THE REAL AND FINANCIAL EFFECTS OF POLICY UNCERTAINTY

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Objective

- Review recent academic work on **policy uncertainty**
  - **Real** effects
  - **Financial** effects

> “Some of today’s nervousness comes from “policy risk.” Nobody—neither firms, banks nor individuals—is quite sure where government policy is going.”
>
The Economist, February 13, 2010

> “There was wide agreement on the panel that uncertainty regarding fiscal policy is contributing to a slower economic recovery. Nearly 80 percent of respondents held this view.”
>
March 2013 survey of 196 economists, National Association for Business Economics
Policy Uncertainty: Eurozone

• **Euro-level** uncertainty:
  – Banking union?
  – ECB policy?
  – Regulations?

• **Country-level** uncertainty:
  – Fiscal consolidation?
  – Structural reforms?
Policy Uncertainty: Transition Countries

- Huge uncertainty in the past, during the transition

- Current example: **Hungary**
  - Monetary policy: New NBH leadership, ‘strategic partnership’
  - Fiscal policy: Windfall taxes, private pension seizure
  - Judiciary: Constitutional amendments

  “But a shift to greater reliance on nonstandard measures to boost growth could also aggravate investors’ fears about policy unpredictability in Hungary.”

- **Slovakia**: Mix and timing of fiscal consolidation measures?
Policy Uncertainty: United States

• Large uncertainty over the past five years
  – Bailouts
  – Health care reform
  – Wall Street reform
  – Debt ceiling negotiations
  – Fiscal cliff
  – Sequester

“The debate this year has highlighted a degree of uncertainty over the political policymaking process which we think is incompatible with the AAA rating.”

Standard & Poor’s, August 6, 2011.
Figure 1: Index of Economic Policy Uncertainty (Jan 1985 – Nov 2012)

How Is the Baker-Bloom-Davis Index Constructed?

- The U.S. index combines three types of information:
  1. Counts of newspaper articles mentioning uncertainty & policy
  2. Number of federal tax code provisions set to expire soon
  3. Extent of disagreement among forecasters about future
     (a) Inflation
     (b) Government spending

- The European indexes use #1 and #3
Real Effects of Policy Uncertainty (PU)

- PU impeded economic growth, investment, and employment

- Economic channels:
  1. Real options
     - E.g., Bernanke (1983), Bloom (2009)
  2. Cost of financing
     - E.g., Pástor and Veronesi (2012, 2013)
• Many decisions are **costly to reverse**
  – Firms: Investment and hiring decisions
  – Households: Large purchases

• In choosing the timing of their decisions, agents trade off
  – Extra returns from early commitment
  – Benefits of increased information gained by waiting

• ↑ Uncertainty ⇒ ↑ **Return from waiting**
  ⇒ Firms postpone investment and hiring
  ⇒ Households delay purchases
• PU cannot be diversified away, so …

\[ \uparrow PU \Rightarrow \uparrow \text{systematic risk} \Rightarrow \uparrow \text{risk premia} \Rightarrow \uparrow \text{borrowing costs} \]

(Pástor and Veronesi, 2012, 2013)

“The risk premium in the markets amounts to a premium on the uncertainty about what Merkel and Sarkozy will do.”


• Higher borrowing costs

\[ \Rightarrow \text{Less investment by firms} \]
\[ \Rightarrow \text{Fewer large purchases by households} \]
Baker, Bloom, and Davis (2013) estimate VARs for output, employment, prices, stock market levels, and interest rates. They find that high policy uncertainty (PU) precedes low output, investment, and employment. An unexpected increase in PU equivalent to the actual increase from 2006 to 2011 is followed by declines of:

- 2.3% in GDP
- 14% in investment
- 1.5 million in employment
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 112 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) of the uncertainty index, log(S&P 500 index), federal reserve funds rate, log employment, log industrial production and time trend. Data from 1986 to 2011.

