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BUSINESS TENDENCY SURVEYS

Harmonising and Strengthening Business Tendency Surveys in Developing Countries in the Asia Pacific Region

Proceedings of the Joint OECD - ADB - ESCAP Workshop

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FOREWORD

Business tendency surveys are an important component of the statistical information used at national and international levels to monitor economic development in OECD countries. In collaboration with the Asian Development Bank (ADB) and United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), the OECD Statistics Directorate organised a workshop in November 2000 held at ESCAP headquarters in Bangkok, with the aim of harmonising and strengthening business tendency surveys in the Asia-Pacific region. This workshop was part of the dialogue and co-operation with non-Members managed by the OECD's Centre for Co-operation with Non-Members (CCNM).

The usefulness of business tendency surveys can be considerably enhanced if countries adopt a core set of standard questions to make inter country comparisons possible. At the first workshop on Business Tendency Surveys organised by OECD and ADB in November 1999, the standard set of questions that are now used by several OECD Member countries were introduced to participants as a starting point to develop standard questions for countries of the Asia-Pacific region. This workshop reviewed progress in developing harmonised business surveys since the Manila workshops and presented a technical assistance programme (RETA) to help member countries develop business tendency surveys using the harmonised set of core questions used by most OECD countries.

This volume contains the report on the Bangkok Workshop together with the papers presented by country participants, by the OECD Secretariat and by invited experts from Belgium, Germany and Japan. The intention is to provide a body of documentation on practical issues of business tendency surveys and on their use for monitoring short-term economic developments in the region.

This report is prepared under the auspices of the OECD's Centre for Co-operation with Non-Members and is published on the responsibility of the Secretary-General of the OECD.

Eric Burgeat
Director
Centre for Co-operation with Non-members

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MEETING REPORT

1. Introduction

The Workshop opened with welcome remarks from the co-organisers of the Workshop - Mr. Andy Flatt, Director, Statistics Division, UNESCAP, Mr. Derek Blades, Head of the Division for Non-Members, OECD Statistics Directorate and Mr. Biswanath Bhattacharyay, Project Officer in Charge of RETA 5938, Statistics and Data Systems Division , Economics and Development Resource Centre, Asian Development Bank.

The workshop was attended by 51 persons representing central banks, universities, research organisations and statistical offices of ten Asian countries, OECD, ESCAP and ADB staff and resource persons from Belgium, Germany and Japan. Annex A (page 220) is a list of participants. Annex B (page 229) is the agenda and a list of papers presented at the workshop.

Biswanath Bhattacharyay (ADB) presented a paper on the overview of the regional technical assistance Project (RETA 5938) "Strengthening and Harmonising BTS in selected developing countries (DMCs)" of ADB.

Following the first Workshop on business tendency surveys organised by the OECD and the ADB Manila in November 1999, the ADB had decided to initiate a technical assistance programme (RETA 5938) to help five member countries develop Business Tendency Surveys using the harmonised set of core questions used by most OECD countries. The countries involved are India, Indonesia, Philippines, Thailand and Vietnam. Although funding was not available for other countries to take part in the RETA 5938, other countries from the ESCAP Region can participate in the programme through OECD assistance. This may involve financial help to participate in workshops, training in the use of OECD software, technical missions to resolve problems in implementation of surveys or use of survey data.

Under the RETA, each country will conduct a pilot BTS Survey based on the improved and harmonised questionnaire, analyse and interpret the results, compile business confidence and composite indicators, and publish a report and compendium on these qualitative statistics. The ADB will provide a fixed amount of seed money to aforementioned five countries for conducting the survey and analysing the BTS results.

2. Progress in adapting the harmonised system since the Manila workshop

The workshop opened by reviewing progress in developing harmonised business surveys since the Manila workshop. Substantial progress was reported by China (NBS-ESO), Vietnam (GSC) and India (RBI). Plans to introduce harmonised business surveys are being developed in Philippines and

Thailand. In the following sessions on country presentation, participants from Hong Kong, China, India, Indonesia, Malaysia, People's Republic of China, Philippines, Lao, PDR, Singapore, Thailand, and Viet Nam, presented their country papers. During the deliberations of the workshop, the participants discussed various institutional and technical issues relating to the production of BTS results in their countries. The presentation focused on i) their experiences and present status on conducting the BTS, compiling and analysing and disseminating the BTS results; and ii) progress in adapting the harmonised BTS and related problems and issues. The major outcomes of the sessions are as follows: All countries need to i) harmonise BTS produced by multiple agencies within and across the countries and collaborate among agencies within the countries; ii) improve the questionnaire, sample frame and design, response rate, coverage and indicators; iii) strengthen the technical capabilities of concerned staff for effective analysis and interpretation of BTS surveys; and iv) disseminate BTS surveys to public in cost-effective and timely manner.

Ronny Nilsson introduced a review paper, based on information currently available at OECD, on the extent to which business tendency surveys in the ESCAP region are harmonised. He noted that harmonisation involved several distinct steps – inclusion of the same variables, use of identical questionnaire formats (level, trend, future change, future level, etc.), reference periods (next 3-4 months, 3-4 months ago, 6 months ahead, etc.) and, eventually, identical timing of surveys with regard to the time in the month or quarter when the survey is carried out.

While most countries in the Region cover many of the variables in the harmonised core set, there were often differences in the questionnaire formats, methodology for analysis and in the reference periods. There remains therefore considerable scope for further harmonisation before these surveys will become internationally comparable.

It was noted that some surveys still ask for trends/changes rather than levels when the latter were prescribed by the harmonised system. In order not to make breaks in time series, these countries could add the harmonised question format as an additional question rather than replacing the existing question. Mr. Nilsson emphasised that long experience in the OECD countries had shown that the harmonised questions, in their exact format, are particularly useful in detecting cyclical turning points and changes in growth rates in a very timely fashion. The ability to do these things is one of the main advantages of qualitative business surveys compared with quantitative surveys.

The meeting considered the reasons why some countries had found it difficult to adopt the harmonised system since the Manila meeting. Resistance from users to changes in the questionnaire and the consequent breaks in time series was recognised to be one of the main problems. A way around this was to introduce the harmonised question as an additional question. It was also noted that some institutions were anxious to avoid increasing the burden on respondents by changing questionnaire formats or adding new questions. However, there appears to be considerable scope for reducing respondent burden through reducing the length of questionnaires. Some of the most successful BTS in OECD countries are only one A4 page in length and can be completed in 15 minutes or less.

It was suggested that the OECD and the ADB should be more aggressive in spelling out the advantages of using the harmonised system for BTS. This would provide support for institutions that would like to adapt their questionnaires but were facing resistance from users. In response it was pointed out that, at the Manila meeting, detailed explanations of the advantages of the harmonised system had been given. These included both the advantages for individual countries in adopting a set of questions that have been found to be answerable and analytically useful by the OECD member countries, and the advantages from being able to compare survey results both between other neighbours in the region and with the global economy. The OECD pointed out that countries of Eastern and Central Europe had initially been reluctant to change their questionnaires to include the

harmonised questions. However, the institutions that had been the first to do so had benefited very considerably because their survey results were now those most likely to be quoted by the media and used by analysts.

Practical issues in implementing business tendency surveys

Business tendency surveys are designed to collect information from the managers of enterprises. Some countries noted that the BTS questionnaires were often passed down to subordinate staff in bookkeeping or accounting departments rather than being completed by the managers. Several suggestions were made as to how this could be avoided.

- The questionnaires must be designed in such a way that they can be completed by the manager in a short time and without the need to refer to any book-keeping records. In other words the questionnaire should be confined to qualitative data because as soon as the questionnaire asks for quantitative data it is likely to be passed down to subordinate staff to complete.

- The questionnaire needs to be designed so that it looks attractive. The questionnaire could be printed on coloured paper to distinguish it from ordinary statistical questionnaires.

- Managers are more likely to take an interest in the BTS if the results are given wide publicity in the media. Press releases should be designed so that journalist in the press and TV can easily understand the information.

- Questionnaires that come from national statistical offices are routinely passed down to subordinate staff. It is often better, therefore, if the BTS is seen to be operated by an agency other then the official statistical office. In many transition countries, these surveys are operated by research institutes that are attached to the statistical agency.

- If managers get something useful in return, they are more likely to devote their time to completing the questionnaire. Respondents can be given special survey reports relevant to their line of business.

- Another point discussed is that central banks and statistical offices usually find it very difficult to convince the policy makers for disseminating BTS results showing deteriorating economic situation. It was suggested that the BTS producing agencies should take a neutral stance and release the data on a timely manner.

- Regarding the form of dissemination, it was suggested to release the BTS statistics only without any economic analysis and the interpretation of BTS results should be left to the users.

There was interest in the possible use of the Internet for BTS. Singapore has experimented with Internet but it has not been successful. Senior managers are not always comfortable with information technology. The Internet site needs to be password protected and respondents may lose or forget their passwords. With e-mail questionnaires it is too easy to delete the message which may not be distinguished from junk mail.

Several of the BTS in Asia cover a very wide range of activities. This leads to the use of lengthy questionnaires with some questions to be completed only by companies in a particular line of business. In general it seems preferable to develop separate questionnaires tailor-made for particular kinds of activities. This seems particularly important for service activities since these tend to be very

heterogeneous; for example, a questionnaire designed for banks would not be appropriate for other kinds of business services.

Technical aspects of country work plans for RETA 5938

Participants divided into three groups to develop plans to implement improved and harmonised BTS. There was a broad measure of agreement on the main technical aspects of the various country work plans. The major consensus and recommendations of the workshop are as follows: 1) All the countries that are presently conducting BTS will harmonise questionnaires by incorporating 13 common questions for manufacturing sector and 9 common questions for non-manufacturing sector as per the recommendation of the Manila workshop; 2) the existing series of questions will run parallel with the results of harmonised series for maintaining continuity of the time series; 3) all countries will conduct the harmonised survey on quarterly basis starting from the second quarter of 2001 while Bank of Thailand will conduct the same on a monthly basis; 4) the agencies within the country will collaborate to avoid duplication and to optimise the coverage and complementarity of BTS within the institutional framework of the respective agencies; 5) BTS results will be disseminated promptly and regularly, preferably through internet web page; 6) countries will adopt a standard system for analysing BTS results (net balance approach) and composite indicators; and 7) OECD and ADB will consider providing training to the participants on the analysis of BTS results using software packages, construction of composite indicators and presentation of results in the second quarter of 2001;

This agreement on various technical aspects of BTS are as follows:

- **Questionnaire**
  - *Format.* OECD recommendation
  - *Type.* Qualitative only
  - *Period.* Past, present and future
  - *Size* Two sides of paper as maximum.
  - *Time to complete*. 15 minutes maximum.
- **Weighting:** Weighting between kinds of activity may be required to correct for sample bias. Weighting of enterprises within a kind of activity depends on the sample design in each country.
- **Updating sample frame. Annual**.
- **Types of survey**
  - Mail
  - Fax
  - Electronic
  - Personal interview

- **Reducing delays in processing and publication**
  - Standardised formats and procedures
  - Maximum of 4 week delay
- **Feedback to respondents** - Provide copies of results relevant to their line of business.
- **Needs for technical assistance.**
  - Training in analysis of BTS results
  - Presentation of results
  - Composite leading indicators.

3. Actions

OECD will prepare a list of the harmonised questions, showing the exact wording to be used in English. OECD will also specify the exact formula to be used for calculating confidence and related indicators. These will be shown in Annexes 3 and 4 attached to this report.

All countries will send their revised questionnaires, after harmonisation, to the ADB and OECD before the end of February 2001. The concerned agencies of India, Indonesia, Philippines, Thailand and Vietnam will submit their revised work plan and tentative budget together with technical resource requirement (with the approval of their management) to ADB also on the same date. Countries are expected to submit the results of harmonised BTS together with confidence and composite indicators by September 2001.

Countries will send to the OECD and ADB Excel files containing all historical data from existing Business Tendency Surveys. These will be analysed by OECD for use in training courses on the use and interpretation of BTS data.

ANNEX 1. HARMONISED QUESTIONNAIRES AND RESPONSE ALTERNATIVES

Industry Survey

(i.e. for surveys that cover one or more of these activities: *mining, quarrying, manufacturing, electricity, gas and water)*

Q.1 **Excluding normal seasonal changes**, what has been your company's experience over the past three to four months with regard to the **volume** of *production*:
up ( ), unchanged ( ), down ( )

Q.2 **Excluding normal seasonal changes**, what changes do you expect during the next three to four months with regard to the **volume** of *production*:
up ( ), unchanged ( ), down ( )

Q.3 **Excluding normal seasonal changes**, do you consider that the present level of your *total order book* in **volume** terms is:
above normal ( ), normal ( ), below normal ( )

(firms with no order book are requested to estimate the level of demand)

Q.4 **Excluding normal seasonal changes**, do you consider that the present level of your *export order book* in **volume** terms is:
above normal ( ), normal ( ), below normal ( )

(firms with no order book are requested to estimate the level of demand from abroad)

Q.5 **Excluding normal seasonal changes**, do you consider that the present level of your *stocks of finished goods* in **volume** terms is:
above normal ( ), normal ( ), below normal ( )

Q.6 **Excluding normal seasonal changes**, what changes do you expect during the next three to four months with regard to *average selling prices*:
increase ( ), remain stable ( ), decrease ( )

Q.7 **Excluding normal seasonal changes**, what changes do you expect during the next three to four months with regard to the *number of people employed in your company*:
up ( ), unchanged ( ), down ( )

Q.8 What *factors* are limiting your ability to increase *production*. Please tick the most important factor or factors:

-- none;
-- insufficient domestic demand;
-- insufficient foreign demand;
-- competitive imports;
-- shortage of labour;
-- shortage of skilled labour;
-- lack of appropriate equipment;
-- shortage of semi–finished goods;
-- shortage of raw materials;
-- shortage of energy;
-- financial problems (e.g. insolvency, credits);
-- unclear economic laws;
-- uncertainty of the economic environment;
-- others, please specify

Q.9 What is your current level of *capacity utilisation* (in per cent of normal capacity utilisation): _____

Q.10 Do you consider that the present *business situation* of your company is:
good ( ), satisfactory ( ), bad ( )

Q.11 Do you expect that the *business situation* of your company during the **next six months** will be:
better ( ), same ( ), worse ( )

Q.12 Do you consider that the present *financial situation* of your company is:
good ( ), satisfactory ( ), bad ( )

Q.13 Do you consider that the present situation concerning *access to credit* for your company is:
Easy ( ), normal ( ), tight ( )

Construction Survey

Q.1 **Excluding normal seasonal changes**, what has been your company's experience over the past three to four months with regard to the **volume** of *business activity*:
up ( ), unchanged ( ), down ( )

Q.2 With normal working hours, what is the *current operating time* secured, with regard to work in hand and work already contracted, in number of months:_____

