Real Time Detection of Turning Points

The OECD Experience

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CCS-UN Technical Workshop on Nowcasting in International Organizations
3-4 February 2020, Geneva, Switzerland
Overview

1. CLI Methodology
2. CLI Performance
3. Can information on business cycle be of use in nowcasting macroeconomic variables?
4. Conclusions
Methodology
Two goals for one qualitative indicator

1) anticipate turning points (event)

2) inform on future direction of cyclical fluctuations
Reference series (economic activity)

- **Quarterly GPD** (except China: value added of industry)

  33 OECD countries

  +BRIICS + zones (OECD, euro area, G7, major 5 Asia)

Main categories of CLI components

1. **Real indicators and Prices**
2. **Financial monetary and indicators**
3. **Business Tendency and Consumer Surveys.**
4. **Trade Statistics**
5. **Employment**
Criteria for the selection of the components

- Economic significance
- Practical consideration (e.g. timeliness, length, revisions)
- Performance
  
  Classical NBER approach (full sample)
  - Lead at TP: average, median and standard deviation
  - Number missed/extra turning points
  - Cross-correlation

  Evolution of the performance (rolling analysis)
  - Rolling Cross-correlation
  - Rolling Harding-Pagan leading Index
  - Rolling Granger causality
Indicators’ average lead

- Financial and monetary
- Business and consumer tendency surveys
- Trade statistics
- Real Indicators
- Employment

- Peak
- Trough
Univariate double Hodrick-Prescott filter
De-trending/smoothing
Main points

• The CLI is a qualitative indicator
  – Optimised to detect turning points (event forecast)
  – Provides a broad indication of the future evolution of the economic activity (directional forecast)
  – No information on future GDP levels or growth rate (point forecast)

• Monthly disseminated
Performance
OECD as a whole: CLI leads GDP at the time of the Great Recession

Ex-post

6 months

3 months
CLIs headlines

**OEC**D News Release  
**OEC**D News Release  
**OEC**D News Release

**OECD CLIs signal a weakening outlook for most major global economies**

**OECD CLIs signal a deepening slowdown in OECD area**

... **OECD CLIs point to a reduced pace of deterioration in most of the OECD economies** ...
CLIs for G7 countries at the time of the Great Recession

- Lead (in months) with respect to the peak in GDP
- Lead (in months) with respect to the trough in GDP

<table>
<thead>
<tr>
<th>Countries</th>
<th>Lead to Peak (in months)</th>
<th>Lead to Trough (in months)</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>OECD Total</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>G7</td>
<td>6</td>
<td>8</td>
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<td>Japan</td>
<td>11</td>
<td>13</td>
</tr>
<tr>
<td>Germany</td>
<td>12</td>
<td>14</td>
</tr>
</tbody>
</table>

Months

16
14
12
10
8
6
4
2
0
United States OECD Total G7 France United Kingdom Italy Canada Japan Germany

Countries
Stability of turning points
CLI for the U.S.: peak and trough
... and after the crisis

CLI for the OECD as a whole
Can information on business cycle be of use when nowcasting macroeconomic variables?
Are revisions influenced by the business cycle? Sparse evidence

1) Phases  Growth rates downwards revisions in contractions

2a) Signs of growth rates  GDP growth rates revised upwards when GDP increases

2b) Signs of growth rates  Growth rates revised downwards when GDP decreases

4) Volatility  Higher volatility of growth rate in contractions

5) Turning Points  Larger revisions around through than around peaks
Studies are not fully comparable
- Methodology, sample, definitions of the business cycle

Studies tend to focus on headlines indicators
- GDP rather than its components or STS
- No investigation of the causes
  - (s.a., temporal disaggregation, forecasting)

Possible use of CLIs to be investigated

Caution: further investigation is required
Conclusions
Conclusions

• The CLI is a qualitative indicator (regularly disseminated)
  – event & directional forecast, no point forecast

• CLIs anticipated both the peak and the through of the Great Recession
  – Current performance is quite good

• Nowcasting GDP/IIP
  – Non-conclusive evidence of links between revisions business cycle
  – Possible use of CLIs? More investigation is required.
Thank you for your attention

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