REAL SECTOR CONFIDENCE INDEX
FROM THE BTS OF CBRT

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OUTLINE

- Business Tendency Survey (BTS)
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  - Questions

- Real Sector Confidence Index (MBRKGE)

- Suggested Changes in BTS
BTS Characteristics

- The Business Tendency Survey of CBRT (BTS) is intended to find out the senior managers’ assessments and expectations on their firm, their sector and general economy.

- BTS has been adopted from the Industrial Trends Survey of the Confederation of British Industry.

- Starting date: December 1987

- Period: Monthly
BTS Characteristics (Cont.)

- Frame list: The industrial enterprises that are ranked among the “First 500 Industrial Enterprises of Turkey” and the “Next 500 Major Industrial Enterprises of Turkey” in the list prepared by the Istanbul Chamber of Industry.

- Sectors covered: food, textiles, forestry, paper products, chemistry, stone, metals, machine-vehicle, mining-quarrying, energy

- Food, textiles, chemistry and machine-vehicle constitute 75% of the total.

- Non-manufacturing sectors (i.e. mining-quarrying and energy) constitute 8% of the total.
BTS Characteristics (Cont.)

- Sampling Method: Non-probabilistic purposive
- Sampling Unit: Enterprises
- Reporting Unit: Senior Managers
- Participation in the survey is voluntary.
- Sample Size: 830 approximately
- Recent Response Rate: 55%
- Data Collection: mail, e-mail
- Revision: No revision since January 2004
BTS Questions

- Questions are aimed at establishing respondents’ assessments and expectations on their firm, their sector and general economy
- 34 questions in total
- Majority of the questions are qualitative
- Few quantitative questions on PPI inflation and interest rate expectations
- Questions on trends (recent past), expectations (near future) and current situation
- Responses for qualitative questions: 3-point Likert Scale, ranking some factors
BTS Questions (cont.)

- Variables covered are about:
  - demand (total, domestic, export)
  - employment
  - investment
  - production
  - stocks (finished goods, raw materials)
  - cost and selling prices
  - finance requirement
  - general economy (business situation, export prospects, inflation and interest rate)
BTS Questions on Business in Industry

- Question 1: Your opinion about the general course of business in your industry, compared with previous month
BTS Questions on Capacity & Employment

- Question 4: Your capacity utilization compared with previous month
- Question 5: What is the level of your productive capacity in accordance with your expectations on demand for the next twelve months
- Question 12: Total employment (last and next three months)
BTS Questions on Output

- Question 15: Volume of output (last and next three months)

- Question 24: According to your existing orders received or production plan, how many months is your production programme

- Question 25: Over the next quarter, which factor(s) might limit the production, rank according to degree of importance
BTS Questions on Stocks

- Question 11: Amount of monthly stocks of finished goods this month
- Question 18: Volume of raw-material stocks (last and next three months)
- Question 20: Stocks of finished goods (last and next three months)
BTS Questions on Investment

- Question 3: How much investment expenditure do you expect to realise over the next twelve months?

- Question 27: Over the next twelve months, what is the main reason for the planned expenditures on building, plant or equipment, rank according to degree of importance.

- Question 28: Which factor(s) might limit the realization of these expenditures on building, plant or equipment, rank according to degree of importance.
BTS Questions on Domestic Demand

- Question 13: Amount of new orders received from the domestic market (last and next three months)

- Question 16: Volume of goods sold in the domestic market (last and next three months)
BTS Questions on Exports

- Question 2: Your opinion about export prospects over the next three months compared with previous month
- Question 10: Amount of export orders received this month
- Question 14: Amount of new orders received from the export market (last and next three months)
- Question 17: Volume of exported goods (last and next three months)
- Question 26: Over the next quarter, which factor(s) might limit your export orders, rank according to degree of importance
BTS Questions on Orders

- Question 9: Total amount of orders received this month
- Question 19: Volume of work in progress (last and next three months)
BTS Questions on Inflation

- Question 29: Over the next three months, what is your expectation for inflation (producer prices) rate
- Question 30: Over the next twelve months, what is your expectation for inflation (producer prices) rate
- Question 31: What is your expectation for year-end inflation (producer prices) rate
BTS Questions on Cost & Prices

- Question 21: Average unit cost (last and next three months)
- Question 22: Average price for new orders received from the domestic market (last and next three months)
- Question 23: Average price for new export orders (last and next three months)
BTS Questions on Sales Revenues & Financing

- Question 6: What is the level of your sales revenues compared with previous month

- Question 7: What is the level of your past-due receivables compared with previous month

- Question 8: What is the finance requirement of your firm for the next month compared with previous month
BTS Questions on Interest Rates

- Question 32: Over the next three months, what is your expectation for short term Turkish Lira credit interest rate
- Question 33: Over the next three months, what is your expectation for short term Turkish Lira credit interest rate
- Question 34: Over the next twelve months, what is your expectation for short term Turkish Lira credit interest rate
The real sector confidence index (MBRKGE) is constructed to provide an indicator of short-term business conditions for economic policy makers and business managers due to the need of early warning indicators in order to foresee financial and economic crises.

- Reference series: Industrial Production Index (IPI)
Real Sector Confidence Index (cont.)

Basic criteria for selecting questions of MBRKGE:

- Cross Correlation Analysis
- Peak-Trough Analysis
- Low Volatility
- Economic Significance
Real Sector Confidence Index (cont.)

