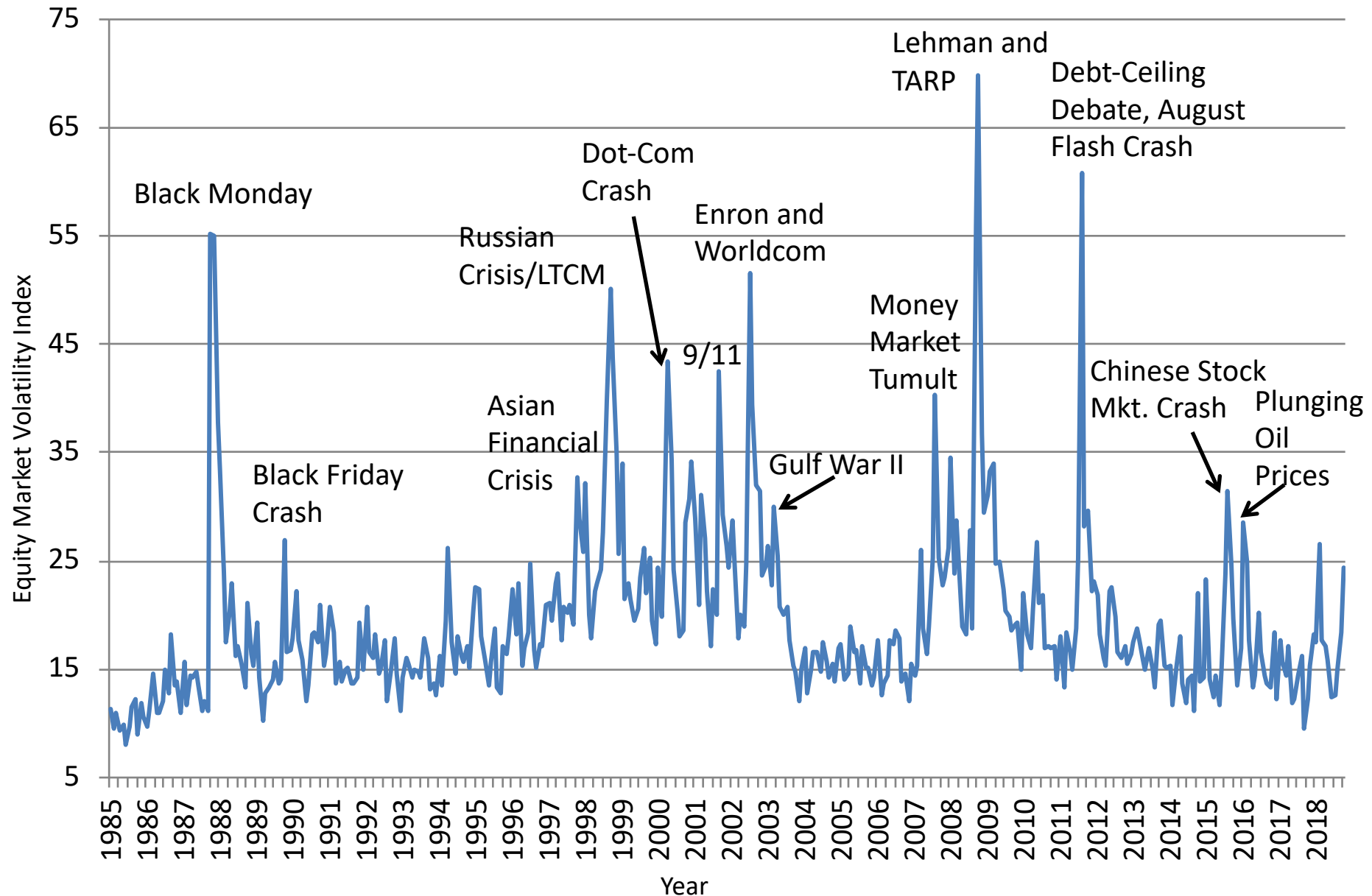
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Supplemental Slides

Baker-Bloom-Davis-Kost Newspaper-Based Equity Market Volatility Index (1985-2018)



Note: This chart plots our newspaper-based equity market volatility (EMV) index monthly from January 1985 to October 2018. The EMV is normalized to have the same mean as the VIX between 1985 and 2015. Source: Baker, Bloom, Davis and Kost (2018).