Q.3 **Excluding normal seasonal changes**, do you consider that the present level of your *total order book* or production schedules in **volume** terms is:
above normal ( ), normal ( ), below normal ( )

Q.4 **Excluding normal seasonal changes**, what changes do you expect during the next three to four months with regard to the **volume** of orders (contracts):
up ( ), unchanged ( ), down ( )

Q.5 Do you consider that the present *technical capacity* (amount and quality of equipment) of your company with regard to expected demand in the next 12 months is:
more than sufficient ( ), sufficient ( ), not sufficient ( )

Q.6 What *factors* are limiting your ability to increase *business activity*. Please tick the most important factor or factors:
- -- none;
- -- demand;
- -- weather conditions;
- -- cost of materials;
- -- cost of labour;
- -- cost of finance (e.g. interest rates);
- -- access to bank credit;
- -- shortage of skilled labour;
- -- lack of equipment;
- -- shortage of materials;
- -- competition in own sector;
- -- others, please specify

Q.7 **Excluding normal seasonal changes**, what changes do you expect during the next three to four months with regard to *average selling prices*:
increase ( ), remain stable ( ), decrease ( );

Q.8 **Excluding normal seasonal changes**, what changes do you expect during the next three to four months with regard to the *number of people employed in your company*:
up ( ), unchanged ( ), down ( )

Q.9 Do you consider that the present *financial situation* of your company is:
good ( ), satisfactory ( ), bad ( )

Q.10 Do you consider that the present situation concerning *access to credit* for your company is:
Easy ( ), normal ( ), tight ( )

Retail and Wholesale Trade Survey

Q.1 Do you consider that the present *business situation* of your company is:
good ( ), satisfactory ( ), bad ( )

Q.2 Do you expect that the *business situation* of your company during the next six months will be:
better ( ), same ( ), worse ( )

Q.3 **Excluding normal seasonal changes**, what has been your company's experience over the past three to four months with regard to the *competition* in *your sector of activity*:
up ( ), unchanged ( ), down ( )

Q.4 What *factors* are limiting your ability to increase *business activity*. Please tick the most important factor or factors:
- -- none;
- -- demand;
- -- supply;
- -- cost of labour;
- -- cost of finance (e.g. interest rates);
- -- access to bank credit;

-- sales surface;
-- storage capacity;
-- competition in own sector.
-- Others, please specify

Q.5 **Excluding normal seasonal changes**, what changes do you expect during the next three to four months with regard to the **volume** of *orders placed with suppliers*:
up ( ), unchanged ( ), down ( )

Q.6 **Excluding normal seasonal changes**, do you consider that the present level of *your stocks* in **volume** terms is:
above normal/too large ( ), adequate/normal for season ( ), below normal/too small ( )

Q.7 **Excluding normal seasonal changes**, what has been your company's experience over the past three to four months with regard to *average selling prices*:
increase ( ), remain stable ( ), decrease ( );

Q.8 **Excluding normal seasonal changes**, what changes do you expect during the next three to four months with regard to *average selling prices*:
increase ( ), remain stable ( ), decrease ( );

Q.9 **Excluding normal seasonal changes**, what changes do you expect during the next three to four months with regard to the *number of people employed in your company*:
up ( ), unchanged ( ), down ( )

Q.10 Do you consider that the present *financial situation* of your company is:
good ( ), satisfactory ( ), bad ( )

Q.11 Do you consider that the present situation concerning *access to credit* for your company is:
Easy ( ), normal ( ), tight ( )

Surveys in other Sectors

(i.e. surveys that cover one or more of these activities: *hotels and restaurants, transport and communications, financial and business services, personal services.*)

Q.1 **Excluding normal seasonal changes**, what has been your company's experience over the past three to four months with regard to the **volume** of *demand*:
up ( ), unchanged ( ), down ( )

Q.2 **Excluding normal seasonal changes**, what changes do you expect during the next three to four months with regard to the **volume** of *demand*:
up ( ), unchanged ( ), down ( )

Q.3 **Excluding normal seasonal changes**, what has been your company's experience over the past three to four months with regard to *the number of people employed in your company*:
up ( ), unchanged ( ), down ( )

Q.4 **Excluding normal seasonal changes**, what changes do you expect during the next three to four months with regard to *the number of people employed in your company*:
up ( ), unchanged ( ), down ( )

Q.5 What factors are limiting your ability to improve your *business situation*. Please tick the most important factor or factors:

-- none;
-- insufficient demand;
-- supply
-- cost of labour;
-- cost of finance (e.g. interest rates)
-- access to bank credit;
-- financial problems (e.g. insolvency, credits);
-- competition in own sector
-- others, please specify

Q.6 Do you consider that the present *business situation* of your company is:
good ( ), satisfactory ( ), bad ( )

Q.7 Do you expect that the *business situation* of your company during the **next six months** will be:
better ( ), same ( ), worse ( )

Q.8 Do you consider that the present *financial situation* of your company is:
good ( ), satisfactory ( ), bad ( )

Q.9 Do you consider that the present situation concerning *access to credit* for your company is:
Easy ( ), normal ( ), tight ( )

ANNEX 2. CALCULATION OF CONFIDENCE INDICATORS

In order to have an overall cyclical indicator, a selected survey variables are combined into a single composite indicator. These indicators are called **confidence indicators** because they summarise economic agents' assessments of the current economic situation and their expectations for the immediate future.

The confidence indicators are made up from the averages of the **balances** to selected questions in the surveys. The balances are calculated by subtracting the number of "unfavourable" replies from the number of "favourable" replies. The "no-change" replies are ignored.

The balances are averaged by taking **arithmetic means.**

The harmonised confidence indicators are as follows:

Industry survey

The *industrial confidence indicator* (ICI) is an average of the balances to the three questions in the industry survey relating to:

- (1) *Question 2*: production, future tendency (PE)
- (2) *Question 3*: total order books (OB)
- (3) *Question 5*: stocks of finished goods (ST) (inverted)

$$ICI = (PE + OB - ST)/3$$

Construction survey

The *construction confidence indicator* (CCI) is an average of the balances to the two questions in the construction survey relating to:

- (1) *Question 3*: total order books (OB)
- (2) *Question 8*: employment, future tendency (EE)

$$CCI = (OB + EE)/2$$

Retail and wholesale trade survey

The *retail trade confidence indicator* (RCI) is an average of the balances to the three questions in the retail and wholesale trade survey relating to:

- (1) *Question 1*: business situation , present (BS)
- (2) *Question 2*: business situation, future tendency (BF)
- (3) *Question 6*: stocks (inverted) (ST)

RCI = (BS + BF – ST)/3

The business confidence indicators are based on the above questions with three answer alternatives to each question ("above normal/normal/below normal" or "up/same/down"). The confidence indicators are expressed as the balance of positive over negative results with inverted sign for the balance of the answers to the question on stocks of finished goods in the industry and retail trade surveys. The balances are computed with equal weights to positive and negative answer alternatives.

Surveys in other sectors

The confidence indicator for surveys in other sectors (OSCI) is an average of the balance to the three questions in the survey relating to:

- (1) *Question 4* : employment, future tendency (EE)
- (2) *Question 6*: business situation, present (BS)
- (3) *Question 7*: business situation, future tendency (BF)

OSCI= (EE + BS + BF)/3

RETA 5938: HARMONISING AND STRENGTHENING BUSINESS TENDENCY SURVEYS IN SELECTED ASIAN DEVELOPMENT BANK MEMBER COUNTRIES

Biswanath Bhattacharyay[1] - Asian Development Bank

1. Background and Rationale

Results of Business tendency surveys (BTS) and consumer surveys are important part of the statistical information used at national and international level for monitoring economic development. These qualitative surveys on assessments, expectations and plans for investment, employment, production, order books, etc. by company managers are quick and economical way of getting up to date information on the short-term outlook and on turning points in the business cycle. In addition, they can be adapted to analyse particular problems – such as growing company debt and profitability that may indicate a signal or potential bottlenecks to production, investment, and exports. BTS can serve as an indicator for the some financial crisis similar to what Asian economies have experienced in 1997. BTS can also be used for short-term forecasting of the real and financial sectors. They are widely used in many developed countries to complement quantitative statistics.

The recent Asian financial crisis highlights the need for more frequently available, timely and easily accessible statistical information. One of the lessons learned from the crisis is that the conventional quantitative economic indicators by themselves are not sufficient to give clear warning signals of an impending crisis. One can get a clearer picture when these quantitative indicators are seen in connection with simultaneous observation of qualitative indicators in form of BTS results since the latter transmit at early stage signals from the corporate sector on the profitability. Furthermore, there is always some delay in the production of quantitative economic indicators thus making them less effective for monitoring.

2. Harmonising and Improving Business Tendency Surveys

BTS was introduced in a few Asian countries in the 1990s. These vary in quality, coverage and frequency. There is considerable scope for improving the reliability and inter-country comparability of these surveys through harmonising their content, timing and methodology. The first workshop on business tendency surveys was organised jointly by Organisation of Economic Co-operation of Developed Countries (OECD) and the Asian Development Bank (ADB) in November 1999 in Manila, Philippines with participation from eleven countries namely: People's Republic of China, Hong Kong, China, India, Indonesia, Republic of Korea, Malaysia, Pakistan, Philippines, Singapore, Thailand and Viet Nam. Included among these were participants coming from the Central Banks and National Statistics Offices/Agencies of the countries and other research organisations. The workshop aimed to encourage the need to improve the quality and harmonise these surveys in the Asia Pacific region and

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to show participants how BTS can be used to monitor financial markets and business cycle developments. The brief summary proceedings of the workshop are given in Appendix 1.

3. Regional Technical Assistance (RETA) 5938

The first workshop found the need to improve the quality and harmonise these surveys in the region and encourage wider use of the results. The benefit of improved and harmonised BTS users world-wide includes the availability of additional timely, and more frequent (monthly or quarterly) statistics which will be useful in monitoring economic and financial development in the Asian countries and thus help in minimising the risk of crisis recurrence.

In view of the above, a small-scale RETA 5938: Harmonising and Strengthening Business Tendency Surveys in Selected Developing Member Countries (DMCs) of ADB has been approved. Out of the nine DMCs that have participated in the first workshop, India, Indonesia, Philippines, Thailand and Viet Nam have expressed interest to improve and harmonise their BTS. The main objective of the RETA is to strengthen the capability of selected countries to harmonise and improve their existing BTS. Specifically, the RETA will assist countries to develop and conduct, on a pilot basis, improved and harmonised surveys and to use the results for effective monitoring and analysing short-term economic developments.

The RETA will focus on strengthening the capability of these selected countries in the following areas: i) improving the design and execution of BTS including questionnaire and sample design, and estimation technique; ii) expanding the coverage of BTS from manufacturing and construction to finance and insurance, trade, tourism, and other service activities; iii) enhancing the usefulness of BTS by making them more comparable across countries; iv) formulating various appropriate indicators of business confidence and of composite leading indicators based on both BTS qualitative data and conventional quantitative statistics and v) enhancing the capability of countries to correctly interpret and analyse the survey results for short-term monitoring and forecasting. The above objectives will be achieved through workshops, seminars, training, consultancies and pilot surveys. Analysis of the results of the BTS, including the development of leading indicators and macroeconomic projections will be conducted.

4. Implementation Arrangements

The ADB will provide some seed money to each RETA country in the amount not exceeding US$ 4,000 to be allocated for the activities which will be intended to cover expenses depending on the work involved such as travel, use of resource persons, sample surveys, data processing, local workshops, training and documentation. The participating countries are expected to make in kind contributions to the RETA, as the RETA will require that most of the in-country expenses will be shouldered by the countries.

The mechanics for each participating country will be to conduct a pilot BTS survey based on the improved and harmonised questionnaire, recommend sample design and methodology, analyse and interpret the results and publish a report and compendium on these qualitative statistics. OECD staff and/or experts will provide consultancies an /or training, as appropriate, to RETA countries on topics of specific interest and importance to countries.

The specific activities to be undertaken by the implementing agencies as the expected outputs will be discussed at the inception workshop after presentation of the experiences of the participating countries. There is a proposal to conduct another workshop in 2001 to be held in Singapore.

The Statistics and Data Systems Division of the Economics and Development Resource Centre will administer the RETA. The implementation of the RETA activities related to the use of survey data for analysis will be co-ordinated closely with the Regional Monitoring Unit (REMU) of ADB. The TA will be implemented over a period of 14 months ending in December 2001. The RETA countries are expected to submit the BTS results together with confidence and composite indicators by September 2001.

5. Inception Workshop for RETA 5938

As an initial activity of the RETA 5938, an inception workshop will be jointly sponsored by the ADB, OECD, the United Nations Economic and Social Commission (ESCAP). The objective of the workshop are as follows: 1) apprise participants on the country status in harmonising and strengthening BTS as per recommendation of first BTS workshop 2) assist the participants in improving the design and execution of BTS including questionnaire and sample design and estimation technique 3) support the participants' involvement in enhancing the usefulness of BTS by making them more comparable across the countries 4) strengthen the participants' concept in formulating various appropriate indicators of business confidence and of composite leading indicators based on both BTS qualitative data and conventional quantitative statistics 5) enhance the capability of the countries to correctly interpret and analyse the survey results for short-term monitoring and forecasting and 6) assist the participants in formulating the country workplans for conducting harmonised/standardised BTS survey.

The representatives of the RETA DMCs will be requested to present technical papers highlighting issues and problems concerning the adaptation of harmonised BTS. In addition to the above five RETA countries, the representatives of some developed countries of the region, namely Hong Kong, China, Japan, and Singapore will be invited to participate for sharing their experience in conducting BTS. The representatives of some selected non-RETA DMCs namely Lao, PDR, Malaysia and People's Republic of China will also be invited in the workshop.

6. Problems and Issues

There are some common problems and issues in conducting BTS. The participating countries would be divided into three groups for group discussion on the common problems as well as formulation of country plans for harmonising and strengthening BTS. The format for individual country plan is given in Appendix 2. Some suggested topics for group discussions are as follows:

1. How are we going to avoid duplication of BTS activities as multiple agencies are involved in concluding BTS? More co-operation among agencies is required to harmonise and strengthen BTS.

2. Business Tendency Surveys offer an important tool for taking the pulse of an economy. However, they rely on a certain set of pre-existing conditions that generally exist in OECD countries but that may not be in place in the DMCs. For example, a lot of consistent information is required to prepare a meaningful BTS results. However, the level of information available is uneven across

the countries and the sectors envisaged. Can we achieve the same level of quality and output as that of OECD?

3. There is a need to convince the policy makers to provide additional and adequate funding for conducting, analysing and disseminating the BTS on a regular (monthly) basis.

4. The suggested time (as per the recommendations of the first workshop) for completing the questionnaire may be inadequate taking into account the time required for gathering the information and understanding the questionnaire.