Questions comprising MBRKGE:

- General economic situation (q1)
- Export opportunities (q2)
- Investment expenditures (q3)
- Total orders (q9)
- Monthly stocks of finished goods (q11)
- Employment-next 3 months (q12_2)
- Production-next 3 months (q15_2)
- Goods sold in domestic market-last 3 months (q16_1)
- Raw material stocks-last 3 months (q18_1)
Correlation between the cycles of IPI and MBRKGE is found to be approximately 0.59 at lag 3.
Correlation between the official composite leading indicator of the Turkish economic activity (MBÖNCÜ-SÜE) and MBRKGE is found to be around 0.90 at lag 0.
Real Sector Confidence Index (Cont.)

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<tbody>
<tr>
<td>General economic situation (q1)</td>
<td>Industrial Production Index (Manufacturing, Private)</td>
<td>Quarterly Mean</td>
<td>Y-o-Y % Change</td>
<td>1</td>
<td>0.673</td>
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<td>Export prospects (q2)</td>
<td>Export of Goods and Services</td>
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<td>Y-o-Y % Change</td>
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<td>0.406</td>
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<td>Investment expenditures (q3)</td>
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<td>Total orders (q9)</td>
<td>Industrial Production Index (Manufacturing, Private)</td>
<td>Quarterly Mean</td>
<td>Detrended</td>
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<td>0.617</td>
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<td>Monthly stocks of finished goods (q11)</td>
<td>Changes in Stocks</td>
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<td>Employment (q12_2)</td>
<td>Production Workers (Private)</td>
<td>Quarterly Mean</td>
<td>Y-o-Y % Change</td>
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<td>Volume of output (q15_2)</td>
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<td>Quarterly Mean</td>
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<td>Goods sold in domestic market (q16_1)</td>
<td>Private Consumption</td>
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<td>Raw material stocks (q18_1)</td>
<td>Import Volume of Intermediate Goods</td>
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<td>Y-o-Y % Change</td>
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Real Sector Confidence Index (Cont.)

Balance 1

Industrial Production Index (Annual Percentage Change)

Balance 2

Goods and Services Export (Annual Percentage Change)
Real Sector Confidence Index (Cont.)

Balance 3

- Machinery (Annual Percentage Change, Secondary Axis)

Balance 9

- Industrial Production Index (Detrended, Secondary Axis)
Real Sector Confidence Index (Cont.)

Balance 11

Changes in Stocks (Secondary axis)

Balance 12_2

Index of Production Workers (Annual Percentage Change)
Suggested Changes in BTS

Several modifications in BTS are suggested in order to

- improve its performance
- harmonise it to the EU Industry Survey
Suggested Changes in BTS (cont.)

Modifications should be based on 4 aspects;

- sampling
- weighting
- questions
- timing
Suggested Changes in BTS (cont.)

Suggested modifications in sampling;

- Sector coverage of the sample should be enlarged in order to improve its representativeness.

- Suggested frame comprises private companies that have at least 10 employees and contributes 80% of the value added in their sectors at 4-digit sector level.

- The sample unit of the current survey which is “local unit” can be kept in the new survey.

- Participants from the companies that operate in more than one sector should be requested to reply the questions based on the main activity of their company.

- Sample can be drawn by either cut-off or stratified sampling method.
Suggested Changes in BTS (cont.)

Suggested modification in weighting;

- Survey results are disseminated without weighting in the current implementation.

- The results of the sectors should be weighted by their production values in the new setting.
Suggested Changes in BTS (cont.)

There are limitations in some of the BTS questions;

- Most of the respondents perceive the questions on similar subjects in the same manner, so that they give close answers. Correlations within each group of questions are quite high (between 0.89-0.98).

- Most of the respondents cannot distinguish the last 3 months trends from the next 3 months expectations. Correlations between the last and the next three months periods are in the range of 0.56-0.98.

- Most of the respondents are permanently pessimistic in answering questions on financial requirement, export orders and average unit cost.

- Some BTS questions do not match completely with EU Industry Survey.
Suggested Changes in BTS (cont.)

Suggested modifications in BTS questionnaire are as follows;

- All of the EU Industry Survey questions (monthly and quarterly) should be included in the new survey.

  In this context, questions 12_2, 15_1, 15_2, 22_2 and 24 should remain in the survey;

  while the wording of questions 5, 9, 10, 11 and 25 should be examined and appropriate modifications should take place.

- Questions 1, 3, 13_1, 13_2, 14_1, 14_2, 21_1, 21_2, 30 and 32, which exhibit satisfactory performance should be retained.
Suggested Changes in BTS (cont.)

- Timing of BTS is as follows;
  - Questionnaires for the surveyed month (t) are sent in the last working day of the previous month (t-1).
  - Participants are requested to return the completed forms by the 3rd day of the following month (t+1).
  - A reminding e-mail is sent to the participants who do not sent their reply until the 3rd of the following month.
  - Following the reminder, the fieldwork is ended within a week.

- Timing of EU Industry Survey is as follows;
  - The monthly surveys are carried out in the first fortnight of each month.
  - Results in the form of excel files are sent by e-mail to the European Commission before the end of the month.
  - The quarterly surveys are carried out in the first fortnight of the first month of each quarter (January, April, July and October) and the results are sent to the Commission under the same format before the end of that month.
Monthly report of BTS is published at the web site of CBRT;

http://www.tcmb.gov.tr/yeni/eng/
References


