Measuring Economic Policy Uncertainty

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Initial Impetus: Assess the Policy Uncertainty View

Two Claims

1. Uncertainty about economic policy in the United States is at historically high levels in recent years.

1. High levels of policy uncertainty caused businesses and households to cutback or defer spending, investment and hiring – slowing U.S. economic recovery from the Financial Crisis and Recession of 2007-09.
Some Broader Goals

1. Develop monthly time-series measures of economic policy uncertainty for many countries
   – Thus far: USA, Canada, UK, Germany, France, Italy, Spain, China, India
   – To come: Japan, South Korea, and many more (subject to resources)

2. Assess the effects of policy uncertainty on macroeconomic performance

3. Understand the economic, political and social forces that influence policy uncertainty
How Could Policy Uncertainty Hold Back the Economy?

Potential Mechanisms (Not an Exhaustive List)

1. More precautionary savings and deleveraging by households
2. When investment and hiring decisions are costly to reverse, greater uncertainty depresses and delays investment and hiring
3. More costly debt or equity finance (Gilchrist et al., Pastor and Veronesi)
4. Higher markups, intensifying monopoly distortions (Fernandez-Villaverde et al.)
5. Managerial risk aversion (Panousi and Panikolaou)
6. Intensification of agency problems, reducing the value of new and existing employment, business and financial relationships (Narita)
What Do We Want our Measures to Capture?

All of the following:

- Uncertainty about *who* will make economic policy decisions – e.g., who will win the next elections?
- Uncertainty about *what* economic policy actions decision makers will undertake, and *when*.
- Uncertainty about the economic *effects* of policy actions – past, present and future actions
- Economic uncertainty induced by policy inaction
- Economic uncertainty related to national security concerns and other policy matters that are not mainly economic in character
A New Index of Policy-Related Economic Uncertainty

Components of our U.S. EPU index:

– Scheduled tax code expirations (1/6)
– Forecaster disagreement about government purchases of goods and services (1/6)
– Forecaster disagreement about inflation (1/6)
– News-based index (1/2 weight)

Normalize each component to have unit standard deviation, then compute weighted sum to get overall index.
Figure 3: Federal Tax Code Expirations Index, 1991-2013

Notes: Based on Congressional Budget Office data on projected revenue effects of federal tax code provisions set to expire in the current calendar year and next ten years. For a given year, the index value is calculated as the discounted sum of projected revenue effects associated with expiring tax code provisions, using a discount factor of $0.5^T$ applied to future revenue effects for $T=0,1,\ldots,10$ years. Index normalized to a mean of 100 before 2010.
Figure 3: Federal Tax Code Expirations Index, 1991-2013

Undiscounted projected 10-year revenue impact of scheduled tax code expirations:

- Before 2003 < $250 billion
- 2009-2012: $3-5 trillion
- 2013: Huge drop due to “Fiscal Cliff” resolution

Notes: Based on Congressional Budget Office data on projected revenue effects of federal tax code provisions set to expire in the current calendar year and next ten years. For a given year, the index value is calculated as the discounted sum of projected revenue effects associated with expiring tax code provisions, using a discount factor of $0.5^T$ applied to future revenue effects for $T=0,1,\ldots,10$ years. Index normalized to a mean of 100 before 2010.
Notes: From the Federal Reserve Bank of Philadelphia Survey of Professional Forecasters (made every quarter; offset one month due to release dates such that Q4 covers Nov-Jan. Displays the Interquartile (IQ) range of the quarterly 1-year-ahead forecasts of CPI.
Figure 5: Interquartile Range of Government Purchases Forecasts, Q1 1985 – Q2 2013

Notes: Based on data from the Federal Reserve Bank of Philadelphia Survey of Professional Forecasters. We compute the interquartile range (IQR) of 1-year ahead forecasts of government purchases of goods and services and scale the IQR by the median forecast. We carry out these calculations separately for federal purchases and state & local purchases, then aggregate using the purchases share of nominal GDP for each level of government. See the main text for additional details.
Constructing News-Based Indexes of EU and EPU for the U.S.