Constructing Our Newspaper-Based Equity Market Volatility Index

(1) Obtain monthly counts 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}
- **Stock (M)arket:** {"stock market", equity, equities, "Standard and Poors", "Standard & Poors", "Standard and Poor", "Standard and Poor's", "Standard & Poor's"}
- **(V)olatility:** {uncertain, uncertainty OR volatility OR volatile OR risk OR risky}

(2) Scale the EMV count by count of all articles in the same paper and month.

(3) Standardize each paper's monthly series of scaled EMV counts to unit standard deviation from 1985 to 2015.

(4) Average the standardized series over papers by month and normalize to match the mean of the (extended) VIX from 1985 to 2015.

See Baker, Bloom, Davis and Kost (2018) for more information.



Survey of Business Uncertainty



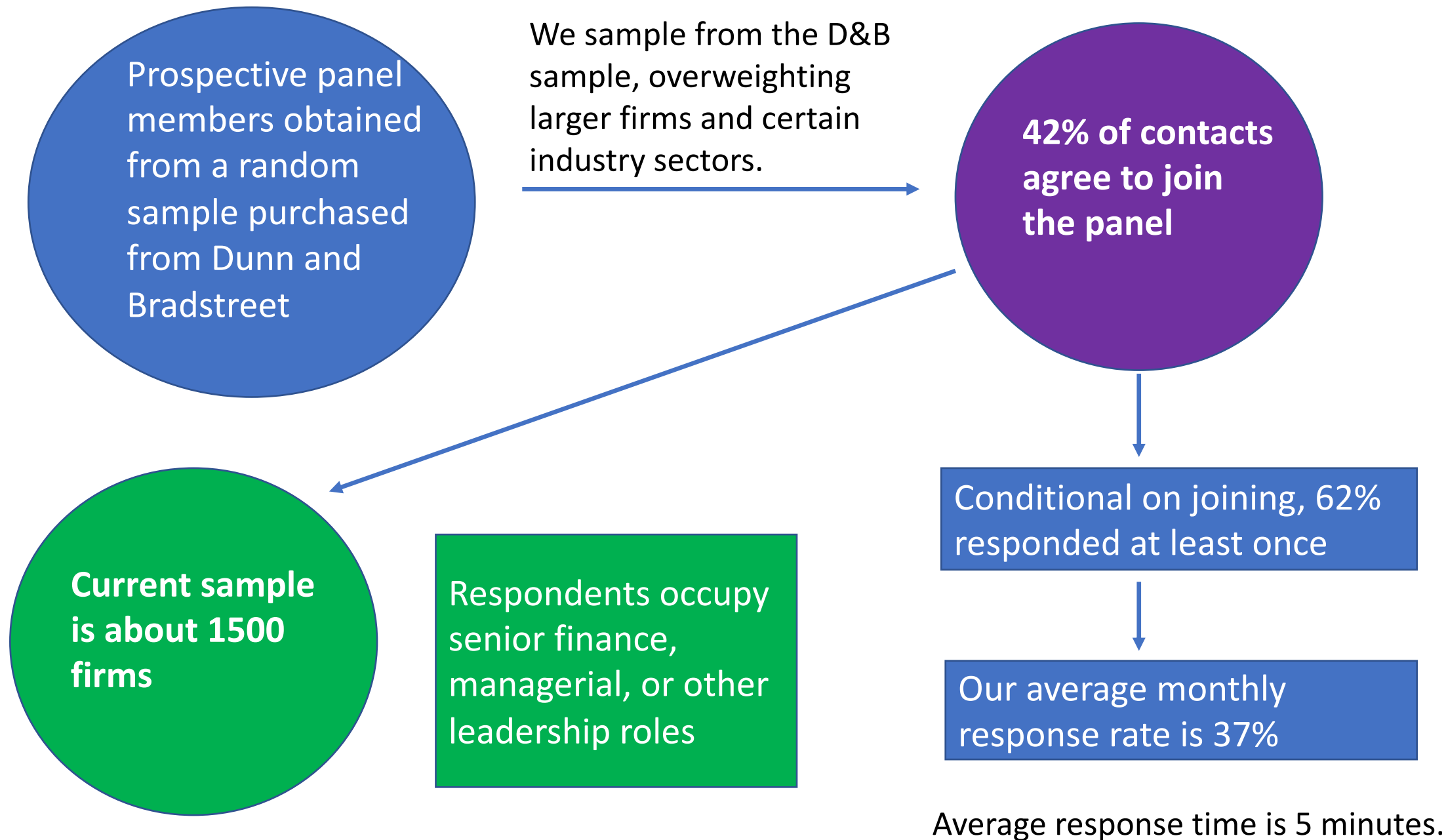
FEDERAL RESERVE BANK *of* ATLANTA



Stanford
University




The Survey of Business Uncertainty (SBU) is fielded by the Federal Reserve Bank of Atlanta. It was designed, tested and refined in cooperation with Nick Bloom of Stanford University and Steven Davis of the Chicago Booth School of Business and the Hoover Institution. Slide 33 below shows how the SBU elicits five-point probability distributions over firms' own future capital expenditures. Other survey questions elicit 5-point probability distributions over the firms' own future unit cost growth, sales growth and employment.

Two other new business surveys have adopted the same question format to elicit subjective probability distributions over future business outcomes. See Bloom et al. (2017) for a U.S. Census survey of manufacturing plants and Awano et al. (2018) for a panel survey of U.K. firms.



The CC questionnaire: Capital investment

Decision Maker Panel



For the current quarter, what would you estimate the total dollar value of your **CAPITAL INVESTMENT** expenditures will be?

\$

Looking back, four quarters ago, what was the approximate dollar value of your **CAPITAL INVESTMENT** expenditures?

\$

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After the respondent completes the questions about unit costs, we ask about the level of capital investment expenditures in the current quarter and four quarters ago.

The CC questionnaire: Capital investment

Decision Maker Panel



Looking ahead, from now to four quarters from now, what approximate dollar value of **CAPITAL INVESTMENT** expenditures would you assign to each of the following scenarios?

The LOWEST dollar value of capital investment would be about:	\$ <input type="text"/>
A LOW dollar value of capital investment would be about:	\$ <input type="text"/>
A MIDDLE dollar value of capital investment would be about:	\$ <input type="text"/>
A HIGH dollar value of capital investment would be about:	\$ <input type="text"/>
The HIGHEST dollar value of capital investment would be about:	\$ <input type="text"/>