More Evidence on Real Effects of Policy Uncertainty

- Gulen and Ion (2013)
  - Find the negative effect of PU on investment is stronger for
    * firms with a higher degree of investment irreversibility
      (real option effect)
    * firms that are more financially constrained
      (cost of financing effect)

- Fernández-Villaverde et al. (2012)
  - Estimate tax & spending processes with time-varying volatility,
    calibrate a New Keynesian business cycle model to the U.S.
  - Find fiscal volatility shocks reduce output, consumption, investment, and hours worked
Estimated Fiscal Volatility Shocks

Impulse Responses to Fiscal Volatility Shocks

Output, consumption, investment, and hours exhibit varying responses over time. Marginal cost, inflation (bps), nominal rate (bps), and wages also show distinct patterns. The figures illustrate how each variable reacts to fiscal volatility shocks.

Financial Effects of Policy Uncertainty

- Pástor and Veronesi (2012, 2013) develop GE models featuring
  - Government with economic and non-economic motives
  - Uncertainty about government policy

  1. What is the government going to do?
  2. What is the impact of its actions going to be?

- 2012 model: Focus on announcements of policy changes
- 2013 model: **Political news** moves asset prices
Main Results of Pástor and Veronesi (2013)

- PU commands a **risk premium**
  - This premium is larger in weaker economic conditions

- PU reduces the value of the “**put protection**” that the government implicitly provides to the market

- PU raises stock **volatilities** and **correlations**
  - Especially when economic conditions are weak
Stock Prices vs. Economic Conditions

Equity Risk Premium: Three Components

A. Risk Premium and Its Components

Stock Volatility and Correlation

C. Return Volatility

D. Correlation

Correlation vs. Policy Uncertainty

Volatility vs. Policy Uncertainty

More Evidence on Financial Effects of Policy Uncertainty


- Find that increases in PU tend to be accompanied by
  - Decreases in stock prices
  - Increases in market volatility
  - Higher future stock market returns

- Evidence consistent with a risk premium associated with PU
Financial Effects of Electoral Uncertainty

• Stock returns are higher on average prior to national elections, especially when there is high electoral uncertainty
  – Pantzalis et al. (2000), Li and Born (2006)

• Stock returns are more volatile around national elections, especially when there is high electoral uncertainty
  – Bialkowski et al. (2008), Boutchkova et al. (2012)

• Both results are consistent with the theoretical predictions of PV (2013) that PU increases risk premia and volatility
• Firms **cut investment** prior to major elections
  – During election years, firms cut investment by 4.8% relative to nonelection years, on average
  – Julio and Yook (2012a)
Figure 1. Investment around national elections. This figure displays estimates from the regression results reported in Table VII of the following specification:

$$I_{jt} = \alpha_i + \beta_1 \text{Election}_{jt} + \beta_2 \text{Election}_{jt} \times \text{Close}_{jt} + \beta_3 \text{Post-Election}_{jt} + \beta_4 \text{Post-Election}_{jt} \times \text{Close}_{jt} + \beta_5 Q_{i,t-1} + \beta_6 CF_{it} + \beta_7 \% \Delta GDP_{t,t-1} + \gamma_t + \epsilon_{ijt}.$$  


Real Effects of Electoral Uncertainty

- Firms **cut investment** prior to major elections
  - During election years, firms cut investment by 4.8% relative to nonelection years, on average
  - Julio and Yook (2012a)

- U.S. firms **cut FDI flows** to foreign affiliates before elections in recipient countries
  - Quarterly FDI flow falls by 14-21% vs. non-election quarters
  - Julio and Yook (2012b)

- Investment is less sensitive to stock prices during election years
  - Durnev (2012)
Figure 1: Comparison of Investment-to-Price Sensitivity for Election and Non-Election Years. This graph plots investment-to-price sensitivity for election and non-election periods for U.S. and international samples. The length of the bar for non-election years is equal to the value of coefficient $\beta_2$ in specification 3 of Table II for the U.S. sample and specification 3 of Table III for the international sample. The length of the bar for election years is equal to $\beta_2 + \beta_3$. $\beta_2$ is the coefficient on firm value $Q$, $\beta_3$ is the coefficient on the interaction term of election dummy variable with firm value, $ELECTION \times Q$.


Conclusions

- Policy uncertainty has **negative real and financial effects**
  - It hinders growth, investment, and employment
  - It increases risk premia, volatility, and correlations

- Eurozone would benefit from lower policy uncertainty
  - Finalize the banking union
  - Speed up structural reforms
  - Make fiscal consolidation more predictable
Gulen, Huseyin, and Mihai Ion, 2013, Policy uncertainty and corporate investment, Working paper, Purdue University.