• Search digital archives of 10 major newspapers for articles with terms related to EPU

• For each paper:
  – Get monthly article counts for EPU
  – Divide count for month $t$ by count of all articles at the same newspaper in that month
  – Compute time-series SD of each ratio (1985-2010)
  – Divide each ratio by its SD to get normalized newspaper-level indexes of EPU

• Sum across the newspaper-level indexes by month to get the U.S. news-based indexes of EPU
Constructing News-Based Indexes of EU and EPU for the U.S.

Text String Search Criteria:
EU: \{economic OR economy\} AND \{uncertain OR uncertainty\}
EPU: ... AND \{regulation OR deficit OR “federal reserve” OR congress OR legislation OR “white house”\}
Constructing News-Based Indexes of EU and EPU for the U.S.

Newspapers:
• Boston Globe
• Chicago Tribune
• Dallas Morning News
• Los Angeles Times
• Miami Herald

• New York Times
• SF Chronicle
• USA Today
• Wall Street Journal
• Washington Post

Note: We use Access World News Newsbank Service when constructing a daily EPU Index, because the daily index requires a higher density of news sources.
A New Index of Policy-Related Economic Uncertainty

Components of our U.S. EPU index:

– Scheduled tax code expirations (1/6)
– Forecaster disagreement about government purchases of goods and services (1/6)
– Forecaster disagreement about inflation (1/6)
– News-based index (1/2 weight)

Normalize each component to have unit standard deviation, then compute weighted sum to get overall index.
Figure 1: Index of Economic Policy Uncertainty (Jan 1985 – Mar 2013)

Notes: Index of Policy-Related Economic Uncertainty composed of 4 series: monthly news articles containing uncertain or uncertainty, economic or economy, and policy relevant terms (scaled by the smoothed number of articles containing ‘today’); the number of tax laws expiring in coming years, and a composite of IQ ranges for quarterly forecasts of federal, state, and local government expenditures and 1-year CPI from the Phil. Fed Survey of Forecasters. Weights: 1/2 News-based, 1/6 tax expirations, 1/6 CPI disagreement, 1/6 expenditures disagreement after each index normalized to have a standard-deviation of 1. Data from Jan 1985-Mar 2013. Index normalized mean 100 from 1985-2009. Data at www.policyuncertainty.com
Notes: Index composed of a News-Based Index (0.5 weight), and country-level components measuring forecaster disagreement about inflation rates and federal government budget balance (each 0.25 weight). News-Based component composed of the monthly number of news articles containing uncertain or uncertainty, economic or economy, as well as policy relevant terms (scaled by the smoothed number of articles containing ‘today’). Policy relevant terms include: ‘policy’, ‘tax’, ‘spending’, ‘regulation’, ‘central bank’, ‘budget’, and ‘deficit’. Series is normalized to mean 100 from 1997-2010. Index covers Jan 1997 – Nov 2012. Papers include El Pais, El Mundo, Corriere della Sera, La Repubblica, Le Monde, Le Figaro, Financial Times, The Times, Handelsblatt, FAZ. All searches done in the native language of the paper in question.
India Policy Uncertainty Index
January 2003 to February 2013

Using a 50% weight on six major Indian newspapers and a 50% weight on forecaster disagreement measures. Constructed in collaboration with Sanjai Bhagat, Pulak Ghosh and Srivivasan Rangan. Downloaded from www.PolicyUncertainty.com on 18 May 2013.
Assessing the News-Based Index: Does It Capture What We Want?

I USED TO BE...
NOW I'M NOT SURE.

UNCERTAIN
Two Measurement Concerns

**Suitability:** Whether an accurate count for news articles about a particular type of uncertainty provides a good indicator for that type of uncertainty.

**Accuracy:** Whether specific text-string search criteria accurately identify the set of articles that discuss a certain type of uncertainty, e.g., policy-related economic uncertainty.
Assessing Suitability Concern

Idea: Apply news-based approach to a concept of uncertainty for which we have external, market-based evidence.

