Uncertainty and International Capital Flows

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April 2016
What drives cross-sectional differences in capital flows?

Uncertainty

- Uncertainty measured as (quarterly) realized variance:

\[
\frac{1}{\tau + 1} \sum_{k=t-\tau}^{t} (R_k^i)^2
\]

- Uncertainty explains capital flows

\[
CF_t^i = \alpha^i + \beta_1 Vol_{t-1}^i + \beta_2 X_{t-1} + \epsilon_t^i
\]
Uncertainty explains future capital flows

- Uncertainty \(\uparrow\) (relative to other emerging)
- Capital inflows \(\downarrow\)
  - Foreigners disinvest in the high uncertainty domestic market
- Capital outflows \(\downarrow\)
  - Domestic residents bring capital home
The need for an asymmetry

- Domestic uncertainty \( \uparrow \Rightarrow \text{rebalance} \)
- **Issue:** Not everyone can rebalance the same direction
- **Data:**
  - Foreign residents revert to foreign assets
  - Domestic residents revert to domestic assets
- **Asymmetry:** Expropriation risk
- Increase in expropriation risk leads to less demand for domestic tree
  - \( \Rightarrow \text{capital flows back to foreign} \)
  - Market clearing leads to retrenchment of domestic investors
Expropriation risk in the data

- Expropriation risk ↗
  - Gross inflows ↘
  - Gross outflows ↘
- Uncertainty (vol.) forecasts political/expropriation risk
- “Instrumented” expropriation risk also explains capital flows
- Is the magnitude of the expropriation risk high enough to drive the capital flows?
  - Ballpark the magnitudes given that part of the risk index is quantitative!
Global uncertainty decomposition

\[ (R_k^i)^2 = \alpha^i + \beta^i (R_w^i)^2 + \epsilon_k^i \]

Total variance:
\[ \frac{1}{\tau + 1} \sum_{k=t-\tau}^{t} (R_k^i)^2 \]

Country specific:
\[ \frac{1}{\tau + 1} \sum_{k=t-\tau}^{t} (\alpha^i + \epsilon_k^i) \]

Global component:
\[ \frac{1}{\tau + 1} \sum_{k=t-\tau}^{t} \beta^i (R_w^i)^2 \]
Global uncertainty decomposition

Date

Uncertainty Beta


Uncertainty Beta

Bulgaria  Chile  Colombia  Czech Republic  Egypt

Hungary  India  Indonesia  Korea, Republic of  Malaysia

Mexico  Morocco  Philippines  Poland  Portugal

Romania  Singapore  Slovenia  South Africa  Taiwan, Province of China

Thailand
Global uncertainty decomposition

- What are these really capturing?
  - Short horizon increases in global integration?

\[ \text{vuut} + 1_t \sum_{k=t}^t 1_f R_{ik} > 0 \quad g(R_{ik})^2 \]

\[ \text{vuut} + 1_t \sum_{k=t}^t 1_f R_{ik} < 0 \quad g(R_{ik})^2 \]
Global uncertainty decomposition

• What are these really capturing?
  • Short horizon increases in global integration?
• Factor ARCH?
Global uncertainty decomposition

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- Factor ARCH?
- Idiosyncratic variance?
  - Squared residuals of a global CAPM
Global uncertainty decomposition

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- Good Volatility/Bad Volatility

\[
\text{Good: } \sqrt{\frac{1}{\tau + 1} \sum_{k=t-\tau}^{t} 1\{R^i_k > 0\}(R^i_k)^2}
\]

\[
\text{Bad: } \sqrt{\frac{1}{\tau + 1} \sum_{k=t-\tau}^{t} 1\{R^i_k < 0\}(R^i_k)^2}
\]
## Good Volatility/Bad Volatility

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<th>Net</th>
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<td>−6.809**</td>
<td>−4.728*</td>
<td>−2.669</td>
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<td>(−2.040)</td>
<td>(−1.820)</td>
<td>(−1.386)</td>
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<td>Good Volatility</td>
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<tr>
<td>Bad Volatility</td>
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Whose Capital?

- Currently comparing emerging countries to other emerging countries
  - We know that developed and emerging capital flows are very different
- Trading partners?
- Developed countries?
- All of the controls are about the country itself:
  - Try an index of trading partners relative volatility
Conclusion

• Nice paper!
• Interesting empirical facts explained with a simple theoretical mechanism
• Leads to many interesting questions about uncertainty in international markets