5. Among the technical issues warranted will be the criteria for weights given to small, medium and large enterprises. However, the definition of what constitutes small, medium and large enterprises varies considerably from one country to the other. The definition of the sizing and or classification of enterprises need to be corrected. How are we going to make BTS results internationally comparable?

6. There is need to identify who are the end users of BTS results and what are their needs. A linkage between the use of BTS and the private sector as well as their role in the improvement of design and content of BTS needs to be established. A mechanism for incorporating users' needs and feedback should be incorporated.

7. What is the most timely, cost-effective and efficient manner by which the BTS results could be disseminated?

7. Conclusion

Encouraging the wider use of BTS responds to increasing need for more frequently and easily accessible qualitative and quantitative information on the economy that is both useful at the country level and regional level given increased intra-regional economic activities. There is an urgent need to strengthen and standardise BTS and to make BTS results internationally comparable. At the same time, wider use of BTS results by policy makers in the government and private sectors should be encouraged.

Appendix 1

THE BRIEF SUMMARY OF THE PROCEEDINGS OF THE JOINT OECD-ADB WORKSHOP ON BUSINESS TENDENCY SURVEYS, MANILA, 16-19 NOVEMBER 1999

Objectives and Scope

This was the first workshop on BTS for countries in the Asia/Pacific region organised jointly by the OECD and the ADB. The workshop was held at the ADB Headquarters in Manila on 16-19 November 1999. A major part of the workshop was devoted to discuss approaches for harmonisation of BTS in industry and to describe the experience of OECD countries in carrying out BTS and using the results for analysis and forecasting. In particular, the aims of the workshop were: (i) to encourage wider use of BTS in the Asia/Pacific region, (ii) to encourage countries to adopt a core set of standard questions to make inter-country comparisons possible, and (iii) to show participants how BTS can be used to monitor financial markets and business cycle developments.

The workshop was attended by 23 representatives from statistical and research institutions in the following 11 ADB Member Countries: People's Republic of China, Hong Kong, China; India, Indonesia, Korea, Malaysia, Pakistan, Philippines, Singapore, Thailand and Vietnam. In addition to the official representative from Vietnam, two resident project leaders (GSO/Statistics Sweden and EURO-TAP/ISP) attended as observers.

Topics discussed

The first session of the workshop covered the following topics: (i) Methodological review of BTS in industry conducted in OECD countries; (ii) Harmonised business surveys in European Union and Transition Countries in Central and Eastern Europe; and (iii) BTS in Asia/Pacific region: practices and experiences in individual countries. The second and fourth sessions of the workshop described experiences in OECD countries in using the business tendency survey results for analysis and forecasting. The two sessions covered the following topics: (i) BTS for Financial Market Analysis; and (ii) BTS for Business Cycle Analysis. Harmonisation of BTS in the Asia/Pacific region was the main topic in the third session of the workshop. The aim of this session was to discuss the possibilities of adopting a core set of standard questions in the BTS in the Asia/Pacific region to make inter-country comparisons possible. The final session reviewed the workshop and covered the following topics; (i) Operational conclusions concerning the implementation of harmonised surveys in the Asia/Pacific region; (ii) Issues of technical/other assistance and co-operation (training, consultancies) and (iii) Future activities/meetings (venue and agenda for 2000 meeting).

Major Conclusions

The operational conclusions emerging from these discussions are as follows:

Harmonisation of business tendency surveys

Content

(1). Harmonised questions: Business surveys in industry

Question	Variable	Type of Variable/Period Covered
1	Production	present tendency, (3-4 months ago)
2	Production	future tendency, (3-4 months ahead)
3	Order books, total	present level
4	Order books, export market	present level
5	Stocks of finished goods	present level
6	Selling prices	future tendency, (3-4 months ahead)
7	Employment	future tendency, (3-4 months ahead)
8	Limits to production	present situation
9	Capacity utilisation	present rate
10	Business situation	present situation
11	Business situation	future tendency, (6 months ahead)
12	Financial situation	present situation
13	Access to credit	present situation

(2). Harmonised questions: Business surveys in other sectors

Question	Variable	Type of Variable/Period Covered
1	Demand	present tendency, (3-4 months ago)
2	Demand	future tendency, (3-4 months ahead)
3	Employment	Present tendency, (3-4 months ahead)
4	Employment	future tendency, (3-4 months ahead)
5	Limits to production	present situation
6	Business situation	present situation
7	Business situation	future tendency, (6 months ahead)
8	Financial situation	present situation
9	Access to credit	present situation

Other harmonisation issues

Question format should follow OECD recommendations: (i) form of questions i.e. type of variable (assessment and change questions) and (ii) period covered by questions (questions on past/present tendency and questions on future tendency).

General principles: (i) unless otherwise stated all information should be qualitative; and (ii) qualitative questions (what do you think, what do you expect) should not be combined with quantitative questions (how much, how big).

Operational issues

Size of questionnaire: (i) ideally one page not more than 20 questions; and (ii) maximum 2 pages.

Time to complete questionnaire: about 15 minutes to complete the questionnaire.

Technical issues

Weighting: (i) weighting of questions at the *enterprise level* is recommended and the number of employees in the report unit is the recommended weighting variable. Weighting points by small, medium and large enterprises is an acceptable method; and (ii) weighting is recommended for aggregation of results to *industry/branch level* and value-added, output or employment are accepted as weighting variables.

Response rate: (i) surveys using random sampling - - target response rate at least 50% and (ii) surveys using purposive selection - - target response rate at least 40%.

Processing delay: target maximum 4 weeks.

Feed back to respondents: The survey results should be sent to respondents.

Training/technical assistance by ADB and OECD

Training: Training for countries could take place at the ADB and carried out by OECD staff and/or OECD experts on topics related to: (1) Interpretation and use of survey results, in particular, seasonal adjustment, cyclical analysis and construction of composite indicators and (2) questionnaire design, sample selection, survey procedures etc.

Consultancies: Consultancies in individual countries could be carried out by OECD staff and/or OECD experts on topics of specific interest and importance to a country.

Program of annual meetings: To support the development and use of BTS and to follow progress with their harmonisation in the region, it is suggested to hold annual meetings/workshops in the region.

Follow-up issues

1. Countries/institutions are requested to inform the OECD if they are now expecting to go ahead with harmonisation of their BTS in line with above conclusions;

2. OECD will maintain the web-site for this project; countries/institutions are asked to send their web-site address to their data site for BTS results, if available. The OECD will include hyperlinks to such sites on its web-site;

3. Countries/institutions are requested to send their BTS questionnaires in a short English version to the OECD; and

4. Countries are asked to suggest to the OECD other relevant institutions in their countries which they think should be involved in this project.

Future activities

A next meeting/workshop on business tendency surveys for countries in the Asia/Pacific region is scheduled for November 2000. The venue for this meeting could be held at the ADB in Manila or in a country in

INDIVIDUAL COUNTRY WORK PLAN

RETA 5938: Harmonising and Strengthening Business Tendency Surveys in Selected DMCs

Country: _____

Name of participant : _____

Position: _____

Organisation: _____

PROPOSED BTS HARMONISATION / STRENGTHENING PLAN

(1). Coverage of the questionnaire

a. Format

b. Type

c. Period covered

d. Others

(2). Size of the questionnaire

(3). Time required to complete questionnaire

(4). Weighting of questions at the enterprise level and for aggregations

(5). Modification of sample design

(6). Modification of sample frame

(7). Types of survey (Mail reply/ Electronic/ Tele-survey, etc) and follow-up mechanism (re-sending questionnaire, telephone, e-mail, fax reminders)

(8). Improving response rate

(9). Reducing delay in processing and disseminating information

(10). Obtaining feedback from correspondents

Workplan for BTS

a. Does the country have any external assistance for BTS Activities?

_____ Yes _____ No

If yes,

a. Source agency:
b. Duration:
   Commencement date:
   Expected completion date:
c. Nature of Activity:

b. Does the country need technical assistance?

_____ Yes _____ No

If yes,

a. Nature and type of assistance:
b. Approximate date of commencement and duration:

Methodologies for Analysis of BTS

(1). Formulation of indicators of business confidence and of composite leading indicators (based on both BTS qualitative and quantitative statistics)

(2). Types of tables to be prepared

(3). Short – term monitoring and forecasting of key economic variables

a.
b.
c.
d.
e.

Improving dissemination of BTS results

(1). Frequency of dissemination

(2). Time lag from the conduct of survey

(3). Forms of dissemination of BTS results

a. hardcopy
b. electronic mail
c. publication
d. workshop
e. seminars
f. media
g. others

Plan for future activities

(4). Workshops, seminars and trainings

(5). Co-ordination among agencies conducting BTS

(6). Other activities

PART I

COUNTRY PAPERS

BUSINESS TENDENCY SURVEYS – INDIAN EXPERIENCE*

A.C. Kulshreshtha – Central Statistical Organisation, India

1. Introduction

The government planners, policy makers and researchers do require information on short term indicators of the economy besides the well known macro-economic aggregates such as gross domestic product, national income, consumption expenditure, gross fixed capital formation, saving, etc. Important short-term indicators required by the planners relate to overall economic conditions, environment for investment expenditure, capacity utilisation of the existing industries, firm's financial position, etc. The short-term outlook is crucial to the planners for gauging the performance of the economy and for evaluating policy implementation. The overall performance of the economy is indeed useful to the corporate planner as well as it is within this general economic framework that he operates. In an environment in which role of the government in the economy is dynamic culminating in structural adjustments, estimating relationships based on past data may not always be relevant for the future. Business Expectation Surveys that are direct and up-to-date can provide necessary information for building up short-term indicators and short-term forecasting.

Anticipatory data collected through the Business Tendency Surveys have been used for economic forecasting by several institutions in the OECD member countries like the Institute for Wirtchafsforshung (IFO), Munich, the US Department of Commerce, Bureau of Economic Analysis (BEA), the US Bureau of Census, the MITI of Japan, the MBTS of Netherlands and Instituto Nazionale per lo Studio, Della Congintura (ISCO) of Italy and Conference Board of Canada. The basic advantage of Business Tendency Surveys is that direct questions relating to capacity are responded to by persons likely to know the answers. By the use of this method information regarding production and sales activities can be collected and questions can be asked about the production constraints, preferred operating rates and investment plans for near future.

In India, the Business Tendency Surveys have not been carried out as a part of the official statistics programmes of the Government of India or any State government. However, a reputed research institution in the country viz., the National Council of Applied Economic Research (NCAER) has been conducting Business Expectation Surveys (BES) since 1991, though on a small scale but on a regular basis. Also the Reserve Bank of India (RBI), which is the Central Bank of the country has recently undertaken an Industrial Outlook Survey of branches of scheduled commercial banks. Besides the Central Statistical Organisation (CSO) in the Ministry of Statistics and Programme Implementation in its proposed project on modernisation of Indian Statistical System with the possible assistance of World Bank is stipulating to make provisions for the support for the conduct of such surveys to evolve a system for providing useful information such as short term indicators on the overall economic conditions, optimal capacities of industries, environment for investment expenditure, etc.

* The views expressed in the paper are that of the author and not necessarily of the organisation to which he belongs

Business Expectation Surveys conducted by the NCAER

The NCAER has been conducting quarterly surveys of Business Expectation since 1991. These surveys are conducted by the NCAER to capture information on the investment climate in the economy through a set of questions regarding trade, capacity utilisation, demand, price and costs as well as constraints on industries. The NCAER has identified a select group of companies located in major cities in India namely; Delhi, Bangalore, Mumbai, Poona, Calcutta and Chennai. In the initial rounds of the BES conducted by NCAER about 400 corporate firms were chosen for canvassing the questionnaire. Since seventh round of the survey (May, 1993), sample size was increased to 1500 companies chosen from various sectors and industry groups. Large, medium scale and some small companies were selected so as to ensure the required feed back. However, the response rate varied from 12 per cent to 23 per cent. It may be mentioned that BES conducted by NCAER are not representative random samples. The samples are not chosen evolving any probability random sampling techniques. Currently in these surveys, only about 400 companies information is captured. The questionnaires are provided to the senior executive (MD, CEO or any other senior executive) of the chosen company and they are requesting to fill up the questionnaire. There is no regular staff for collecting the information, the questionnaires are got filled up with the help of contractual persons, located in the chosen city and hired for the purpose.

2. The Survey Questionnaire

The questionnaires for the NCAERE, BES are framed at three levels. The first deals with the identification of the respondent firms with respect to actual company names and addresses and with sectoral classification of the companies. The companies are broadly classified into various broad product based sectors for example, consumer durables, consumer non-durables, intermediate goods and capital goods. The second level is on a standard set of questions dealing with the general economic environment and specific industry performance. A set of questions are also framed to capture the overall business confidence for the near future as expressed by the respondents. The third level of the questionnaire is on a special set of questions that are of major interest during the time of a particular survey. The format of the questionnaire is as follows:

(1). The questions on the overview are qualitative in nature and with the aspects of (a) overall economic conditions, (b) firms financial position, (c) environment for investment expenditure, (d) level of operation in comparison to optimal capacity.

(2). The questions on general economy are on growth rates for the current financial year over the preceding year on the variables such as (a) wholesale price index, (b) exports of industrial products, (c) imports of industrial products, (d) overall industrial production, (e) exchange rate variation.

(3). The specific industry questions are also on growth rates. The different economic variables with respect to the major product of the firms are on (a) sales, (b) production, (c) environment level of output, (d) capacity utilisation, (e) exports, (f) imports, (g) out prices and (h) input prices.

(4). The questions on special interest are on issues like (a) export-import policies, (b) industrial delicensing, (c) changes in infrastructural facilities, (d) state level regulations, (e) restructuring of financial institutions, (f) environment issues, (g) exist policies and (h) labour laws. The questions on this sector invariably attempt to find out whether there has been improvement, worsening or no change due to the relevant policies.

The canvassing of the questionnaire is done both by post and by personnel interviews. Respondents are asked about their expectations on the price changes for various groups of commodities. They are given alternative growth rates spread over six categories and are asked to tick appropriate category revealing their expectation. The respondents are also asked to anticipate change in capacity utilisation, sales, raw-material requirements, etc. Here, again they are given a choice of six categories. The questions asked are mostly qualitative in nature. In the case of questions relating to the constraints faced by the companies, the reaction of the respondents are gauged through qualitative questions.

The BES conducted by the NCAER have mainly two objectives namely, (i) using anticipatory data collected in the earlier rounds for estimating forecasts of economic variables and (ii) generating data for building economic models at a later time when time series data become available through these repeated surveys.