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Decision Maker Panel



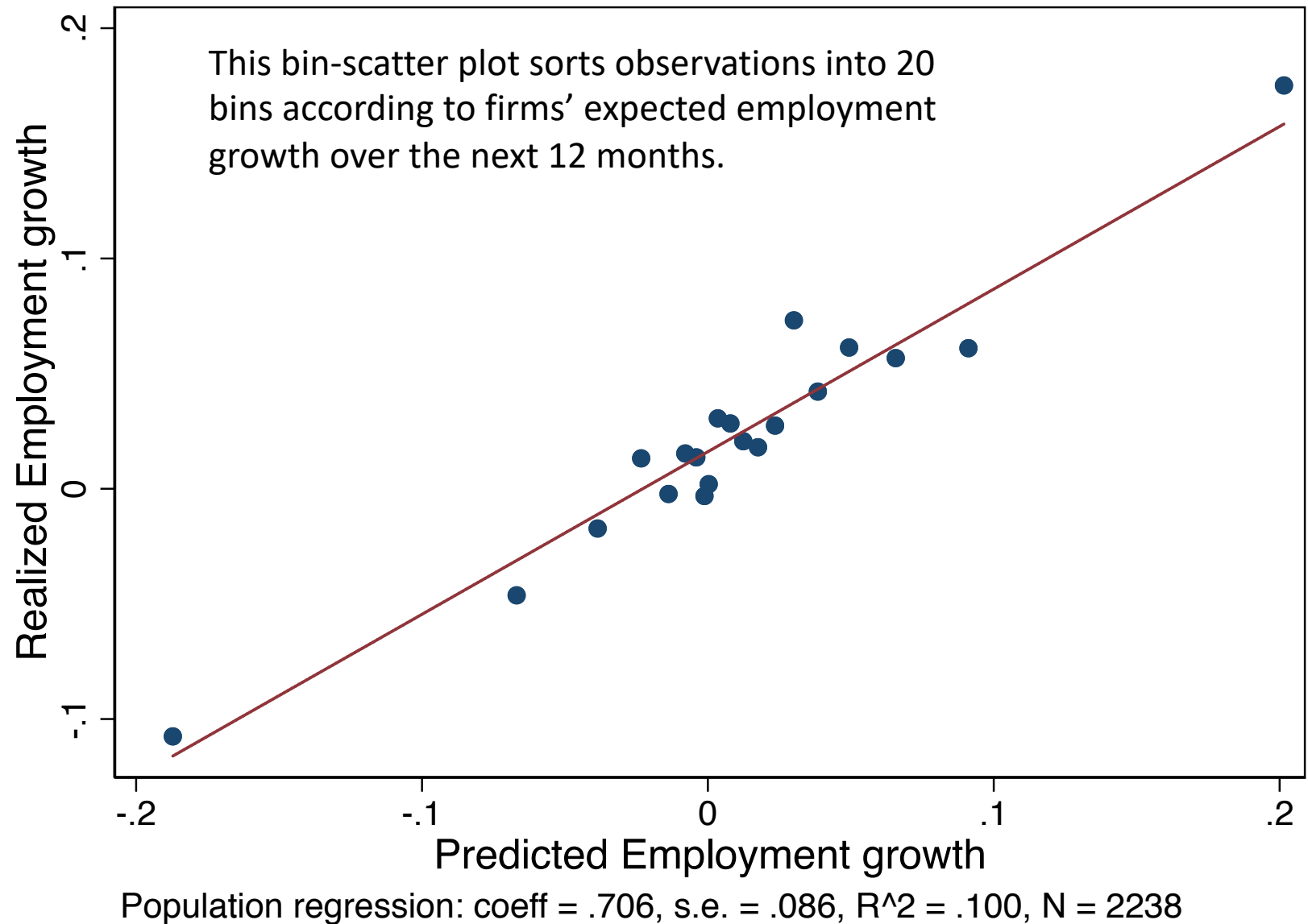
Please assign a percentage likelihood to the **CAPITAL INVESTMENT** expenditures you entered. (Values should sum to 100%)

LOWEST CASE: The likelihood of about \$1 in capital investment expenditures would be:	<input type="text" value="10"/> %
LOW CASE: The likelihood of about \$2 in capital investment expenditures would be:	<input type="text" value="20"/> %
MEDIUM CASE: The likelihood of about \$3 in capital investment expenditures would be:	<input type="text" value="40"/> %
HIGH CASE: The likelihood of about \$4 in capital investment expenditures would be:	<input type="text" value="20"/> %
HIGHEST CASE: The likelihood of about \$5 in capital investment expenditures would be:	<input type="text" value="10"/> %
Total	<input type="text" value="100"/> %