Implementation: Compare VIX measure of uncertainty about future equity returns to a news-based index of equity market uncertainty, with search terms as follows:

{economic OR economy} AND
{uncertain OR uncertainty} AND
{“stock price” OR “equity price” OR “stock market”}
Figure 7: News-based index of equity market uncertainty compared to market-based VIX, January 1990 to December 2012

Notes: The news-based index of equity market uncertainty is based on the count of articles that reference ‘economy’ or ‘economic’, and ‘uncertain’ or ‘uncertainty” and one of ‘stock price’, ‘equity price’, or ‘stock market’ in 10 major U.S. newspapers, scaled by the number of articles in each month and paper. The news-based index and the VIX are normalized to a mean of 100 over the period.
Assessing Accuracy Concern

Six undergraduates read 4,300 newspaper articles, following a 50-page audit guide to code articles: “economic uncertainty”=0/1, “economic policy uncertainty”=0/1, and more …
Running the Newspaper Article Audit

1. Design, evaluate, and refine audit template
2. Define the Audit Universe: All articles coded EU=1 by automated search
3. Sample Audit Universe and manually read articles
   - Randomly sample 3 articles per month for 5 of the newspapers; 45 articles per quarter
4. Code each article: EU, EPU, type of EPU, etc.
5. Compare manually read ‘truth’ to results from automated search with various permutations of policy terms
Selecting a Preferred Term Set


- + 14,000 combinations of terms that replace terms like policy and government with multi-word term sets like “government policy”

- Interpreting the human coding as truth, select the term set that minimizes the sum of false positive and false negative error rates
Error rates for 28,000 permutations of 14 policy terms in a human audit sample of 3,500 randomly selected articles

Permutations of 14 policy terms: regulation, budget, deficit, tax, federal reserve, government, congress, senate, president, legislation, government spending, federal spending, etc.

Our preferred policy term set:
{congress, deficit, “federal reserve”, legislation, regulation, “white house”}

False positives and false negatives expressed as a fraction of true EPU – i.e., as a fraction of false negatives + true positives.
Figure 8: Human Readings and Automated Computer Methods Yield Similar News-Based EPU Indexes, 1985Q1 to 2012Q2

Note: Based on random samples of 45 articles per quarter (fewer prior to 1993) coded EU=1 by automated methods. For these articles, we calculate quarterly EPU rates based on human readings and based on automated computer methods. We multiply by The two lines show the share defined as being about economic policy uncertainty (EPU=1) by our human auditors and by the ratio (EU=1/Count of all articles) for each quarter to obtain the audit sample estimate of (EPU=1)/(Count of all articles).
Other Audit Results

• Correlation of news-based EPU error rate and real GDP growth rate = -0.02 (quarterly data)
• Correlation of news-based EPU error rate and “true” EPU = 0.004 (Audit Sample, quarterly data)
• Among EPU=1 articles in the Audit Sample:
  – Only 1.8% discuss low or declining uncertainty
  – 69% discuss uncertainty about what or when
  – 40% discuss uncertainty about effects
  – 21% discuss uncertainty about who
  – Who percentage nearly doubles in presidential election years
Political Slant in Newspaper Coverage of Economic Policy Uncertainty
Figure 9: Political slant plays little role in our news-based EPU index

Source: Papers sorted into 5 most ‘Republican’ and 5 most ‘Democratic’ groups using the media slant measure from Gentzkow and Shapiro (2010).
A Different Text Source: The “Beige Books” Produced by the Federal Open Market Committee
Figure 9: The frequency of “uncertainty” and policy-related “uncertainty” discussions in FOMC Beige Books rose sharply after 2008.

Note: Plots the frequency of the word “uncertain” in each quarter of the Federal Open Market Committees’ (FOMC) Beige Book. The Beige Book is an overview of economic conditions of about 15,000 words in length prepared two weeks before each FOMC meeting. The count of “Policy Uncertainty” uses a human audit to attribute each mention of the word uncertain to a policy context (e.g. uncertainty about fiscal policy) or a non-policy context (e.g. uncertainty about GDP growth). See the paper for full details.
Drilling into Newspapers and Beige Books to Uncover Evidence about Sources of Policy Uncertainty
The Intensity and Composition of Policy-Related Economic Uncertainty over Time

Drilling into the news articles about EPU, we find:

• Big role for uncertainty related to national security issues around the time of Gulf War I and in the wake of 9-11.

