Measuring economic uncertainty with business and consumer survey data

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Introduction

• Increasing interest on measuring uncertainty since the 2008 crisis
• Increases in uncertainty have a negative impact on economic activity depressing:
  ➢ Hiring
  ➢ Investment
  ➢ Consumption

However: difficult to measure it!
Introduction

- Different uncertainty measures based on:
  - Stock market volatility
  - Dispersion in forecasts by professional forecasters
  - Prevalence of terms such as 'economic uncertainty' in the media

- Relatively new approach: using survey data (survey disagreement)
The data
The data

- **Manufacturing industry sector:**
  - "how do you expect your production to develop over the next 3 months?"

- **Services sector:**
  - "how do you expect the demand (turnover) for your company's services to change over the next 3 months?"

- **Retail trade sector:**
  - "how do you expect your business activity (sales) to change over the next 3 months?"

Three possible answer categories:
(+): increase  (=): remain unchanged  (-): decrease
The data

- Consumer survey:
  - "how do you expect the financial position of your household to change over the next 12 months?"
  - "how do you expect the general economic situation in this country to develop over the next 12 months?"

Six possible answer categories:

(++) get a lot better  (-) get a little worse
(+) get a little better  (--) get a lot worse
(=) stay the same  (N) don't know
The measure
Uncertainty measure

**Underlying idea:** growing divergence of economic agents' expectations → higher uncertainty about the future course of the economy

**Uncertainty index** \( (U_t) \):

\[
U_t = \sqrt{\frac{\text{Fract}_t(+)}{\text{Fract}_t(-)} + \frac{\text{Fract}_t(-)}{\text{Fract}_t(+)} - \left(\frac{\text{Fract}_t(+)}{\text{Fract}_t(-)} - \frac{\text{Fract}_t(-)}{\text{Fract}_t(+)}\right)^2},
\]

where e.g. \( \text{Fract}_t(+) \) is the fraction of 'increase' responses to a survey question at time \( t \)
Developments in uncertainty across sectors
Euro area: Uncertainty in the industry sector and real GDP (year-on-year growth)
Euro area: Uncertainty in the industry sector and Industrial Production in manufacturing (year-on-year growth)
Euro area: Uncertainty in the services sector and Value added in the services sector (year-on-year growth)
Euro area: Uncertainty in the retail trade sector and private consumption (year-on-year growth)
Euro area: Uncertainty in the question 2 of the Consumer survey and Private Consumption
Euro area: Uncertainty in the question 4 of the Consumer survey and Private Consumption
Limitations of the uncertainty measure
Uncertainty (when the fraction of 'unchanged' replies is constant at zero)
Uncertainty (based on different 'unchanged' shares)
Euro area: Share of 'unchanged' in the industry, services and retail trade surveys and consumer survey (Q2 and Q4)
Conclusions
Survey data are useful to gauge uncertainty among managers and consumers however

The interpretation of the presented measure is not straightforward because of the difficulty to separate the two main forces explaining the changes:

- (1) the rising or falling dominance of 'increase' over 'decrease'-replies (or vice versa) and
- (2) the increasing or decreasing share of 'unchanged' replies
Thank you!