

# Uncertainty Shocks

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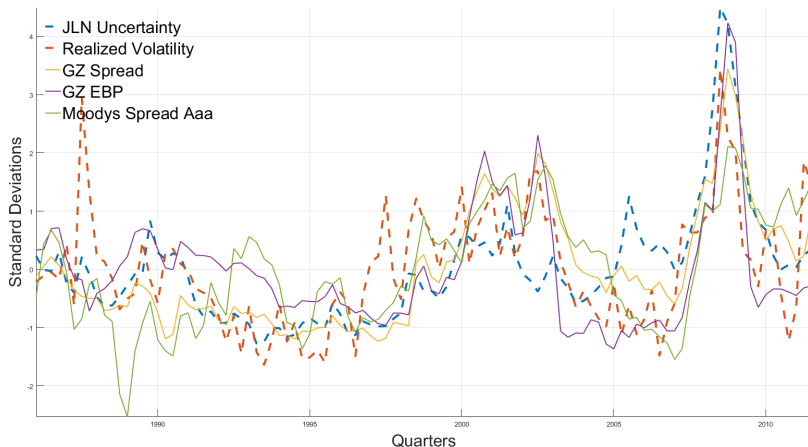
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# Two Possible Avenues

- ① News-noise driven uncertainty
- ② Financial Shocks vs Uncertainty Shocks

# Credit Conditions and Uncertainty (I)



Proxies for **credit conditions** and **uncertainty** are both countercyclical and tightly correlated.

## Credit Conditions and Uncertainty (II)

	JLN	RV	GZ	EBP	Moody's Aaa
JLN	1	-	-	-	-
RV	0.5865	1	-	-	-
GZ	0.7742	0.6247	1	-	-
EBP	0.6213	0.5621	0.7316	1	-
Moody's Aaa	0.4386	0.4554	0.7993	0.5243	1

As suggested by the graph above, all the variables are strongly correlated.

# Financial Shocks and Uncertainty Shocks

Stock and Watson (2012); Caldara et al. (2016) among others shown that uncertainty shocks and financial shocks are deeply confounded.

$$\text{corr}(\iota_t^{EBP}, \iota_t^{JLN}) \approx 0.45$$

where  $\iota_t^{EBP}$  is an unpredictable innovation in the **excess bond premium** from Gilchrist and Zakrajsek (2012) and  $\iota_t^{JLN}$  is an unpredictable innovation in the **uncertainty proxy** from Jurado et al. (2015).

# Both a theoretical and empirical question

Literature did not succeed yet to disentangle the two exogenous sources for two main reasons:

- ① Simultaneity
  - Both types of variables are fast moving
- ② Observationally equivalence
  - They have the same qualitative effects on prices and quantities

As a result, both **zero-impact restrictions** cannot be used and **internal instruments** are not available.

I want to take a step back and show evidence and theory that financial and uncertainty shocks

- are not qualitatively equivalent, and
- they can be successfully disentangled.

In particular, I will show evidence that there exists a set of variables which respond differently to financial and uncertainty shocks.

- there exists an **economic intuition** for this response
- those variables can be used as **internal instruments**

# Variables of Interest by Bureau of Economic Analysis

**Cash Flow** is defined as (i) undistributed corporate profits plus (ii) consumption of fixed capital minus (iii) net capital transfers paid.

where

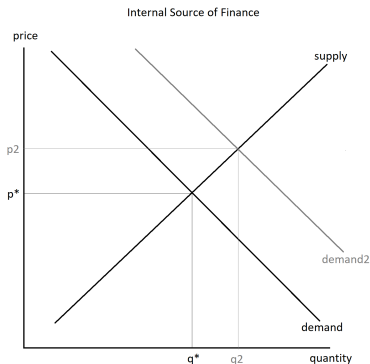
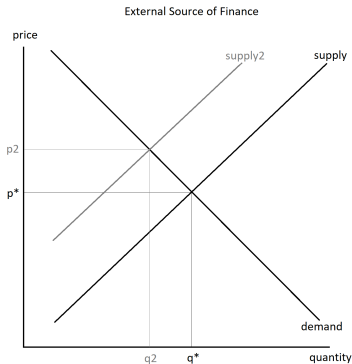
- ① **Undistributed corporate profits** are defined as (i) corporate profits minus (ii) dividends
- ② **consumption of fixed capital** can be simply interpreted as capital depreciation
- ③ **net capital transfers paid** are unrequited transfers associated with the acquisition or disposal of assets.

**Cash Flow** is a profit-related measure of **internal funds** available for investment. [The NIPA Handbook, December 2015]



# Partial Equilibrium Analysis (I)

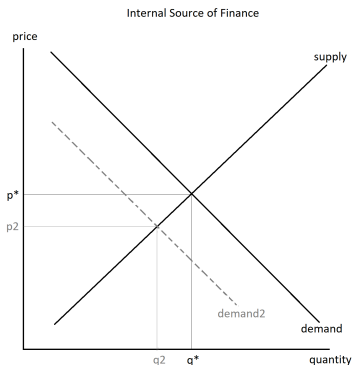
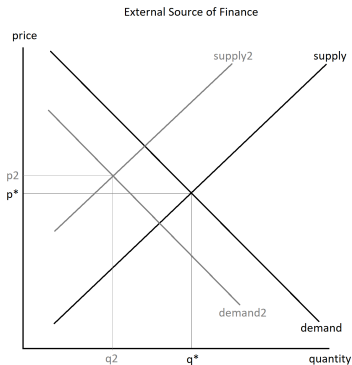
Decrease in the risk bearing capacity of the financial sector.



Notice that I am taking as given the supply of internal source of finance.

# Partial Equilibrium Analysis (II)

Increase in the level of uncertainty.



Notice that I am taking as given the supply of internal source of finance.

- After a **decrease in credit supply**, quantity of the internal source of finance should increase.
  - Controlling for supply of internal funds cash flow should increase.
- After an **increase in uncertainty**, quantity of the internal source of finance should either decrease or remain unchanged.
  - Controlling for supply of internal funds cash flow should either decrease or remain unchanged.

# Controlling for the Supply of Internal Funds

The main source of internal funds available for investment is the **flow profit** of the current year.

In order to control for general equilibrium effect, cash flow needs to be normalized by the corporate profit.

In particular, normalized cash flow can be thought as an index between 0 and 1

- If the index is equal to zero, current profits are fully distributed outside the firm
- If index is equal to one, current profits are going to be internally used

Run the following regression,

$$\tilde{CF}_t = \alpha + B(L)X_{t-1} + \beta^F \iota_t^F + \beta^U \iota_t^U + \varepsilon_t$$

where

- $\tilde{CF}_t$  is cash flow normalized by corporate profits
- $X_{t-1}$  is a set of variables to control for predictable part of  $\tilde{CF}_t$
- $\iota_t^F$  and  $\iota_t^U$  are the unpredictable part of financial conditions and uncertainty, respectively

Benchmark regression,

$$\tilde{C}F_t = \alpha + B(L)X_{t-1} + \beta^F F_t + \beta^U U_t + \varepsilon_t$$

- $\beta^F$  is always positive and significant at 1%.
- $\beta^U$  is either negative or not significant.