• Uncertainty related to taxes and government spending policies are the biggest factors responsible for historically high levels of policy uncertainty in 2010-2012.

• Although less pronounced, we also find elevated levels of uncertainty in 2010-2012 in several other policy categories: entitlement programs, healthcare, and regulation.

• Many of the same categories are elevated in 2008-09.
Fiscal policy matters and health care are the most important sources of policy uncertainty in 2010-2012, according to our news-based analysis.

<table>
<thead>
<tr>
<th></th>
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<tr>
<td>Fiscal policy</td>
<td>109.0</td>
<td>141.2</td>
<td>87.7</td>
<td>127.8</td>
<td>71.0</td>
<td>83.0</td>
<td>131.5</td>
<td>127.8</td>
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<td>41.6</td>
<td>25.9</td>
<td>44.9</td>
<td>22.1</td>
<td>31.5</td>
<td>27.6</td>
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<td>Taxes</td>
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<td>48.1</td>
<td>31.7</td>
<td>50.9</td>
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<td>39.7</td>
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<td>17.2</td>
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<td>Health care</td>
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<td>14.9</td>
<td>18.3</td>
<td>13.1</td>
<td>13.4</td>
<td>29.2</td>
<td>39.2</td>
<td>16.3</td>
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<td>National security</td>
<td>24.9</td>
<td>53.4</td>
<td>17.9</td>
<td>54.5</td>
<td>25.3</td>
<td>15.8</td>
<td>21.2</td>
<td>19.3</td>
<td>24.4</td>
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<td>Entitlement programs</td>
<td>7.2</td>
<td>12.5</td>
<td>11.4</td>
<td>18.6</td>
<td>8.8</td>
<td>8.2</td>
<td>15.2</td>
<td>23.4</td>
<td>11.8</td>
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<td>Regulation</td>
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<td>22.9</td>
<td>14.5</td>
<td>19.5</td>
<td>11.1</td>
<td>15.4</td>
<td>29.1</td>
<td>30.4</td>
<td>17.2</td>
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<td>Trade policy</td>
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<td>6.3</td>
<td>2.6</td>
<td>1.7</td>
<td>2.0</td>
<td>1.4</td>
<td>2.3</td>
<td>3.9</td>
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<td>Sovereign debt, currency</td>
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<td>0.6</td>
<td>2.3</td>
<td>0.5</td>
<td>0.4</td>
<td>0.3</td>
<td>0.4</td>
<td>4.5</td>
<td>1.7</td>
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<tr>
<td>Overall Economic Uncertainty</td>
<td>217.1</td>
<td>348.0</td>
<td>185.0</td>
<td>325.3</td>
<td>159.0</td>
<td>183.8</td>
<td>369.0</td>
<td>262.8</td>
<td>219.3</td>
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</table>

Note: This analysis uses Newsbank data to obtain a greater density of news articles.
### Policy-Related Uncertainty Counts Per Beige Book, By Category and Time Period, 1983Q3 to 2013Q1