Business Confidence Index

The NCAER has also compiled business confidence index that can measure the buoyancy of the economy i.e. business cycle indicator. Such indices have been constructed by the IFO, Munich and Conference Board of Canada. The four questions namely the overall economic condition, firms financial position, environment for investment expenditure and level of operation in comparison to optimal capacity have been used to construct this composite index. All these questions offer three options, basically asking the respondents to indicate either improvement, deterioration or no change on these four aspects. The index is formed on the basis of the total number of respondents that have indicated positive response on all these four issues. The first year's positive response is then normalised and used as a base for comparison.

Limitations of the BES

The first and foremost limitation of the BESs conducted by the NCAER has been that the sample companies chosen cannot be said as a good representative of the economy. Firstly, no frame is considered from where a random sample could be selected. Secondly, the resources available for the survey have been very limited and barely 400 to 500 companies have been there in the sample whereas the total number of companies in India are more than 0.5 million. The other limitation of the survey has been that very few takers were found resulting in the non-availability of adequate resources to improve the sample size or the methodology.

Proposals Under Consideration

The Ministry of Statistics and Programme Implementation, Government of India is in the process of finalising a project for obtaining resources from World Bank for modernisation of the Indian Statistical System. It may be mentioned that one of the components of this modernisation project is improvement of national accounts and short-term indicators. To build up short-term indicators, it is being seriously considered to extend the necessary support for the conduct of Business Tendency Surveys (BTS) which could provide necessary input for building up the short-term indicators of the economy. While sponsoring BTS under this project for obtaining short-term indicators the CSO proposes to take advantage of the recommendations on harmonisation of BTS deliberated at the Workshop organised by the OECD and ADB and summarised below.

Last year the Workshop on Business Tendency Survey organised by OECD and ADB at Manila during 16-19 November 1999 recognised that compared to traditional quantitative statistical surveys,

BTS and Consumer Tendencies Surveys present many advantages. These collect information, which is easier for enterprises to supply because the answers are not based on precise records and the return can be submitted and processed more quickly. BTS cover a wider range of variables selected for their ability to monitor the business cycle and include useful information not covered by the quantitative statistics, such as capacity utilisation, overall economic situation, environment for investment expenditure, etc. As the BTS are quite cost effective and yet the information collected are quite useful for short economic monitoring through short-term indicators, the general conscientious was that it would be worthwhile to initiate BTS on a regular basis by official agencies in the countries in the region.

It was recognised at the Workshop that the harmonisation of BTS is very important for the results are used for international comparisons besides their use as short-term development indicators. The discussions on harmonisation were restricted to the aspect relating to (i) content (question or variables included in the questionnaire), (ii) definitions and specifications, (iii) period covered by variables, (iv) frequency, (v) timing of surveys, and (vi) classifications.

As regards the harmonisation on the question and response alternatives, the general conscientious was as follows: The question on the industry survey may include the following type of questions, namely: (i) assessment of present business situation, (ii) expected business situation six months from now, (iii) assessment of total demand/order books (present level), (iv) assessment of demand from abroad/export order books (present level, (v) expected total demand in next 3-4 months, (vi) export expectations for the next 3-4 months, (vii) assessment of production activity in the last month, and (viii) production activities for the next quarter. For these questions the response alternatives would be only three namely: up (good), unchanged (same) and down (worse). Also questions relating to current level of capacity utilisation and limits of production (present situation) could be included. The questions could also be included on assessment of stocks of finished goods, selling price expectations for the next quarter and employment expectations for the next quarter.

Harmonisation on the classifications by economic activity could be made adopting the international standards on classification according to ISIC. Harmonisation on the units could be made by adopting the enterprise as sampling unit and kind of activity unit for reporting unit. Harmonisation on the sample design was also deliberated and the conscientious was on the random sampling with fixed panel updated before the first survey each year. Stratification of the enterprises by industry and size according to employment.

Important point emphasised from the point of view of practical consideration was that the total size of the questionnaire should not exceed one page and there should not be any question seeking quantitative information in the BTS. The information should be sought only from the top management of the enterprise who has the vision on the prospects of their unit as also of the economy. As regards the harmonisation on frequency of the survey, it was recommended that the frequency should be monthly for production, quarterly for employment, export, capacity utilisation and biannual or annual for type of investment and investment constraints.

The above points relating to the harmonisation of questions, classifications, and frequency of surveys would be kept in mind and implemented in the possible sponsored surveys being envisaged in the modernisation project for obtaining short term indicators for the improvement of the Indian national statistics

BUSINESS CONFIDENCE : THE NCAER SURVEY

by Atul Sood – National Council of Applied Economic Research, India

About the Organisation

The National Council of Applied Economic Research was founded in 1956 by the Ministries of Industry and Finance, Government of India in co-operation with the Ford Foundation. Planning for development in a mixed economy required that a good deal of survey-assisted research be undertaken into problems in applied economics, both for the public and private sectors on themes that were directly relevant to the formulation of plans, particularly at the regional level.

The transition from a planned economy to a liberalised economy since 1991 has further reinforced the role of NCAER in the creation of a knowledge base in crucial areas of research and study. NCAER has earned a unique place in the country for its expertise and organisational resources in the design and execution of large-scale sample surveys on regional development and planning, human development, demography, demand variations for specific products as well as for a whole range of consumer durables and non-durables. More specifically, NCAER has built up a rich database on income, consumption, savings and investment of households.

Over the years NCAER has promoted a vast research agenda.

Generating social and economic data through designing and executing large surveys. Analysing new and existing data and developing policy reports on topics of policy concern to economists and decision-makers.

Tracking key sectors of the economy and assisting sponsor with tackling economic issues through forecasting and policy analysis for specific applications at the macro/sect oral/industry levels

Developing information packages to forecast economic scenarios for industry and providing an analytical and well-researched picture of important economic trends on a regular basis.

Working in partnership with the government, the private sector, the non-government sector, and experts and institutions both at the national and international levels.

Building domestic research capacity in India by establishing a core of researchers in the Council and by working in close collaboration with other national, foreign and international research institutions.

In recent times, NCAER has also compiled a database to cover a range of topics related to the informal sector, the effects of economic development on demographic change, information on consumer market behaviour, and the social impact of economic policy reform on household income, expenditure and savings etc.

Agencies and undertakings that have availed of NCAER's research support include Central Ministries, the Planning Commission and State Governments. Clients also include a number of public and private sector companies and a host of foreign and international agencies viz. The World Bank, Asian Development Bank, OECD, IDRC, CIDA etc.

BUSINESS CONFIDENCE: THE NCAER SURVEY[2]

by Atul Sood

1. Introduction

Business 'Expectations' or 'Confidence' surveys are carried out at regular intervals in several countries. In India, periodic surveys of the Business sector are carried out by some of the Industry Associations. These surveys, at a general level, point to the business conditions faced by the firms. The surveys are also taken to provide an assessment of the business conditions and hence a barometer of the economy for the short-term. The Business Expectations Surveys are in some sense similar to the Consumer Confidence Surveys or Consumer Anticipation Surveys (Juster, 1969) designed to predict consumer expenditures. They are, however, qualitatively different from the 'economic outlook surveys' of the experts carried out by various organisations (Nerb et al, 1995, Zarnovitz and Braun, 1993).

The National Council of Applied Economic Research has been conducting Business Expectations Surveys (BES) on quarterly basis since early 1991. A uniform methodology of calculating a Business Confidence Index (BCI) was adopted in July 1993 (Round 7) for the subsequent rounds. The latest round of the survey for which data has been collected is for the 34th round conducted in September 2000.

2. Questionnaire and the Sample

There are nine to ten questions in each round. All options are provided with the questions and the respondent has to choose the appropriate option. The Questionnaire runs into four pages. First section of the questionnaire is on information about the respondent: name, designation, company name, Address, product or product group with highest sales, type of company (public, private etc.), Industry sector and Size. BCI is constitutive of response on four questions. Two of these questions are forward looking which seek firm's opinion on the overall economic conditions and financial position of the firm in the next six months. The other two questions are on present investment climate and on the current levels of operation of the firm vis-à-vis its optimal capacity. There is one set of questions each seeking firm's response on conditions of labour (wage rate and employment across different skills) and costs of production. Questions on labour and costs seek response of firms on the current situation as compared to three months ago and their expectations six months from now. Another set of question is on availability of funds today compared to six months ago and firm's expectations six months from now. Question is also asked on current and ideal level of inventory and sales orders. Prospects in six months from today are also discerned from firms about sales, production, exports, imports and profits. Besides these regular eight questions, in every round one or two special questions are also asked.

[2] This note is based on a forthcoming paper in *Margin*, "Business Confidence: Measurement and Patterns in Indian Data", by Shashanka Bhide, Atul Sood and Saurabh Bandopadhyaya.

These questions vary from questions on investment, on impact of a particular policy change or a happening in the economy.

The canvassing of the questionnaire is done by post and by personal interviews. Around 550 questions are sent by post and an additional 500 are to be filled by personal interviews. The contractors and NCAER field offices take up the job of canvassing the schedule by personal interviews. These contractors are placed in five cities - Delhi, Mumbai-Pune, Calcutta, Chennai and Banglore. Each contractor or field office is expected to get 100 schedules filled. A list of around 150 to 200 industry addresses is also sent to each of the contractors for selecting the industries. The industries are randomly chosen from the Confederation of Indian Industry membership list and our own database. The list gets updated from time to time. An attempt is made to ensure representation for each sector and region in the sample. The sample is based on lists in the various industry directories and those provided by Industry Associations. In the case of small-scale units, personal canvassing is the main form of obtaining responses. Over time, previous respondents in the small-scale sector are contacted by mail as well. In case contractors are compelled to select industries outside the list to meet the target they are asked to ensure balanced representation of firms in terms of size and sector. The response rate for schedules sent by post are around 10 per cent.

An overview of the sample used for various rounds of the survey number of respondents in different categories is presented in Tables 1-3. For the present analysis, a more recent period of the BES, from round 16th to round 32nd is used. The overall sample, though less than 400 initially, has now been around 500 or more for the more recent period. Across regions and sectors, the variation has been greater over the rounds, as responses can not be strictly ensured for each round.

Table 1.

Survey Periods nd Total Sample Size For Rounds 16 To 32

Round Number	Survey Year	Survey Month	Sample Size
16	December	1995	344
17	May	1996	240
18	August	1996	441
19	October	1996	499
20	January	1997	514
21	May	1997	526
22	August	1997	497
23	November	1997	500
24	March	1998	508
25	June	1998	526
26	September	1998	501
27	February	1999	470
28	April	1999	490
29	June	1999	394
30	October	1999	393
31	January	2000	465
32	April	2000	621

Table 2.

Distribution (%) of sample across regions and sectors:
Averages over selected rounds

Sectors	East	West	North	South	All
Survey Rounds: 17 to 20					
Consumer Non-Durable	6.49	2.63	2.85	3.80	15.76
Consumer Durable	5.38	2.06	6.22	4.73	18.39
Intermediate	4.63	6.18	6.29	9.64	26.74
Capital Goods	4.41	5.27	6.79	9.58	26.05
Services	2.71	2.59	3.40	4.37	13.06
All	23.61	18.73	25.55	32.11	100.00
Survey Rounds: 29 to 32					
Consumer Non-Durable	6.91	4.14	4.52	7.64	21.01
Consumer Durable	3.72	5.21	5.37	9.93	21.28
Intermediate	4.83	8.58	5.06	14.48	31.25
Capital Goods	2.07	3.41	5.23	6.60	9.96
Services	4.14	2.72	4.63	8.00	16.49
All	21.67	24.06	24.80	46.65	100.00

Table 3.

Distribution (%) of sample across size classes and sectors:
Averages over selected rounds

	Size class					
Sectors	<1 crore	1-10 crore	10-100 crore	100-500 crore	>500 crore	All
Survey Rounds: 17 to 20						
Consumer Non-Durable	4.24	3.58	3.46	2.47	2.02	15.76
Consumer Durable	5.25	5.17	4.32	2.47	1.17	18.39
Intermediate	7.52	9.09	5.64	2.79	1.70	26.74
Capital Goods	5.25	8.25	6.91	2.97	2.67	26.05
Services	4.43	2.87	2.10	2.24	1.41	13.06
All	26.70	28.96	22.43	12.93	8.97	100.00
Survey Rounds: 29 to 32						
Consumer Non-Durable	5.23	5.33	4.68	3.86	1.91	21.01
Consumer Durable	7.89	7.19	3.27	1.47	1.47	21.28
Intermediate	11.38	11.38	5.01	2.56	0.93	31.25
Capital Goods	1.85	3.65	2.07	1.36	1.03	9.96
Services	5.88	4.90	3.59	1.42	0.71	16.49
All	32.23	32.44	18.62	10.67	6.04	100.00

Note: Size classes are based on total annual sales of the firm in current prices.

1. Estimation and Interpretation of Business Confidence Index

Estimation

Business Confidence Index from the NCAER surveys is based on responses to four questions. Overall economic conditions in the next six months; Financial position of the firm over the next six months; Investment climate now as compared to six months' back and present level of capacity utilisation relative to its 'optimal' level. A positive response in each case is for the assessment that the situation is 'better'. The BCI is simply an aggregation of the 'positive' responses across respondents and scaling them to a 'base' or 'reference' level. Until the 33rd round of the survey, the BCI had been calculated as a simple average of the positive responses. In the 33rd round an attempt has been made to calculate the index based on a weighted average of the responses: the weights used are a mixture of GDP and IIP weights. Since service sector is also covered in the sample, responses from services and manufacturing are aggregated based on GDP from the two sectors. Within manufacturing, responses are aggregated based on IIP weights (1993-94 base). The sub-sectors in manufacturing are (1) Consumer durables, (2) Consumer non-durables, (3) Intermediates including basic goods and (4) Capital goods. Within the services, the respondents are mainly from the 'business services' segment and hence the GDP weight (1993-94) relevant for this sector is used for aggregation.

The BCI for unweighted and weighted alternatives is specified as,

$$BCI\_UW_t = 100*\{(\sum_i \sum_j \sum_m PR_{ijmt}) / (N^s + k_i + N^q)\} / \{(\sum_i \sum_j \sum_m PR_{ijm0}) / (N^s + k_i + N^q)\}$$

$$BCI\_W_t = 100*\{(\sum_i w_i \sum_j \sum_m PR_{ijmt}) / (N^s + k_i + N^q)\} / \{(\sum_i w_i \sum_j \sum_m PR_{ijm0}) / (N^s + k_i + N^q)\}$$

Where,
BCI_UW = unweighted BCI,
BCI_W = weighted BCI,
PR= 1 if the response to the m'th question by j'th respondent of i'th sector is 'positive' and zero otherwise,
w = weight attached to a sector,
k_i= number of respondents from i'th sector,
N^s = number of sectors into which the respondents are classified (5),
N^q = number of questions posed to the respondents for construction of BCI (4),
t = subscript to identify the 'round' number; value zero is attached to the 'base' or 'reference' period.

