How has Elevated Uncertainty Affected Corporate Investment, Dividend Payouts and Cash Holding?

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Discussion by Giacomo Rodano (Bank of Italy)

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Summary

Does uncertainty affect corporate investment, cash holdings and dividends?

Three contributions:

- provide a new measure of subjective economic uncertainty
- use this measure to assess how economic uncertainty affects investment, cash holdings and dividends
- quantify the effects of Great Financial Crisis and Brexit on these variables separately
Results

- The paper shows that the proposed subjective uncertainty measure about GDP, based on surveys of professional forecasters, is close to other available measures derived from CFOs surveys (*Decision maker panel*).

- Using UK corporate level panel data the paper finds that uncertainty reduces investment and dividends and increases cash holdings.

- Based on regression coefficients, the effects of the increase in uncertainty due to the Great Financial Crisis are stronger than those of Brexit.
Uncertainty is important (in Europe)
• The paper tackles two very important issues:
  • how to measure economic uncertainty, in particular "subjective" one (i.e. based on actual expectations)?
  • does economic uncertainty affects corporate decisions? (little empirical evidence)

• Even if still preliminary, this paper shows the potential to make an important step forward

• My discussion will deal with two main points:
  1. the proposed measure of economic uncertainty
  2. what is it that the uncertainty measure is capturing in the regressions?
The proposed measure of economic uncertainty

- Measuring uncertainty is a difficult task (but Economic Policy Uncertainty, Baker et al, 2016)...

- ... in particular the uncertainty perceived by firms/entrepreneurs

- Few exceptions:
  - the Bank of Italy Survey of Industrial and Service Firms (see e.g. Guiso and Parigi, 1998; Bond et al. 2015)
  - recent surveys by Bloom and coauthors for US and UK (including the *Decision maker panel* that surveys CFOs expectations about GDP four years ahead)

- This paper proposes a new one, based on surveys by the Bank of England of professional forecaters about quarterly predictions of real GDP growth (for 8 quarters ahead)...

- ... it shows it has a similar distribution to the micro one based on survey of CFOs
Advantages

- It asks about not just about central moment but on the whole distribution (probability distribution over bins)
- It elicits expectations of economic agents, but not of the firms’s managers like CFOs one (that’s why comparison is important)
- With respect to CFOs survey it has a longer time span, but it can not be matched to specific firms (i.e. it is time varying only)
Issues

- More rigorous comparison/validation of the measure would help:
  - the proposed comparison is somewhat heuristic (average expected rate of GDP growth 0.8% vs. 1.1%, the probability of growth less than -1% is 5% vs 16%, see Table 3)
  - there are different time horizons (8 quarters for professional forecasters, 4 years for CFO’s)
  - how does it compare with economic events (from Figure 1 it seems that Brexit does not affect uncertainty, is this plausible?) and with other indexes (e.g. VIX?)

- There are some econometric issues in using a time-varying uncertainty measure to analyse firm decisions
Subjective uncertainty and firm decisions

- The empirical is based on variations of the following:

\[ y_{it} = \beta_0 + \beta'_1 X_{it} + \beta_2 U_t + \eta_i + crisis_t + u_{it} \]

- \( y_{it} \) dependent variable (investment ratio, cash-to-asset ratio, dividend to earnings ratio) of firm \( i \) in year \( t \)

- \( X_{it} \) firm-year controls, changing with dependent variable, possibly including lagged dependent variables
  - for investment they include first and second lag of investment ratio, current and lagged Tobin’s Q, cash flow ratios, sales growth rate and a firm-specific measure of past volatility

- \( U_t \) the proposed measure of subjective uncertainty

- \( \eta_i \) firm fixed effects

- \( crisis_t \) a dummy equal to 1 for the year 2008 (also 2009?)
The uncertainty variable $U_t$ looks like a post-crisis dummy (or given $c_t$ dummy a "post 2008/9" dummy)

A lot happens post 2008/2009...
### Real GDP growth in UK

**2000-2007:** 2.9%

**2010-2017:** 1.9%

<table>
<thead>
<tr>
<th>Year</th>
<th>Real GDP Growth (%)</th>
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<tbody>
<tr>
<td>2000</td>
<td>3.5</td>
</tr>
<tr>
<td>2001</td>
<td>2.9</td>
</tr>
<tr>
<td>2002</td>
<td>2.5</td>
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<tr>
<td>2003</td>
<td>2.4</td>
</tr>
<tr>
<td>2004</td>
<td>3.3</td>
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<tr>
<td>2005</td>
<td>2.7</td>
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<td>2006</td>
<td>2.7</td>
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<tr>
<td>2007</td>
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<td>2008</td>
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<td>2009</td>
<td>1.8</td>
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<td>2017</td>
<td>1.7</td>
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Credit constraints (at least in Italy)

Credit Constraints

Timeline
- Wanted More Credit
- Credit was rejected

Source INVIND.
• All these changes might affect corporate decisions as well.
• What is the uncertainty variable $U_t$ capturing?
• Since there are no time fixed effects (and given $U_t$ there can’t be), isn’t the effect of any unobserved macro (time varying) factor that changes before and after the crisis loaded upon $U_t$ (i.e. $\beta_2$)?
Tackling the issue I

- Add additional controls: what happens when you add first moment of subjective expectations?

- strong negative correlation between average expected demand and uncertainty over time (-0.78, much lower excluding crisis period)
Tackling the issue II

- Try to differentiate across sectors (more or less affected by uncertainty, similar to Baker et al, 2016 or Alfaro et al 2018)

- Maybe exploit differences between the two shocks: Great Financial Crisis and Brexit might have different effects on uncertainty in different sectors
  - this would also make the quantitative comparison of the two crisis (the third contribution of the paper) more interesting than those based on an unique regression

- Use the micro (CFO’s) uncertainty measure directly (if you can match it with firm level data) with time dummies