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<thead>
<tr>
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<td>Overall Economic Uncertainty</td>
<td>11</td>
<td>8.8</td>
<td>7.7</td>
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<td>1.2</td>
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<td>2.8</td>
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<td>1.69</td>
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<td>All Fiscal Matters</td>
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<td>0</td>
<td>0.4</td>
<td>3.3</td>
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<td>Taxes Only</td>
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<td>0</td>
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<td>1.4</td>
<td>0.38</td>
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<td>Spending Only</td>
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<td>1</td>
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<td>0.2</td>
<td>1.2</td>
<td>0.32</td>
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<td>Monetary Policy</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.00</td>
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<td>Health Care</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.2</td>
<td>0.5</td>
<td>0.14</td>
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<td>National Security and War</td>
<td>5.3</td>
<td>0.3</td>
<td>0</td>
<td>2</td>
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<td>0</td>
<td>0.1</td>
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<td>Financial Regulation</td>
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<td>0</td>
<td>0</td>
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<td>0.2</td>
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<td>Sovereign debt, currency crisis</td>
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<td>0</td>
<td>0</td>
<td>0.8</td>
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<td>U.S. Elections and Leadership Changes</td>
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<td>0</td>
<td>0.9</td>
<td>0.18</td>
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<td>Other Specified Policy Matters</td>
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<td>0.7</td>
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<td>0.18</td>
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<td>0</td>
<td>3</td>
<td>0.7</td>
<td>0</td>
<td>1.6</td>
<td>0.31</td>
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<td>Sum of Policy &amp; Politics Categories</td>
<td>6.8</td>
<td>9.3</td>
<td>2.2</td>
<td>5.2</td>
<td>3.0</td>
<td>0.8</td>
<td>10.0</td>
<td>2.50</td>
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</table>
Policy News and Stock Market Jumps
Yearly Count of Daily Stock Market Jumps

United States, 1885-2012, Jump Threshold = 2.5%

The dark shading reports jumps triggered by policy according to next-day articles in the New York Times and Wall Street Journal. The dark shading reports jumps for which we find no next-day article.

## What Triggers Large Daily Stock Market Jumps?

**Event:** Daily move in S&P 500 Index Bigger Than +/- 2.5%

<table>
<thead>
<tr>
<th>Time Period</th>
<th># of Events</th>
<th>Policy News</th>
<th>Interest Rates</th>
<th>Macro News</th>
<th>Earnings News</th>
<th>War/Terror</th>
<th>Other</th>
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<tr>
<td>1980-2007</td>
<td>170</td>
<td>14%</td>
<td>9%</td>
<td>31%</td>
<td>12%</td>
<td>11%</td>
<td>22%</td>
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<tr>
<td>2008-2011</td>
<td>120</td>
<td>39%</td>
<td>3%</td>
<td>35%</td>
<td>12%</td>
<td>0%</td>
<td>11%</td>
</tr>
<tr>
<td><strong>Other U.S. Recessions</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1981-82</td>
<td>10</td>
<td>20%</td>
<td>10%</td>
<td>50%</td>
<td>0%</td>
<td>0%</td>
<td>10%</td>
</tr>
<tr>
<td>1990-91</td>
<td>11</td>
<td>0%</td>
<td>9%</td>
<td>9%</td>
<td>9%</td>
<td>73%</td>
<td>0%</td>
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<tr>
<td>2001</td>
<td>14</td>
<td>0%</td>
<td>14%</td>
<td>36%</td>
<td>21%</td>
<td>14%</td>
<td>14%</td>
</tr>
</tbody>
</table>

Based on the leading cause for the stock market move, as reported in the next day’s *New York Times*. 
U.S. Economic Policy Uncertainty: A Longer Term Perspective
Figure 14: The policy uncertainty news index extended back to 1900

Notes: Index of Policy-Related Economic Uncertainty composed of quarterly news articles containing uncertain or uncertainty, economic or economy or business or commerce, and policy relevant terms (scaled by the smoothed total number of articles) in 6 newspapers (WP, BG, LAT, NYT, WSJ and CHT). Data normalized to 100 from 1900-2011.
Policy Uncertainty

Government expenditure as share of GDP

Notes: Index of Policy-Related Economic Uncertainty composed of quarterly news articles containing uncertain or uncertainty, economic or economy, and policy relevant terms (scaled by the smoothed total number of articles) in 6 newspapers (WP, BG, LAT, NYT, WSJ and CHT). Data normalized to 100 from Jan 1900-Dec 2011. Government expenditure is total federal, state, and local expenditures over GDP, annually.
Two Approaches to Assessing the Economic Effects of EPU

1. **Micro approach**: Exploit industry differences in exposure to government contracting to estimate the effects of EPU on firm-level investment and hiring (working through one specific channel).