Note that the index attaches equal weight to all the questions in the two alternatives, one weighted and the other unweighted. Based on a reclassification of the responses, an estimate at the sectoral level, regional level and 'size-class' level unweighted BCI was done to discern the patterns at a more homogeneous grouping of the respondents. In each case, the 'base' level index used is the percentage of positive responses out of all responses.

Interpretation

The unweighted BCI is a simple average of all the positive responses in a particular 'round' of the survey relative to such responses in the 'reference' round. If the BCI increases, it is due to the larger proportion of positive responses. The positive responses may increase for a specific question, sector or region. Thus, if the change in responses is sufficiently large, it can lead to change in the BCI relative to its level in any other round. A higher level BCI is taken to reflect greater 'optimism' in the business

sector on the performance of the economy. A 'better' outlook for the economy in the next six months, a 'better' financial position of the firm in the next six months, a 'good' climate for investment now and close to or more than 'optimal' level of capacity utilisation now, all imply an 'optimistic' assessment of the economy. Such a situation can be expected to prevail when the firm itself is doing well, and the industry at a general level (across several sectors) is also doing well. A 'pessimistic' scenario, on the other hand can prevail when either the firm or across several sectors other firms are not 'doing well'. In general, BCI is expected to be high when the economy is in an expansionary phase and lower when there is a declining growth and uncertainty of growth.

Changes in BCI may also reflect expectations of the business sector about the short-term future. While the current levels of capacity utilisation is below its 'optimal' level, investment climate is poor, but there may be signs of improvements that the respondents 'perceive' in terms of overall economic conditions, the BCI may rise relative to the previous period. This is when the BCI can be a 'leading indicator' of the economic activity.

BCI at the sectoral level or regional level or at the level of a size-class reflects the experience or expectations of a more homogeneous group of respondents. For example, the regional level BCI would capture the more 'uniform' macro environment faced by the respondents in terms of local infrastructure, social-political situation and regional level policies. It should also be noted that while a 'region' has the connotation of a large geographical coverage, the survey is limited mainly to large cities: such as Pune-Mumbai in Maharashtra, Chennai and Bangalore in the South, Delhi in the North and Calcutta in the East. There are respondents from other areas but the bulk of the responses are from the cities noted above. Hence, the regional level BCI does indeed capture a more uniform overall business environment. In the case of 'sectoral BCI', the demand and price conditions faced by the firms are likely to be more uniform. While firm – level efficiency may vary, there would be greater uniformity in the market conditions faced by the respondents. Finally, the size-wise distinction is useful as it captures the impact of policies that may have a 'size' orientation. For example, credit policies treat small enterprises differently from the larger enterprises. Tax policies vary for smaller and larger firms. Firms may vary in technical efficiency across size-class due to different factors. The survey results are, therefore, examined at the level of regions, sectors and size- groups.

2. Aggregation of Business Expectations

A methodological issue that needs to be addressed is the need for weighting the individual responses to arrive at the Index. As the sample is not drawn in proportion to the distribution of the respondents in the 'universe', a simple aggregation may not yield an unbiased estimate of the overall mean, if the population is not homogeneous. In assessing the expectations, it is not known if the expectations have a particular pattern: respondents belonging to small firms are more (less) optimistic than the large firms; or, firms in the services sector are more (less) optimistic than those in the manufacturing sector. If such a pattern exists, then simple average would give a biased estimate of the actual mean. In practice, weighting schemes can be developed only if relevant information is available. As the sample for the BES covers both the manufacturing and service sectors, GDP from each sector can form the basis for aggregation. However, since value added is not available readily for the use-based classification that is adopted in the surveys, we have used weights based on Index of Industrial Production (IIP) for aggregating manufacturing sub-sector responses.

Aggregation at the regional level and size-class level, however, can not be based on sectoral weights as the latter are derived for the overall economy. The BCI at the regional and size-class level is calculated on the basis of simple aggregation of the responses.

Comparison of the Weighted and Unweighted BCI at the aggregate level

The two versions of the BCI are shown in Figure 1 for the surveys from Round 16 to Round 32. We have used Round 16 as the base as the sectoral classification and size class-wise classifications are more uniform after Round 16. The weighted and unweighted BCI track each other closely. The average difference between the two series for the 17 rounds of the survey is less than 2%. Turning points in the unweighted index are matched by the weighted index in all but one round out of the 17 considered. The simple correlation coefficient between the two BCI works out to 0.9946. In other words, for all the 17 rounds, both the weighted and unweighted BCI provide the same estimate of the 'business confidence'. While this may imply that there are no significant differences in the perceptions of the respondents across sectors, there may also be offsetting perceptions across sectors.

3. Variations in the Business Expectations

Trends in Business Expectations

The similarity between the weighted and unweighted overall BCI suggests that the expectations or assessments of the economic conditions in different sectors may be the same or uniform. While such similarities can be the outcome of the predominance of the macro level conditions, the business conditions would differ at the sectoral or firm level. In Table 4, we have presented the mean and two measures of variability of the BCI for different sub-groups of the respondents.

Table 4.

Patterns of BCI between Round 16 and Round 32

Sub-group	Mean	Standard Deviation	Coefficient of Variation
Regional Variations			
East	69.68	14.44	20.72
West	64.73	20.16	31.14
North	78.79	22.83	28.98
South	78.25	10.86	13.88
Sectoral Variations			
Consumer non-durables	79.66	10.22	12.83
Consumer durables	72.12	12.23	16.96
Intermediates	68.17	15.13	22.20
Capital goods	76.28	29.61	38.82
Services	82.68	15.67	18.95
Size Variations (Rs Crore)			
Less 1	66.05	15.08	22.83
1-10	75.35	12.91	17.13
10-100	81.72	12.95	15.85
100 – 500	78.15	11.61	14.86
>500	83.22	16.67	20.03
Overall (Unweighted)	74.45	12.74	17.11

Note: The indices of the subgroups are scaled so that the percentage of positive responses to all the four questions for all the respondents in the sample in Round 16 is 100.

In terms of the 'level' of business confidence or the BCI, there are substantial variations across the selected sub-groups of the respondents. The variations are greater across sectors than the size groups and regions. Within sectors, the average BCI is the highest in the case of services followed by consumer non-durables. It is the lowest on the average in the intermediates sector. Variability, as measured by the coefficient of variation, is the highest over the rounds in the case of capital goods sector, followed by the intermediates sector. The variability is the least in the consumer non-durables sector. Combined with relatively high BCI and low variability, consumer non-durables segment in manufacturing has experienced consistently positive business conditions. The consumer durables category of respondents also show relatively higher BCI and lower coefficient of variation. In the case of intermediates and capital goods, large variability suggests business conditions have alternated over the rounds substantially. The higher variability in the key input sectors might reflect the fact that the years 1997-98 and 1998-99 and almost half of 1999-00 saw slower manufacturing growth. The high level of BCI is also consistent with the fact that during the last three years, service sector has shown relatively high rates of growth.

Across regions, BCI has been higher in the North and the South and the variability is lower in the South and the East. In the West, industrial centre of the economy, the 'optimism' has been lower than in the other regions, on the average. It has also been more variable. In the South and North, especially the former, the higher BCI may be influenced by the prominence of services and consumer non-durables sectors in these regions. Higher variability in the West appears to be the result of larger number of intermediates and capital goods firms in this region. The level of BCI appears to be related

more to the distribution of the firms of different sectors, rather than the disposition of respondents in general.

Across size groups, larger firms have generally higher BCI. The average BCI is the highest for the firms with annual sales (current prices) exceeding Rs 500 crore. The variability, however, is the greatest for both the largest and smallest firms. Higher variability associated with the capital goods appears to be reflected in the larger variability of the large firms. The intermediates on the other hand, may have influenced the high variability of BCI in the case of the small firms.

Interdependence in Outlook Criteria

The four questions addressed to the survey respondents relate to different aspects of business conditions that are likely to have an impact on the firm's decision to invest, determine production and sales effort, employment, inventory and financing decisions. The responses to each of the four questions may be inter-linked when there is a continuation of the trend in business conditions over time. However, when the business conditions are changing, there may be differences in the judgement relating to overall or macro conditions and the firm level or micro level environment. In Table 5 below, we have presented the correlation between the responses to different questions on economic outlook for respondents at the sectoral level.

Table 5.

Correlation Coefficients between Positive Responses				
Sector/ question	Economic Outlook (Q1)	Financial Position of firm (Q2)	Investment Climate (Q3)	Capacity Utilisation (Q4)
Consumer non-durables				
Q1	1.000	0.408	0.528	0.173
Q2		1.000	0.554	-.165
Q3			1.000	-.112
Q4				1.000
Consumer durables				
Q1	1.000	0.857	0.753	0.325
Q2		1.000	0.663	0.091
Q3			1.000	0.034
Q4				1.000
Intermediates				
Q1	1.000	0.779	0.776	0.675
Q2		1.000	0.892	0.379
Q3			1.000	0.491
Q4				1.000
Capital goods				
Q1	1.000	0.751	0.733	0.521
Q2		1.000	0.915	0.163
Q3			1.000	0.179
Q4				1.000
Services				
Q1	1.000	0.877	0.733	0.363
Q2		1.000	0.704	0.388
Q3			1.000	0.561
Q4				1.000

The general pattern that emerges from the simple correlation coefficients between the four different aspects of business conditions is the relatively close inter-dependence between responses to overall economic conditions, financial position of the firm and the investment climate. The capacity utilisation is relatively less important in judging the overall economic outlook or the investment climate. In the case of consumer non-durables sector, the correlation coefficient between positive outlook on capacity utilisation and any of the remaining three criteria is lower than the correlation coefficient between any other combination of criteria. The financial position of the firm, as a firm-level criterion for judging the overall business environment turns out to be more strongly correlated with the positive responses on investment climate and overall economic conditions.

Although, capacity utilisation is less correlated with the other criteria chosen to calculate the BCI, its role in capturing some of the ground level business conditions is important. Overall economic conditions and investment climate are more 'subjective' criteria. The current level of capacity utilisation is a more direct measure of the prevailing conditions. However, it does point to the pattern in responses which is more 'forward' looking than tied to the current conditions. This pattern may also be the result of transition nature of the economy where future outlook would be a function of considerable restructuring and new investment and not based entirely on current capacities.

Pattern of Business Confidence across Sectors

The BCI for different sectors is presented in Figure 2. At a general level, the BCI appears to move in the same direction for all the sectors. For a clearer view of the patterns, first the direction of change and then correlation coefficients between each combination of any two sectoral indices are examined. For each round, sign of the first difference in the BCI for each sector indicates the direction of change. If the direction of change is the same for any two sectors, then they respondents in the two sectors have the same expectations. If the direction of change is the opposite then the expectations are also opposite. In Table 6, the percentage of the cases where the direction of change is the same is reported for various possible combinations of sectors during the rounds 17 to 32 (Round 16 can not be included, as it is the first round for the present analysis).

Table 6.

Percentage of cases with the same direction of change in selected (row and column) Combinations of the sectoral BCI

Sector	Consumer Non-Durable	Consumer Durable	Intermediates	Capital Goods	Services	ALL
Consumer Non-Durable	NA	62.50	68.75	62.50	62.50	81.25
Consumer Durable	62.50	NA	68.75	37.50	62.50	68.75
Intermediates	68.75	68.75	NA	43.75	56.25	87.50
Capital Goods	62.50	37.50	43.75	NA	62.50	56.25
Services	62.50	62.50	56.25	62.50	NA	68.75
ALL	81.25	68.75	87.50	56.25	68.75	NA
Congruence	51.25	46.25	47.5	41.25	48.75	72.5

The overall BCI used is unweighted. Congruence = average of the sector-level percent of cases with common direction of change for each sector.

It is interesting to note that in all of the 5 sector-wise BCI, barring the capital goods, the proportion of cases in which the direction of change is the same is with respect to the overall BCI. In the case of capital goods sector, the similarity is greater with the services and consumer non-durables BCI as compared to the similarity with the all sectors BCI. The intermediates sector BCI has moved most closely with the all sectors BCI. In other words, expectations of the respondents from the intermediates sector have dominated the behaviour of the overall BCI. However, the consumer non-durables BCI has the greatest similarity with the other sectoral BCIs, as measured by the 'Congruence' in Table 6, which is the average of bivariate positive matches of first differences with other sectors. In other words, movement of consumer non-durables BCI is the best indicator of the movements in the other four sector-wise BCIs. Thus, movements in intermediates BCI and consumer non-durables BCI are key indicators of the business expectations of all the sectors in the economy.

One explanation for the dominance of the intermediate sector BCI is the weight attached to the sector, which is the highest among all the sectors. In the case of consumer non-durables, the linkages across sectors are expected to be many and given the short lives of the products in the market, the market impulses may be quickly transmitted to the other sectors.

The pattern, however, does point to the fact that there is considerable variation in the pattern of expectations across the sectors. The dissonance of the capital goods sector in relation to the other sectors may point to the leads and lags in the business conditions faced by the firms in the capital goods sector in comparison to the others. A second factor that may have influenced the pattern is the nature of trade policy changes that has affected different sectors differently. In the case of capital goods sector, the reduction in tariff rates has been sharper and more rapid. In the case of consumer goods, the non-tariff barriers are yet to be fully removed. Thus, the experience of competitive pressures in the capital goods sector may have been different than the other sectors.

Table 7.

Correlation Coefficients of Sector Level BCI: Round 16 to Round 32.

	Consumer Non-Durable	Consumer Durables	Intermediate Goods	Capital Goods	Services	All
Consumer Non-Durable	1.0000	0.5037	0.7383	0.4239	0.5532	0.8312
Consumer Durable	0.5037	1.0000	0.6910	0.1152	0.6681	0.7620
Intermediate Goods	0.7383	0.6910	1.0000	0.4427	0.6919	0.9639
Capital Goods	0.4239	0.1152	0.4427	1.0000	0.6919	0.9639
Services	0.5532	0.6681	0.6919	0.6919	1.0000	0.7708
All	0.8312	0.7620	0.9639	0.9639	0.7708	1.0000

Note: See the note for Table 6.

The correlation coefficients between any two sector-level BCI as well as the overall BCI are presented in Table 7. The correlation coefficients reflect not only the association between the direction of change in the two BCIs. They also reflect the magnitude of the change. In this sense, if we are interested in not only the direction of change but also the extent of change, then the correlation coefficients are a better indicator of the association between two BCIs than the consideration of only the directional measure presented in Table 6. In this context, capital goods and intermediate goods have the highest correlation with the overall BCI. Thus, although capital goods BCI does not track the changes in overall BCI, the deviations from the changes in overall BCI are in a smaller band. The service sector

BCI has consistently higher correlation with the other sectoral BCIs, while when we considered only the directional changes, consumer non-durables exhibited greater congruence with other sectoral BCIs. In this sense, the results from the pattern of directional changes and correlations are divergent. As changes in the direction of BCI are often important in times when there is a continued boom or slow growth, the measure based on change in direction would be useful. When change in direction is not an important issue, then inferences based on the correlation coefficient are needed.

