FIRM LEVEL EXPECTATIONS AND MACRECONOMIC CONDITIONS: Underpinnings and Disagreement

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Firm level data

The literature has focused on professional and household forecasts

- We know very little about forecast disagreement among firms’ expectations

The BER firm level dataset is

- Underutilised
- Arguably, the richest available covering a single monetary policy regime (see Reid and Siklos, 2021a, and 2021b)

Disaggregated data allows us to study:

- Different levels of aggregation
  - Examine the need to tailor central bank communication
- Different types of aggregation
  - Central banks cannot tailor the stance of monetary policy to different groups
Aims of this paper

- Analyse different types and levels of disagreement
  - at different horizons and
  - for different groups
  - How are these related to forecast disagreement in the 8 other variables being forecast?

- Offer some early estimates of the impact of covid-19 on inflation disagreement
Measures of inflation forecast disagreement

- No universally agreed upon measure
- Measures include an IQR and different measures of forecast dispersion
- The dispersion indicator we use retains all the available information

\[ d_{th}^{zj} = \frac{1}{N_j-1} \sum_{i=1}^{N_j} (F_{ith}^{zj} - \bar{F}_{gth}^{zj})^2 \]

- Sharp changes in forecast disagreement emerge at the same time regardless of the disagreement measure employed
- Very small number of extreme forecasts (unlike household survey)
## The BER Survey: Overview of the Number of Observations, 2000Q2-2020Q4

### Size

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>&lt; 21</td>
<td>Micro</td>
<td>620</td>
<td>620</td>
<td>8005</td>
<td>8005</td>
<td>184</td>
<td>184</td>
</tr>
<tr>
<td>21-50</td>
<td>Small</td>
<td>109</td>
<td>109</td>
<td>5655</td>
<td>5655</td>
<td>112</td>
<td>112</td>
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<tr>
<td>51-100</td>
<td>Medium</td>
<td>199</td>
<td>250</td>
<td>4010</td>
<td>7810</td>
<td>97</td>
<td>310</td>
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<tr>
<td>101-200</td>
<td></td>
<td>51</td>
<td></td>
<td>4179</td>
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<tr>
<td>201-300</td>
<td>Large</td>
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<td>254</td>
<td>1589</td>
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<td>140</td>
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<td>301-400</td>
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<td>1153</td>
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<td>227</td>
<td></td>
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<td>939</td>
<td>6897</td>
<td>57</td>
<td></td>
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<tr>
<td>501-1000</td>
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<td>53</td>
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<td>1407</td>
<td></td>
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<tr>
<td>&gt; 1000</td>
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<td>90</td>
<td></td>
<td>1433</td>
<td></td>
<td>348</td>
<td></td>
</tr>
<tr>
<td>Undefined/No response</td>
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<td>43</td>
<td></td>
<td>7</td>
<td></td>
<td>38</td>
<td></td>
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<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>1276</strong></td>
<td><strong>28379</strong></td>
<td><strong>1438</strong></td>
<td></td>
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</table>

Note: Sample is 2000Q2-2020Q4. The columns in italics represent the number of observations for the aggregations based on the column identified as 'Alternate Classification'.
<table>
<thead>
<tr>
<th>BER: Macro Financial Variables Surveyed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current year inflation</td>
</tr>
<tr>
<td>Year ahead inflation</td>
</tr>
<tr>
<td>Two years ahead inflation</td>
</tr>
<tr>
<td>Five years ahead inflation</td>
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<tr>
<td>Current year Economic growth</td>
</tr>
<tr>
<td>Year ahead economic growth</td>
</tr>
<tr>
<td>Current year prime interest rate</td>
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<tr>
<td>Year ahead prime interest rate</td>
</tr>
<tr>
<td>Current year rand/USD exchange rate</td>
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<tr>
<td>Year ahead rand/USD exchange rate</td>
</tr>
<tr>
<td>Current year wage growth</td>
</tr>
<tr>
<td>Year ahead wage growth</td>
</tr>
<tr>
<td>Current year capacity utilization</td>
</tr>
<tr>
<td>Year ahead capacity utilization</td>
</tr>
<tr>
<td>Current year M3 growth</td>
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<tr>
<td>Year ahead M3 growth</td>
</tr>
<tr>
<td>Current year long-term government bond yield</td>
</tr>
<tr>
<td>Year ahead long-term government bond yield</td>
</tr>
</tbody>
</table>
FIGURE 1

One Year Ahead Horizon
FIGURE 2 – Overall Disagreement By Major Groups Surveyed

The GFC appears to play a dominating role...but this may be misleading as we shall see.

There is no data for “long-run” expectations during the GFC.

B=Businesses, F=Financial analysts, L=labour

Impact of strikes

“LONG-RUN”
(1) Levels of disagreement by smaller firms are HIGHER than for other groups;
(2) Changes in disagreement parallel each other across Firm size and individual who fills out the form (here CEO);
(3) There is a rising trend of disagreement since 2011: Is it uncertainty? What kind?
(4) The GFC naturally increased disagreement but so did the early years of IT
Only the factor model approach is capable of detecting a sharp rise in disagreement at the onset of the Pandemic.

The impact of the GFC is brought into sharper relief when the factor model approach is used.

Firms only: Small, medium, large
Econometric Specifications

\[ \tilde{d}_{th}^z = \alpha + \Theta \delta \tilde{D}_{th}^\delta j + B \Gamma_{t-1} + \eta_t \]

\[ \tilde{d}_{th}^j = \alpha' + \Theta' \delta \Gamma_{th}^e \delta j + B' \Gamma_{t-1} + \eta'_t \]
Findings

- Our findings reveal that when forecasters disagree about future inflation:
  - Because they also disagree about the future course of other key macro-financial variables.
- Sources of disagreement can be highly sensitive to the level of aggregation in the data.
- When we combine all the variables being forecast that we are able to see that forecasters responded sharply in early 2020 as the pandemic emerged.
  - Is it inattention to differences in what the past portends for the future; certain socio-economic characteristics, some type of bias? We don’t know yet.
- Most importantly, the results do point to differences in information sets that drive expectations (and disagreement). This needs to be taken into account in CBC.