2. **Macro approach**: Include our EPU measure in an otherwise standard VAR model of macroeconomic outcomes; estimate the effects of EPU shocks on aggregate output, investment and employment.
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<th>SIC Code</th>
<th>SIC Description</th>
<th>Contract Intensity</th>
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<tbody>
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<td>3760</td>
<td>Guided Missiles And Space Vehicles And Parts</td>
<td>0.767</td>
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<tr>
<td>3790</td>
<td>Miscellaneous Transportation Equipment</td>
<td>0.476</td>
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<tr>
<td>3812</td>
<td>Search, Detection, Navigation, Guidance, Aeronautical, and Nautical Systems</td>
<td>0.454</td>
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<tr>
<td>3480</td>
<td>Ordnance &amp; Accessories, Ex. Vehicles, Missiles</td>
<td>0.405</td>
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<td>2780</td>
<td>Blankbooks, Looseleaf Binders, And Bookbinding</td>
<td>0.388</td>
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<td>8711</td>
<td>Engineering Services</td>
<td>0.235</td>
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<td>1623</td>
<td>Water, Sewer, Pipeline, and Communications and Power Line Construction</td>
<td>0.197</td>
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<td>1600</td>
<td>Construction Contractors</td>
<td>0.161</td>
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<td>3720</td>
<td>Aircraft And Parts</td>
<td>0.143</td>
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<td>8050</td>
<td>Nursing And Personal Care Facilities</td>
<td>0.094</td>
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<td>7373</td>
<td>Computer Integrated Systems Design</td>
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<td>3714</td>
<td>Motor Vehicle Parts and Accessories</td>
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<td>3844</td>
<td>X-Ray Apparatus and Tubes and Related Irradiation Apparatus</td>
<td>0.073</td>
</tr>
</tbody>
</table>
### Table 5: Cross-Firm Effects of Policy Uncertainty

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>(1) Investment ($I_t/K_{t+1}$)</th>
<th>(2) Investment ($I_t/K_{t+1}$)</th>
<th>(3) Investment ($I_t/K_{t+1}$)</th>
<th>(4) Investment ($I_t/K_{t+1}$)</th>
<th>(5) Investment ($I_t/K_{t+1}$)</th>
<th>(6) ΔLog(Emp)</th>
<th>(7) ΔLog(Emp)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\Delta \text{Log(EPU)} \times \text{SIC Intensity}$</td>
<td>-0.0578*** (0.008)</td>
<td>-0.064*** (0.008)</td>
<td>-0.065*** (0.008)</td>
<td>-0.056*** (0.012)</td>
<td>-0.009 (0.008)</td>
<td>-0.019** (0.009)</td>
<td></td>
</tr>
<tr>
<td>$\Delta \text{Forecast Fed Exp/GDP} \times \text{SIC Intensity}$</td>
<td>2.103*** (0.607)</td>
<td>2.004*** (0.678)</td>
<td>2.394*** (0.633)</td>
<td>2.989*** (0.612)</td>
<td>1.208*** (0.362)</td>
<td>0.441 (0.423)</td>
<td></td>
</tr>
<tr>
<td>$\Delta \text{Federal Exp/GDP} \times \text{SIC Intensity}$</td>
<td>2.269 (3.639)</td>
<td></td>
<td>1.961 (3.270)</td>
<td>1.507 (3.344)</td>
<td></td>
<td>3.886*** (1.311)</td>
<td></td>
</tr>
<tr>
<td>$\Delta \text{VIX} \times \text{SIC Intensity}$</td>
<td>-0.034*** (0.004)</td>
<td>-0.011 (0.007)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Periodicity</th>
<th>Quarterly</th>
<th>Quarterly</th>
<th>Quarterly</th>
<th>Quarterly</th>
<th>Quarterly</th>
<th>Yearly</th>
<th>Yearly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Firm and Time Fixed-Effects</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Observations</td>
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<td>717,104</td>
<td>717,104</td>
<td>717,104</td>
<td>717,104</td>
<td>184,804</td>
<td>184,804</td>
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<tr>
<td>Number of Firms</td>
<td>22,638</td>
<td>22,638</td>
<td>22,638</td>
<td>22,638</td>
<td>22,638</td>
<td>21,667</td>
<td>21,667</td>
</tr>
<tr>
<td>Number of SIC codes</td>
<td>440</td>
<td>440</td>
<td>440</td>
<td>440</td>
<td>440</td>
<td>440</td>
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</tr>
</tbody>
</table>