Pattern of BCI across Regions

The business environment at the regional level is affected by factors such as the conditions relating to physical infrastructure of power, transportation and communication, state government policies and political stability which affects them and those of natural phenomena such as drought or floods. Thus, there is no rationale *per se* to expect uniformity in business expectations across regions. The regional level expectations may be influenced by the structure of the economy in the region as well. For example, if a region has predominantly capital goods producing industry then the business expectations would be affected by the factors influencing this sector. In Tables 8 and 9 below, the pattern of BCI across regions is described by the measure of similarities in the direction of change in BCI and the correlation coefficients between regional BCIs.

Table 8.

Percentage of cases with the same direction of change in selected (row and column) Combinations of the sectoral BCI

Region	East	West	North	South	All
East	NA	68.75	62.50	68.75	87.50
West	68.75	NA	56.25	50.00	68.75
North	62.50	56.25	NA	56.25	75.00
South	68.75	50.00	56.25	NA	81.25
All	87.50	68.75	75.00	81.25	NA
Congruence	50.00	43.75	43.75	43.75	78.13

In terms of direction of change (Table 8), Eastern region have the highest proportion of cases where changes in regional BCI match those of the overall BCI. Eastern region is followed by the Southern and Northern regions, respectively. The Western region in fact has the least proportion of cases where the change in BCI has matched the change in overall BCI. The West also has the relatively lower proportion of cases where the direction of change in its BCI matches those of the other regions. The eastern region has greater congruence with other regions in tracking the overall business conditions. All the other three regions have the same proportion of 'common' directional changes in BCI between the survey rounds of 16 and 32. These results indicate that although the Western and the Southern regions have proportionately larger industrial sectors, the overall business expectations as captured in the BCI reported here are more closely matched by the expectations of the Eastern region.

When we consider the correlation coefficients between pairs of regional level BCI, the Eastern region does not have closer association with the overall BCI (Table 9). It has the lowest correlation with the overall BCI in comparison to the other three regions. The Southern region has the highest correlation with the overall BCI followed closely by the Northern region and then the West. Thus, in terms of changes in direction, the Eastern region has greater association with the overall BCI but in terms of

magnitude of change, when the direction is the same, the Southern and Northern regions are more closely associated with the overall BCI. The Western region has relatively low correlation with the overall BCI and with other regional BCIs.

Table 9.

Correlation Coefficients of Regional Level BCI: Round 16 to Round 32					
Region	East	West	North	South	All
East	1.0000	0.1372	0.3688	0.6683	0.6505
West	0.1372	1.0000	0.5306	0.4892	0.6643
North	0.3688	0.5306	1.0000	0.6426	0.8536
South	0.6683	0.4892	0.6426	1.0000	0.8844
All	0.6505	0.6643	0.8536	0.8844	1.0000

Note: Regions are defined such that the East comprises of mainly West Bengal but includes responses from Bihar, Orissa and the north-east if any. North comprises of responses from Delhi, Haryana, UP, Rajasthan and Punjab. West comprises mainly responses from Mumbai and Pune with some responses from Gujarat and MP. South comprises of responses from Chennai, Bangalore and Hyderabad and other areas in AP, Karnataka, Tamilnadu, Pondicherry and Kerala.

Pattern of BCI across Size Classes of Firms

Changes in business conditions may not be uniform for all the firms when there is a variation in their size. Although there are inter-relationships among firms of different sizes either within the same sector or across sectors, through input-output linkages, differences in business environment can arise for a number of reasons. Government policies may affect some firms more than the others: say due to the policy of reservations of products for the small scale firms or due to differences in credit policies that distinguish firms based on size. In the earlier section, it was seen that the smallest and the largest firms have higher levels of BCI than the other intermediate size classes.

In tracking the direction of change in overall BCI, the smallest size class performs better than the other size classes (Table 10). The smallest size class, however, does not have high level of congruence with the perceptions of all the other size classes. The largest size class has the lowest 'congruence' measure and also the least association with the overall BCI in terms of direction of change in BCI.

Table 10.

Percentage of cases with the same direction of change in selected (row and column) Combinations of the sectoral BCI						
Size class	<1 Rs. Crore.	1-10 Rs. Crore.	10-100 Rs. Crore.	100-500 Rs. Crore.	>500 Rs. Crore.	All
<1 Rs. Crore.	NA	62.50	56.25	62.50	50.00	81.25
1-10 Rs. Crore.	62.50	NA	81.25	62.50	50.00	68.75
10-100 Rs. Crore.	56.25	81.25	NA	56.25	43.75	75.00
100-500 Rs. Crore.	62.50	62.50	56.25	NA	75.00	68.75
>500 Rs. Crore.	50.00	50.00	43.75	75.00	NA	68.75
All	81.25	68.75	75.00	68.75	68.75	NA
Congruence	46.25	51.25	47.5	51.25	43.75	72.5

The pattern of BCI seen in terms of correlation coefficients of BCI for firms in different size classes, presented in Table 11, indicates that the BCI of the intermediate classes is more closely associated with the overall BCI. Thus, although the smaller firms have a better tracking of the change in direction, the larger firms in the intermediate range track the magnitude of the changes in overall BCI better. The BCI for the largest size class respondents has lower correlation with the overall BCI as compared to the three other size classes.

Table 11.

Correlation Coefficients of Size-class Level BCI: Round 16 to Round 32						
Size class	<1 Rs. Crore.	1-10 Rs. Crore.	10-100 Rs. Crore.	100-500 Rs. Crore.	>500 Rs. Crore.	Overall
<1 Rs. Crore.	1.0000	0.8098	0.7625	0.8203	0.4985	0.9349
1-10 Rs. Crore.	0.8098	1.0000	0.7800	0.8855	0.7395	0.9447
10-100 Rs. Crore.	0.7625	0.7800	1.0000	0.7612	0.4308	0.8621
100-500 Rs. Crore.	0.8203	0.8855	0.7612	1.0000	0.7391	0.9294
>500 Rs. Crore.	0.4985	0.7395	0.4308	0.7391	1.0000	0.6686
Overall	0.8312	0.7620	0.9639	0.9639	0.7708	1.0000
Note: Size classes are based on annual sales in Rs crore (Current prices)						

4. Forms of Dissemination

The expectation survey is part of a package of reports that NCAER provides to business and policy research community on a subscription basis. The services offered under the Industry Package comprise of Quarterly reports.

a) Comprehensive Review of the Indian Economy

The review covers all the major dimensions of the economy such as Agriculture, Industry, Monetary and Capital Market developments, External Sector, Prices and Macro Economic Outlook. The macro economic outlook includes assessments based on forecasts of the macro variables and the leading economic indicators

b) Report on Business Expectations Survey

c) Macro Track, a quarterly update on the economy. It provides a summary of economic trends and abstracts of selected research mainly carried out at NCAER

5. Concluding Remarks

Data used in the present analysis covered the recent 17 rounds. The patterns revealed in the present analysis show that change in the direction of BCI is not uniform across various types of respondent groupings. When changes in direction (sign of the first difference) are matched for the sector, regional or size-class wise BCI, the changes in overall are tracked well by the group level BCIs. However, there are differences when we compare the directional changes between any two sub groups. In general, consumer non-durable sector has the greatest congruence of change with the change in other sectoral BCIs. Capital goods BCI does not coincide so well with the others in terms of change in the direction.

The results with respect to correlation coefficients between BCI of different sectors suggest stronger association between the BCI at the sectoral level. Thus, when we consider magnitude of the change along with its direction, the various sectoral level BCI point to similar changes in business outlook. This also implies that in terms of assessing change in the direction of business outlook, one has to watch the changes at the sectoral level whereas when change in direction is not at issue, distinction between sectors may not be important.

The analysis of interdependence between positive responses to the four dimensions of business outlook reveals greater interdependence between overall economic outlook, investment climate and financial position of the firm. The level of capacity utilisation is not as well correlated with overall economic outlook or investment climate as the other firm-level criterion, the financial position of the firm. These results may well point to the transitional nature of the economy in which restructuring and technical upgradations are necessary for growth.

6. Future Activities

Improvements in coverage of the survey (especially sectorally and geographically) and more detailed analysis of the information collected are the two main things that need to be pursued in future. We also intend to pursue proposals for greater utilisation of BCI in forecasting, especially forecasting investment expenditures. Better and effective dissemination avenues also need to be explored.

References

Brand, D. and L. Pouquet, *The Explanatory and Forecasting Power of the Economic Survey International*, in Nerb, G., K.H. Oppenlander and G. Poser, (Editors), *Application of Business Surveys for Macroeconomic Analysis*, Centre for Economic Surveys for International Research on Economic Tendency Surveys (CIRET), Munich, 1995.

Juster, F.T, *Consumer Anticipations and Models of Durable Goods Demand*, in Mincer, J., (Editor), *Economic Forecasts and Expectations, Analyses of Forecasting Behaviour and Performance*, National Bureau of Economic Research, New York, 1969.

Nerb, G., K.H. Oppenlander and G. Poser, (Editors), *Application of Business Surveys for Macroeconomic Analysis*, Centre for Economic Surveys for International Research on Economic Tendency Surveys (CIRET), Munich, 1995.

Sinha, A., Bhide, S, Siddiqui, K.A. and P. Butta, *Investment and Export Behaviour of Firms under Economic Reforms: Evidence from Expectations Surveys*, Paper presented at a workshop in the 23rd CIRET Conference, Helsinki , July 30- Aug 1, 1997,.

Zarnowitz and P. Braun, *Twenty-two Years of the NBER-ASA Quarterly Economic Outlook Surveys: Aspects and Comparisons of Forecasting Performance*, in Stock, J.J. and M.W. Watson, (Editors), *Business Cycles, Indicators and Forecasting, Studies in Business Cycles, Vol. 28*, National Bureau of Economic Research, The University of Chicago Press, 1993.

THE HARMONISATION PLAN OF BANK INDONESIA BUSINESS SURVEY

Hari Utomo – Bank of Indonesia

1. Introduction

Bank Indonesia has started conducting its own business survey - Bank Indonesia Business Survey (BIBS) - since 1993. The survey is aimed at collecting prompt information on the trend of business activities. The availability of this information is very crucial for monetary policy formulation to make assessment of the current economic situation and short-term economic forecast.

In 2000, Bank Indonesia has initiated efforts to improve its business survey to keep up with the rapid development of Indonesian economy during the last three years. The improvement program is designed by referring to the experiences of developed market economies in conducting such survey and the intention of Bank Indonesia to join in the harmonisation program of BTS in selected DMCs. This program encompasses all aspects of the survey, which includes improvements of sample design, questionnaire content and design, data gathering and processing, and dissemination of survey results. Considering the comprehensiveness of the scope of improvement, the program is scheduled to commence in the first quarter of 2001.

2. Background of Organisation

Bank Indonesia, the central bank of the Republic of Indonesia, is an independent state institution, which is free from intervention of the government and or other parties. Its single objective is to achieve and maintain the stability of the rupiah, the national currency. In order to accomplish the objective, Bank Indonesia assumes three tasks, namely (i) formulating and implementing monetary policy, (ii) regulating and safeguarding the smoothness of the payment system, (iii) regulating and supervising banking industry. The central bank may conduct surveys to support the discharge of its tasks. Every entity must provide information needed by Bank Indonesia.

3. Business Tendency Survey in Indonesia

Currently, there are three organisations, namely Statistics Indonesia (BPS), Bank Indonesia (BI), and Danareksa Research Institute (DRI), a private organisation, conducting different business tendency surveys. Although these surveys ask some similar variables and produce related indicators, they are different in other aspects, such as sampling, type of variables and period covered.

BPS has carried out a quarterly Business Perception Survey since 1995. The survey covers all sectors of the economy except agricultural sector. The sample, which is purposively selected and restricted to greater Jakarta area, includes 250 respondents.

A two-monthly Business Sentiment Survey was started in November 1999 by DRI to investigate the assessment of top business executives on present national economic and business conditions, as well as their expectations for the next 6 months. The survey covers all sectors of the economy. Respondents of the survey are scientifically selected from the business directory. The sample consists of about 400 top executives.

BI has conducted a quarterly BIBS since 1993. The sample includes about 1,400 enterprises from almost all provinces and all economic sectors except electricity, gas and water supply sector. The sampling method is stratified sampling with stratification by sectors, regions, and size in term of production, sales or income. The response rate slightly dropped after the crises from 75% to 70% and began to recover in quarter III-1998. As mentioned above, presently, BI is preparing the improvement program of BIBS, which is going to be implemented in 2001.

Progress in Adapting Harmonised and Standard BTS

The proposed harmonisation portion of the BIBS improvement program consists of the following aspects:

- Content (questions or variables included in the questionnaire);
- Type of variables (form of questions);
- Period covered by variables;
- Size of questionnaire;

Timing of the survey (processing delay and publishing).

1. Questionnaire

The questionnaire is designed as simple as possible to encourage respondent's participation in the survey. The survey uses qualitative questions asking for an assessment or change of variables. These questions are of a three-fold multiple-choice type for most variables with pre-printed answers. Most questions make use of period of three months except question on business situation future tendency, which utilises period of six months.

Harmonized Questions in Manufacturing

Question	Variable	Type of Variable/Period	
		Present Tendency (3 months ago)	Future Tendency (3 months ahead)
1	Production	✔	✔
2	Order books/demand,	✔	-
3	Order books/demand, export	✔	-
4	Stocks of finished	✔	-
5	Selling	-	✔
6	Employmen	-	✔
7	Limits to	✔	-
8	Capacity	✔	-
9	Business	✔	✔ *)
10	Financial	✔	-
11	Access to credit	✔	-

*) 6 months ahead

Harmonized Questions in Other Sectors

Question	Variable	Type of Variable/Period	
		Present Tendency (3 months ago)	Future Tendency (3 months ahead)
1	Demand	✔	✔
2	Employmen	✔	✔
3	Limits to	✔	-
4	Business	✔	✔ *)
5	Financial	✔	-
6	Access to credit	✔	-

*) 6 months ahead

In addition to harmonised questions, the survey also includes questions on planned investment and expectation about the inflation.

Other Questions

Question	Variable	Type of Variable/Period
1	Planned fixed	Future tendency, 12 months
2	Type of	Present
3	Factors limiting planned	Present
4	Inflation	Future tendency, 12 months

The size of questionnaire is two pages and the estimated time to complete the questionnaire is about 30 minutes.

2. Weighting Method

Respondent within the sample. The variables used as weights are sales or operating revenue or employment depending on the business sectors and questions.

3. Sample Design

The target universe is establishment with employees. The sample is going to be extracted from the most recent and reliable sample frame obtained from statistical or administrative registers.