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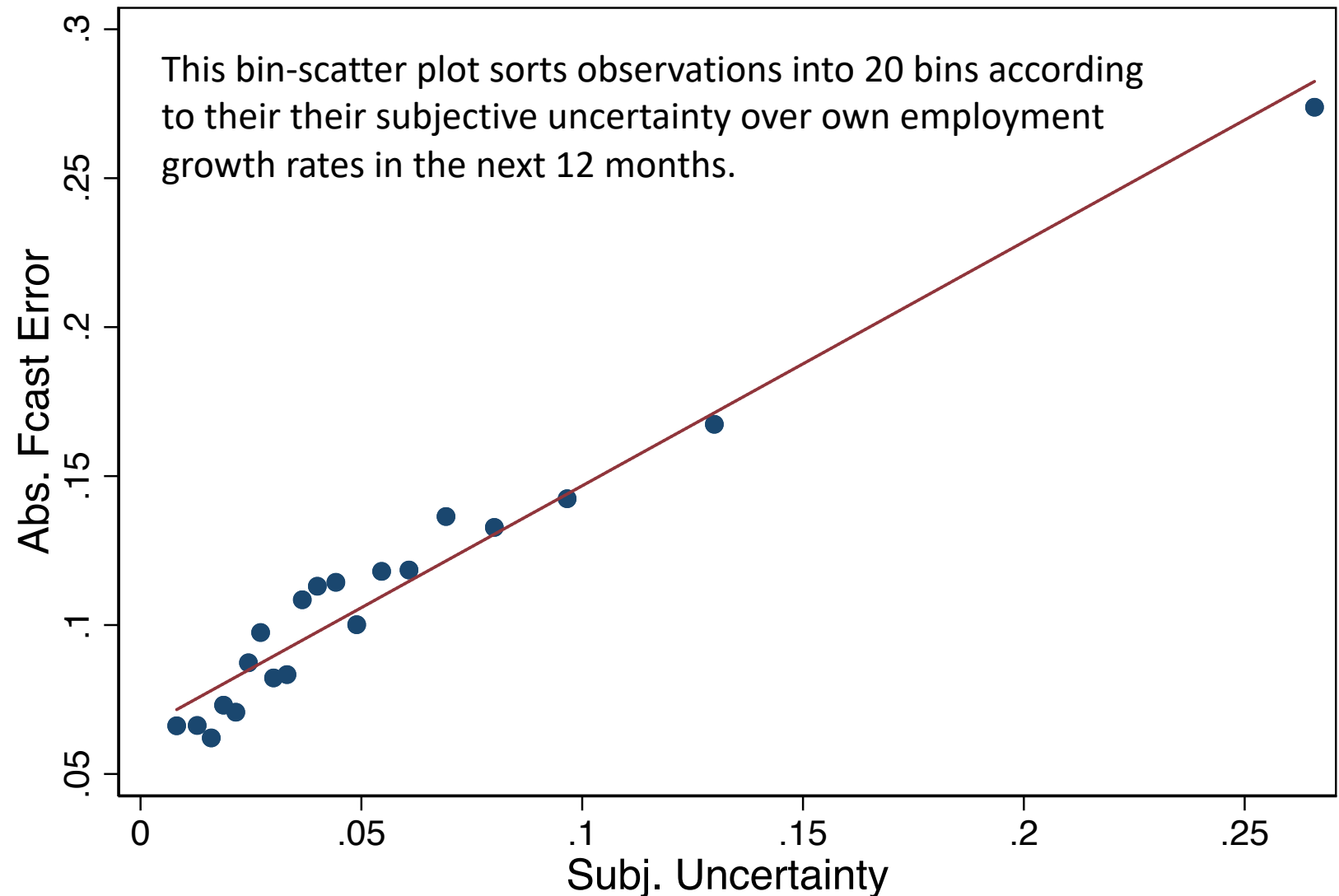
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Firm's self-reported
subjective expectations
predict their realized
outcomes.



The sample includes all firm-month observations in the *SBU* between 10/2014 and 8/2018 for which we observe expected and realized employment growth.

Firms' self-reported subjective uncertainty (standard deviation of density forecast) is highly predictive of realized absolute forecast errors?



Firm level regression: coeff = .818, s.e. = .070, $R^2 = .136$, $N = 2238$

The sample includes all firm-month observations in the *SBU* between 10/2014 and 1/2018 for which we observe expected and realized employment growth.

Other Surveys of Japanese Firms

1. [Nikkei Survey](#) of business leaders at 114 major Japanese corporations in late August/early September 2018:
 - 60% think the U.S.-initiated trade war will hurt their firm's profits. None expect to benefit.
 - 7 firms have relocated production or switched suppliers due to trade policy concerns, and another 15 are considering similar moves.
2. [Nikkei Survey](#) of business leaders at 144 major Japanese corporations in the field from September 14 to October 4:
 - Worsening trade frictions were the most commonly cited reason for concern about the economic outlook, with 63.2% of respondents saying they are a risk to the global economy. 47% cited the spread of protectionism, 45% cited China's economic slowdown, and 33% cited political turmoil in the U.S.
3. [Reuters Survey](#) of large and mid-sized Japanese firms (Sep. 27 to Oct. 10).
 - "The number of Japanese companies affected by the U.S.-Sino trade war has jumped to a third, soaring from just 3 percent in May with firms fretting about prospects for their exports from China as well as slower Chinese demand."
 - Most firms feel trade war effects "to some extent" thus far, but almost none call the impact large.