Notes: All columns include a full set of firm and time fixed effects (year by quarter in columns 1 to 5, and yearly in columns 6 and 7). For columns 1-5, independent variables are lagged by one quarter. Standard errors clustered at the 4-digit SIC code level.
<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>(1) Investment ($I_t/K_{t-1}$)</th>
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<td>Yes</td>
</tr>
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<td>Observations</td>
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</tr>
<tr>
<td>Number of SIC codes</td>
<td>440</td>
<td>440</td>
<td>440</td>
</tr>
</tbody>
</table>
Magnitude of Firm-Level Effects

• Given an average investment rate of 10%-15% (median=10.4%, mean=16.7%) for firms in our sample, doubling EPU causes an estimated investment decline of only 0.078 percentage points for firm in industry with average contracting exposure (~1.2%).
• However, for firms in the 90th percentile of exposure rates, the impact is much larger, with predicted investment declines of 0.8-5.0 percentage points.
Figure 12: Estimated Industrial Production and Employment after a Policy Uncertainty Shock

Notes: This shows the impulse response function for Industrial Production and employment to an 102 unit increase in the policy-related uncertainty index, the increase from 2006 (the year before the current crisis) to 2011. The central (black) solid line is the mean estimate while the dashed (red) outer lines are the one-standard-error bands. Estimated using a monthly Cholesky Vector Auto Regression (VAR) on the EPU index, log(S&P 500 index), federal reserve funds rate, log employment, log industrial production and linear time trend. Fit to data from 1985 to 2011.
Figure 13: Robustness of Estimates to Different VAR Specifications

Notes: This shows the impulse response function for GDP and employment to an 102 unit increase in the policy-related uncertainty index. Estimated using a monthly Cholesky Vector Auto Regression (VAR) of the uncertainty index, log(S&P 500 index), federal reserve funds rate, log employment, log industrial production and time trend unless otherwise specified. Data from 1985 to 2011.
Political Polarization and Policy Gridlock
Political Polarization in the U.S. Congress Has Greatly Intensified in Recent Decades

More (effective) gerrymandering might be part of the explanation, but ...
The U.S. Has Become More Politically Segregated With Respect to Where People Choose to Live
More Economic Policy Uncertainty Indexes for Other Countries
Notes: Index composed of a News-Based Index (0.5 weight), and country-level components measuring forecaster disagreement about inflation rates and federal government budget balance (each 0.25 weight). News-Based component composed of the monthly number of news articles containing uncertain or uncertainty, economic or economy, as well as policy relevant terms (scaled by the smoothed number of articles containing ‘today’). Policy relevant terms include: ‘policy’, ‘tax’, ‘spending’, ‘regulation’, ‘central bank’, ‘budget’, and ‘deficit’. Series is normalized to mean 100 from 1997-2010. Index covers Jan 1997 – Nov 2012. Papers include El Pais, El Mundo, Corriere della Sera, La Repubblica, Le Monde, Le Figaro, Financial Times, The Times, Handelsblatt, FAZ. All searches done in the native language of the paper in question.
Canadian Economic Policy Uncertainty Index

Source: www.policyuncertainty.com. Created with help from Dorinda So from the Institute for Competitiveness & Prosperity www.competeprosper.ca
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- “Policy Uncertainty Is Choking Recovery,” Scott R. Baker, Nicholas Bloom and Steven J. Davis, Bloomberg View, 5 October 2011
- “Policy Uncertainty and the Stalled Recovery,” Scott R. Baker, Nicholas Bloom and Steven J. Davis, 22 October 2011, VOX
- “Falling Policy Uncertainty Is Igniting the Recovery,” Scott R. Baker and Nicholas Bloom, 7 Feb 2012, VOX.