Sampling method adopted by BI is stratified random sampling. In selecting sample, establishments covered in the sampling frame are stratified by economic sub-sectors. Furthermore, establishments within each stratum are stratified with respect to their employment into small, medium, and large establishments. The optimum sample size of each stratum is calculated by taking into consideration the standard error and variance of both population and sample. Based on the recommended sample size, random sampling is conducted for each stratum to select the establishments from the sample frame.

4. Types of Survey and Follow Up Mechanism

Data collection is carried out by mailed questionnaire. For new respondents, however, data are collected by personal interviews. Questionnaires are expected to complete by senior management or chief executives. In order to make follow-up easier, questionnaires are addressed personally to respondents.

Returns are subject to editing and validation. The examination includes completeness of data and consistency among data. Questionable answers and respondents not responding by the deadline are followed up by telephone inquiry or by personal visit.

5. Response Rate

With the newly designed questionnaire and data collecting methods, the response rate is expected to be higher than current survey's response rate, which is about 70 –75 percent.

6. Delay in Processing and Disseminating Information

Questionnaires are sent one week before the end of the reference quarter. Respondents should complete and return the questionnaires during the first two weeks of the month after the reference quarter. Processing is carried out in the week three and four and results should be released by the end of the month.

7. Feedback from Respondents

Every two years, BI sends an evaluation form to respondents in order get their feedback on BIBS. In addition, BI, head office and regional offices, conducts an annual meeting with respondents.

8. Types of Analysis Conducted on BTS Results

For three-fold multiple-choice question, the analysis of survey results is conducted by utilising net balance method to indicate the possibility of direction of change in a particular activity. In addition, the answers of the multiple-choice questions are presented in frequency distribution tables.

Net balance is the difference between the percentage of "increase" and "decrease" answers. When net balance is positive, it means that activity is increasing; whereas negative net balance indicates the activity is declining. The magnitude of the net balance reflects the possibility that the activity moves in a particular direction. A large net balance means a strong movement and small magnitude implies business uncertainty.

9. Problems and Issues

The accuracy of survey results depends on the availability of a reliable sample frame. Currently, the directory of establishments, the most comprehensive list of sampling units, maintained by BPS is only available for 1996. Unfortunately, the new directory will not be available by the end of 2006 since the contents of this directory are compiled through economic census, which is scheduled in 2006.

Methodologies Used for Analysis of BTS Results

The analysis is carried out by comparing the results (net balance) of successive surveys in order to get the information on the trend of business activities. When the net balance of current survey is positive and higher/lower than the previous survey, it means that the activity, for example, the production, is increasing at higher/lower rate. On the contrary, when the net balance of current survey is negative and higher/lower than the previous survey, it means that the activity, for example, the production, is declining at higher/lower rate.

Forms of Dissemination of BTS Results

Survey results are disseminated to the public through certain newspapers and on BI website (http://www.bi.go.id). Bank Indonesia also sends complimentary survey reports to most government departments and agencies as well as all participating respondents.

Future Activities

In order to speed up the completion of the improvement program and to start the implementation of the program in the first quarter 2001, the sample design process has to be finished as soon as possible. Moreover, computer program for data processing has to be reviewed to support the implementation of newly designed BIBS.

Conclusion

Bank Indonesia is going to conduct the harmonisation of BIBS as an element of the comprehensive improvement program of BIBS. The improvement plan, which includes all aspects of business survey, is going to commence in 2001. The remaining significant issue, which may affect the implementation of the plan, is the availability of current and reliable population list.

COUNTRY PAPER ON BUSINESS TENDENCY SURVEYS IN THE LAO PDR

Samaychanh Boupha – National Statistics Centre

1. Introduction

Lao PDR has a decentralised data collection system as well as statistical survey, in order to compile and provide official data for government and international agencies. Therefore, Government has set up the NSC under State Planning Committee (SPC) to assume the responsibility for the collection and dissemination of statistics and also being the co-ordinating agency in the areas of the statistical activities in Lao PDR. In fact, our country has a number of different agencies and projects, which are directly responsible for compiling and collecting specific data. However, in most sectors such information is limited, fragmented, and generally of limited reliability.

2. Background of the Organisation (NSC)

2.1 The National Statistical Centre (NSC)

The National Statistical Centre was inaugurated in 1993 which was preceded by the State Statistics Centre (SSC) which in 1982 was, in turn preceded by the Central Department of Statistics created in 1978. This means that the NSC and its statistical activities are still rather new, with limited tradition and only few links to the past. In term of size the NSC is also a very small organisation compared to statistical organisation in other countries.

The role of NSC is stated in the decree for SPC. The decree provides for an overall responsibility for official statistics by the NSC. It mandates the NSC to collect data from state, private and international enterprises, as well as to adopt standard to be used.

The NSC has a clear mandate to fulfil an active co-ordinating role in the field of statistics of Lao PDR. The mandate authorises the NSC to actively approach other institutions in order to co-ordinate statistical activities.

For several of the subject matter the NSC plays the role of co-ordinating body. Data are collected and to a certain extent compiled by the statistical unit in line ministries and the Bank of Lao PDR. This is the case mainly for the fiscal, financial and foreign trade statistics, balance of payment and education and health statistics. The NSC influence in these areas likely along with the increasing capability building throughout the co-operation from international assistance.

As stated earlier the Lao PDR statistical system is decentralised, each line ministry has at least one person responsible for statistics and its own organisation at the provincial level for data collection. The provincial statistical units get information from the districts unit, which in turn get data from the

village level. The provincial and districts statistical units within their planning divisions employ around 3 persons and 1 person respectively.

2.2 Major activities - Censuses and surveys

As the main producer of official statistics, the NSC has been carrying out nation wide censuses and surveys. The NSC produces various kinds of statistics through sample surveys. During 1992-1999 several surveys were undertaken. Some surveys were incorporated between NSC and other ministries. They can be listed as follows:

- The 1992 Establishment Surveys,
- The 1992/93 Expenditure and Consumption Survey (LECS-1),
- The 1993 Social indicator Survey (LSIS).
- The 1997/98 Expenditure and Consumption Survey (LECS-2),
- The 1998 Survey on Social impact of Asian Crisis,
- The 1999 Industrial Establishment Survey
- The Labour Migration Assessment Survey, 2000

All above-mentioned surveys were supported by international organisations. The coverage of these surveys covered the issues of business situation of the Lao's economy.

3. Recent Trend and Status of BTS in the Country

As listed above there were two business surveys "establishment surveys" that conducted in 1992 and 1998. In addition there was the Industrial Establishments Survey in 1999 which was carried out by the Ministry of Industry and Handicraft.

The main objectives of these surveys are as follows:

1. To collect basic information on business in various sectors such as number, type and size of establishments, number of person engaged in each business sectors as in the economy as a whole, cost of production and various expenses, value of gross output and fixed capital formation. These data are needed for formulating economic development plans, constructing the national account (Value added coefficient, GDP compilation by production and expenditure approaches) and Input-Output tables. The GDP compilation both in production and expenditure approaches that based on the 1997 establishment survey is serving as a benchmark figure for national account.

2. The industrial survey 1999 conducted by Ministry of Industry and Handicraft under the NISP project subjected to (i) build up a new industrial statistical system in the country and to reveal some of negative impact of Asian financial crisis on Laotian economy, (ii) Update the establishment register of ministry of industry, (iii) set up an appropriate system of classification by type of activities, type of ownership and geographical area for industrial statistics. (iv) Establish a computerised data bases of industrial establishments and (v) strengthen technical capability of

Ministry Industry in conducting industrial survey. Finally, With the industrial database established in the Statistics and Planning Division, the ministry of Industry now can analysis recent position of industrial sectors of the country, learn to make the best uses of industrial statistics.

3. In addition there are two rapid assessments first is the assessment concerning the impact of Asian financial crisis to economic of the Lao PDR. The assessment carried out in the middle of 1998 subjected to study a consequence of the crisis to the business, and business trend in the future, the capacity of investment. Further more the survey is to observing if there were any impact to employment opportunities, is there any employees had been laid off during the crisis period. The second is the Labour Migration Assessment Survey, 2000 which is also focusing on business tendency and employment situation during the time of crisis and after crisis had been over.

4. The Establishment Survey, 1998

4.1 Content of Questionnaire (Format, Type of Variables, Period, Covered, etc)

Content of Questionnaire had consisted of 12 item variables as following:

i) General information (Name of enterprises, location and contact address)

ii) Economic activity

iii) Period of operation

iv) Legal organisation

v) Institutional unit

vi) Ownership

vii) Economic organisation

viii) Book keeping status

ix) Employment

x) Total receipt (revenue)

xi) Expenditure on input /cost (current expenditure and expenditure on fixed capital formation)

xii) Changing in Stocks

xiii) Tax, tariff payment and subsidies received

4.2 Size of Questionnaire

The volume questionnaire is 11 pages including the cover sheet. (the cover sheet is content of the name of the establishment and tax identification number and contact address).

4.3 Time taken to Complete Questionnaire

The requirement to complete the questionnaire is in between 4 months period of time. The survey was conducted in November 1998.

4.4 Weighting of Questions at the Enterprise Level and for Aggregations (to Industry/Branch Level)

In this particular survey there is no weighting of questionnaire at the enterprise level and for aggregations because in the sample frame included all enterprises but we do make some output adjustment.

4.5 Sample Design

The register is very poor and not been update. Regarding to this we could not apply any statistical sampling design in this survey. As in the list of the registration, which was obtained from the tax department, data of number employment and activity at 4 digit for ISIC were not available. It was very difficult to drop a sample scheme. The sample design based on the book keeping status. The sample was selected all the establishments who have had the complete book keeping. To simplify the sample we decided to drop the household business and banking sector. As the household business already covered in the Lao Expenditure Consumption Survey 1997/98 and the Banking business is provided by Central Bank by monthly basis.

4.6 Sample Frame

The frame is made of the list of statistical units to be covered in the survey. The sample frame is based on the registration of establishment, which made by the tax department under the Ministry of Finance and provincial tax offices in 1997. The sample survey is covered all establishment and distributed by economic sectors.

4.7 Types of Survey (Mail Reply/ Electronic/ Tele-Survey etc.) and Follow Up Mechanism

The survey carried out by using the enumerators (interviewers) which directly visit the company and provide the explanation how the questionnaire has to fill in (the instruction also written in the questionnaire manual) and come back to collect after certain period of times. Most of the cases the questionnaires were completed in between 2-3 months. However the completeness of the questionnaire of some establishments were extended to 6 months. Some not response at all.

4.8 Response Rate

Table 1.

Percentage response, Establishment Survey 1998

Sample	Total expected sample frame	Sample Size	Can not find the location	Shut down the business	Non response	Actual Survey	% of non response
Total	1664	1316	130	91	281	1162	21

4.9 Delay in Processing and Disseminating Information

The Delay in Processing and Disseminating Information occurred because of the following problems:

- The delays in completing the questionnaire.
- The problems of classification (ISIC of four digits).
- Software packages for construction the program of data entry and processing in term of skill lacking.
- Staffs constraints

4.10 Feedback from Respondents

As shown from table 1 the percentage of the non-response was quite high. Many industries selected was sent back questionnaire with blank pages (not fill in questionnaire at all). Some of them just fill in some variables (item 1to 9). For the last five item variables, data was not provided at all. In some case, some of enterprises do provided the data but they are not consistency and no logical. A lot of time had been contributed for editing and checking the figure.

4.11 Types of Analysis Conducted on BTS Results

(1). The analysis of labour market in Lao PDR partly based on the information of the establishment survey 1998 (on going)

(2). The analysis of the role of foreign direct investment for Lao PDR economic development (on going).

(3). Developed GDP estimated 1997 as a benchmark year and using for construction of Input-Output table. Construction of production account and generation income account regarding to 1993 SNA.

5. Problems and Issues Concerning the Adoption of Harmonised/Standard BTS.

As we have the problems concerning to building up the register in a completed and continuously update. There for to have an appropriate sample design is very crucial. Second problem is lack of financial resources to carry out the survey.

6. Methodologies Used for Analysis of BTS Results.

The methodology used for analysis of BTS result is descriptive analysis by using SPSS software.

7. Forms of dissemination of BTS Results.

The dissemination of the establishment survey is in the form of descriptive report and statistical tables. Please find the form of the tabulation in annex 2 attached.

8. Future Activities

For the purpose of National Account, National Statistical Centre plans to carry out the annual sample establishment survey. For doing this first priority activities are:

- Create the complete the system of register
- Improve the sample design and frame
- Upgrade skill of the staffs in the field of survey
- Developing relationship between statistical office and unit of enterprises in term of data collection.

9. Conclusion

The New Economic Mechanism (NEM) program initiated in 1986 brought the LaoPeople's Democratic Republic to the gradual transformation to a liberal and market-oriented economy. The data collection is now based not only by reporting system by line ministries but is based on the surveys. The NSC was carried out several surveys as mentioned above. The result of these surveys in some extend is provided the overall picture of the Lao economy as well as the business trend of specific sectors.

The establishment survey conducted in 1998 by NSC. Although the survey is covered all enterprises and establishment in the whole country but the result did not give the completed picture of Lao economy. As the system of the register had been very poor and not updated from time to time and the sample design was not used the proper methodology.

This paper provides briefly overview of the Lao BTS. Through the experiences from this particular survey we found that, the NSC need more to strengthen the capacity on the BTS in order to providing the accuracy information. Therefore, I hope this workshop on BTS will fruitful experiences that we would utilise for our next BTS.

CURRENT STATUS OF BUSINESS EXPECTATIONS SURVEY IN THE PHILIPPINES AND PLANS AND PROGRAMS FOR 2001

Evelyn Santos, Ludivina Gador – Banko Sentral ng Pilipinas

1. Introduction

The Bangko Sentral ng Pilipinas (BSP) is the agency in the Philippines engaged in the conduct of business expectations (tendency) survey since 1986. The survey is conducted twice a year covering expectations of the current semester when the survey is being conducted and future expectations for the coming semester.

The survey aims to determine the perception of different business groups on the current and near-term levels of production and economic activity which could influence the movement of key economic variables, namely, interest rate, peso/dollar exchange rate, and inflation rate. The results of the survey are used as early indicators of economic and financial trends that serve as guide in policy formulation.

2. Background and Mandate of the Bangko Sentral ng Pilipinas

The conduct of business expectations survey was initiated in 1986 by the old central bank based on its mandate as provided for by law (a) *to maintain the internal and external monetary stability in the Philippines, and to preserve the international value of the peso and the convertibility of the peso into other freely convertible currencies*; *and* (2) *to foster monetary, credit and exchange conditions conducive to a balanced and sustainable growth of the economy*. The Department of Economic Research of the Bank was tasked to implement the survey following its function "*to prepare data and conduct economic research for the guidance of the Monetary Board in the formulation and implementation of its policies."*

The enactment of the New Central Bank Act (R.A. 7653) creating the Bangko Sentral ng Pilipinas (BSP) laid out the primary objective of the institution, that is, "*to maintain price stability conducive to a balanced and sustainable growth of the economy. Corollary to this objective, it shall also promote and maintain monetary stability and the convertibility of the peso.*"

The business expectations survey has been continued under the new organisation. One of the major operations of the BSP is in the area of research and statistics. Section 22 of R. A. 7653 provides that "The Bangko Sentral shall prepare data and conduct economic research for the guidance of the Monetary Board in the formulation and implementation of its policies. Such data shall include, among others, forecasts of the balance of payments of the Philippines, statistics on the monthly movement of the monetary aggregates and of prices and other statistical series and economic studies useful for the formulation and analysis of monetary, banking, credit and exchange policies.

3. Recent Trends and Status of Business Expectations Survey (BES) in the Philippines

A. Methodology

The BES is conducted by the BSP-Department of Economic Research (DER) every semester. The sample firms consisting of 725 corporations were drawn from the 1997 issue of the Philippines' Top 2000 Corporations (by revenue in 1996) released by the Securities and Exchange Commission (SEC) using a stratified random sampling method . The firms were stratified according to the nine industry groups as follows:

a. Agriculture, Fishery and Forestry
b. Mining and Quarrying
c. Manufacturing
d. Electricity, Gas and Water
e. Construction
f. Wholesale and Retail Trade
g. Transportation, Storage and Communications
h. Financing, Real Estate and Business Services
i. Community, Personal and Social Services

Questionnaires are mailed, faxed or delivered to the sample firms by a private research agency (PSA-Assist) commissioned by the DER. The accomplished questionnaires are submitted or mailed back to DER.

In case of non-participation/closing-shop by firms, replacements are drawn from the latest SEC listing of Top Corporations in order to retain the desired sample size, with the substitute firms chosen that possess more or less the same characteristics as the one substituted for.

B. The Questionnaire

The BES asks questions on four major concerns:

(1) Overall business outlook in the current semester against the previous semester and next semester against the current semester (improving, deteriorating, no change).

(2) What are your company's expectations with respect to the following items:

- Average peso borrowing rate in the current and next semester (Lower. Same, Higher)
- Average peso/U.S. $ exchange rate in the current and next semester (Lower, Same , Higher)
- Average inflation rate in the current and next semester (Lower, Same, Higher)

(3) What are your company's expectations with regard to the following business variables (actual level for the previous semester and estimated percent change for the current and next semesters)?

- Net Sales
- Cost of Production
- Selling and Administrative Expenses
- Net Income
- Average Selling Price
- Number of Employees
- Capital Expenditures
- Inventory Level
- Accounts Receivables
- Current Assets
- Current Liabilities
- Total Liabilities
- Total Net Worth
- Capacity Utilisation (%)

(4) Do you have any expansion plans for the next semester? Yes or No

The last BES conducted was in the first semester of 2000. The results of the survey were disseminated in July through the BSP webpage in the internet and were provided to the business firms that responded to the survey.

I. Plans and Programs in Adapting the Harmonised and Standard Business Tendency Survey (BTS)

i. Content of the Questionnaire

Following the recommendation during the first Workshop on the Harmonisation of Business Tendency Survey, the BSP will adopt the following variables:

Variable	Type of Variable/Period Covered
Production	present tendency,
Production	Future tendency, 3 months ahead
Order books, Total	Present level
Order Books, Export Market	Present level
Order Books, Export Market	Future tendency, 3 months ahead
Stocks of Finished Goods	Present level
Selling Price	Future tendency, 3 months ahead
Employment	Future tendency, 3 months ahead
Limits to production	Present situation
Capacity Utilisation	Present rate
Business Situation	Present situation
Business Situation	Future tendency, six months ahead
Financial Situation	Present situation
Access to Credit	Present situation

The BSP will, however, continue to include questions on the following variables:

Net Income	Present level
Capital Expenditures	Present level
Expansion Plans (Investment)	Future tendency, 6 months ahead
Peso Borrowing Rate	Present and Future tendency, 3 months ahead
Peso/U.S.$ Exchange Rate	Present and Future tendency, 3 months ahead
Inflation Rate	Present and Future tendency, 3 months ahead

ii. Size of Questionnaire

The questionnaire will cover 20 questions. A one-page questionnaire shall be maintained. Multiple choice responses will be provided each with corresponding boxes to facilitate answering the questions and completion of the survey.

iii. Time Taken To Complete Questionnaire

Maximum of 15 minutes is envisioned.

iv. Weighting of Questions at the Enterprise Level and For Aggregations (Industry/ Branch Level).

The answers received are usually counted as one figure. The number of responding firms is assessed against the total number for each industry sub-group and against the total industry.

v. Sample Design

The sample shall continue to make use of stratified sampling covering the nine industry sub-categories currently used.

vi. Sample Frame

The existing sample frame shall be updated based on the 1999 top 5000 corporations (published in 2000) in the register of the Securities and Exchange Commission (SEC). The top 100 exporters listed by the National Statistics Office will be cross-matched against the SEC listing to ensure that a representative number of exporters are included in the sample frame to answer the question on exports.

vii. Types of Survey

An electronic survey form is envisioned to facilitate completion and submission. However, the use of mail and fax shall continue to be relied upon for firms that could not cope with electronic form of survey. A register of contact persons and e-mail addresses shall be established to facilitate follow-up through telephone calls.

viii. Response Rate

It is expected that response rate could be increased by instituting the following:

1. A letter from the Deputy Governor in charge of research enjoining the co-operation of firms to participate in the survey.
2. Media exposure of the intended business tendency survey.
3. Establishing contact persons and strengthening follow-up mechanisms.

ix. Processing and Disseminating Information

It is envisioned that a program shall be developed to speed up the processing of survey results. The media for dissemination of survey results are through press release and the internet.

x. Feedback From Respondents

Contact persons in the DER which could be reached through specified telephone numbers, fax number, and e-mail address shall be listed in the questionnaire for any queries regarding the questionnaire.

xi. Types of Analysis To Be Conducted On BTS Results

Analysis on the BTS results will be done using composite indicators (average of absolute period to period changes or standard deviation of period to period changes) and diffusion index.

xii. Problems and Issues Concerning The Adoption of Harmonised/Standard BTS

1. While the variables could be made standard among countries in the region, the questions could vary (yes or no type as opposed to directional type) and the results for the same variables could be different among countries.

2. Certain questions are applicable only to specific sectors included in the sample (e.g. exports) or vice-versa. Ideally, the set of questions can be grouped according to target respondents (e.g. set for the manufacturing sector, export, other sectors). A set of questionnaire directed to a cross-section of all business sectors where some questions are not applicable to certain sectors, could lead to confusion and may result in a lower response rate.

3. The implementation of a revised set of survey questions and updated sample frame is expected to encounter initial birth pangs. Thus, it is expected that implementation of the survey would at the latest commence on the second quarter of 2001. It is also expected that the response rate would be lower than the targeted minimum of 50 percent.

Paper presented by Evelyn R. Santos, Deputy Director and Ludivinia D. Gador, Bank Officer VI, Department of Economic Research, Bangko Sentral ng Pilipinas during the Joint ADB/ESCAP/OECD Inception Workshop on RETA 5938 Harmonising and Strengthening Business Tendency Surveys (BTS) in Selected Developing Member Countries (DMCs), 21-24 November 2000, Bangkok, Thailand.

BUSINESS EXPECTATIONS SURVEY

Somchit Dermtoranin – Ministry of Commerce, Thailand

1. Introduction

Bureau of Trade and economic index, Department of Internal Trade, Commerce Ministry has conducted Forward-looking economic indicators. The indicators are collected on the Business Expectation, which provides the indicator of short-term business by surveying business manager's views on general business conditions and future expectation.

The Business Expectation Survey Index is the quarterly survey which refers to general business situation in Thailand , business situation profit , cost of product, employment and expansion in business. The survey is obtained from a sample survey of corporations, which is carried out during last week of the month.

The sample size of each industry is based on its relation average proportion in GDP 1995 – 1997 of all industries.

2. Background of the Organisation

Bureau of Trade and Economic Index is responsible for conducting economic indicators, such as Consumer price index (CPI), Producer price index (PPI), Business cycle index and others. The Business Expectation survey Index has been conducted since 1995. The main objective is collecting the data for calculation diffusion index which provides an indicator of short-term business condition by surveying business managers' views on general business condition and future expectation and follow up information about general business situation in Thailand from business firm and the opinion of the business firm about problem and difficulties in business, suggestion and question on business, that useful for government and business sector to get economic planning in the future.

3. Business expectation survey

Result of survey

Bureau of Trade and Economic Index has completed the business expectation survey of the economic performance in the third quarter and prospect in the fourth quarter of the year 2001.The respondent rate is 66.5 percent (of 1,600 questionnaires sent out) .

For diffusion index for whole kingdom of Thailand, business expectation in the last quarter of 2000 dipped to 54.7 lower than 58.1 from third quarter because of the petroleum cost and decreasing in profit. The diffusion index of all regions is over 50 except Bangkok and Metropolis It indicates that the economy is still expanding.

In the year 2001 the diffusion index for whole kingdom is 52.6 .It means that businessmen have less confidence in economic situation in construction sector. (See attachment report No. 1)

Business expectation survey questionnaire

The survey items are as follows:

(1). General business situation in Thailand

(2). Business situation

(3). Company profit

(4). Cost of product

(5). Employment

(6). Changes in business capacity

(7). Questions, suggestion, problem and difficulties in business (open fill out) There are three choices for fill out: better/increase, no change/equal and worse/decrease

Data collection

(1). The Survey in central area is conducted by mail. Questionnaires are mailed directly to sample organisations from the Trade and Economic Index Bureau. The filled-out questionnaires are returned to the Bureau also by mail.

(2). Mail and interview conduct the Survey in the regional area. The survey is carried out during 2 weeks in the end of the month.

Timeliness

No later than the first week in the first month of next the quarter.

Weighting of Questionnaire

No weighting, every question will be calculated in diffusion Index.

Sampling Design

The sample size of Business Expectation Survey is covered about 1,600 establishments. Frame on sample size based on the important sector average GDP 1995-1997 business sector

As following:

- Agricultural
- Industry
- Commercial
- Construction
- Finance and Banking
- Service

Periodicity

The official will visit the sampled enterprises on the middle of the month in each quarter and ask the owner of the enterprises to fill out the questionnaires.Then, during the period from last month of each quarter , they collect the questionnaires.

Response rate

The average of feedback questionnaire is 60%.

Public

Business Expectation Survey Index shows indices broken down by region and sector. The index disseminates on Commerce Ministry Internet website (http://www.moc.go.th/ or www.dit.go.th) on menu "Quarterly Business Expectation Survey."

4. Consumer confidence Index (CCI)

Bureau of Trade and Economic Index have been conducted consumer confidence index (CCI) in early this year which indicates consumer's views on economic conditional and future expectation and follow up the information about situation in Thailand from consumers. CCI is useful for government to get economic planning in the future.

Purpose of the survey

The purpose of the survey is to conduct on prospect of people in Thailand both national and regional level. The survey includes 7 groups of persons, whose are out of job, student, farmer, employee or wager, company's employee, businessman and civil servant or state employee. The sentiment on consumers is confidence in economic situation over the month and next 3 months.

Population coverage

The survey area The universe of the survey was composed of all persons include unemployment , student , farmer , employee or wager , company's employee , businessman and civil servant or state

employee. The Sample of the survey consists of 1,032 samples selected 537 samples in Bangkok and Metropolis, and 495 samples in other regions that cover 41 area of 19 provinces. The sample From 19 provinces were chosen by stratified random sampling from the population in the 1999 Population Census. The sampling province is selected from per capita income (high, medium and low) in Gross Provincial Product 1996.

Items to be surveyed

- General information
- Name and sex
- Address
- Age
- Education
- Occupation
- Income
- Economic information
- Comment
- Weight of the question

(See questionnaire attachment)

In preparing the basic data for "Consumer Confidence Index (CCI) ", we start to complete the survey on August 2000 to obtain information on confidence economic.

Data collection

For the Survey of Bangkok and Metropolis, we collect data by telephone in the second week and interview in the third week. And for the regional we collect data by interview in the third week and then calculate in diffusion Index in the end of the month.

Timeliness

No later than the last day of the month.

Weighting of questionnaire

CCI has been weighted. by the answer of the surveying that asks the questions in terms of the importance of consumer life. For the part of weight of the question, the consumers will answer the question only one time.

Public

Consumer confidence Index shows indices broken down by items on percent and index which will be disseminated in the next year on Commerce Ministry web site (http://www.moc.go.th/ or www.dit.go.th) on the menu " Consumer confidence Index."

Ministry Of Commerce
Questionnaire Consumer Confidence Index

Trade and Economic Indices Bureau

Department of Internal Trade Ministry of Commerce

Tel : 6222449,6222457,6222466 **Fax : 6222464**

On behalf of the Trade and Economic Indices Bureau, Department of Internal Trade, we would like to ask for your co-operation in answering this questionnaire. Which will serve as a basic for mulating the sound economic policies.

Thanks for your co-operation.

Question for Region ……………. No . ……..

Month …………………… Year……….

Name ………………….. Surname ……………..

Address ……………….. Road……………… …..

Precinct…………………District…………………….

Province ………………………..

TEL………………………….Fax…………….

Part 1 - General information

1. Gender *male* *female*

2. Age *blow 20* *20-29* *30-39*
40-49 *50-60* *over 60*

3.Education *lower than Bachelor degree* *Bachelor degree*
higher than Bachelor degree *Other , please specify*

4.Occupation *unemployed* *student* *Farmer*
employee , wager *company's employee* *businessman*
Civil servant , State employee

5.income (bath/month) *lower then 5,000* *5,000-10,000* *10,001-20,000*
20,001-30,00 *30,001-40,000* *40,001-50,000*
higher than 50,000

Part 2 - Economic Information

1. *What do you think about the present economic condition in general compared to the same period last year ?*

   excellent good bad worse unchange

2. *What do you forecast the economic condition in the next 3 months compared to the present condition?*

   excellent good bad worse unchanged

3. *What do you think about your present income compared with the same month of last year?*

   much more a little more a little less less more unchanged

4. *How do you period your income in the next 3 month compared with to the present?*

   much more a little more a little less less more unchanged

5. *Is it easy to find a new job now compared to the same period last year?*

   very easy easy difficult very difficult about the same

6. *Will it be much difficult to find a new job in the next 3 months compared to the present time?*

   very easy easy difficult very difficult about the same

7. *Suppose you want to buy a car, TV set or a refrigerator, do you think it is suitable to do it now?*

   very suitable suitable not suitable extremely not suitable not sure

8. *What do you predict the price level in the next month?*

   much lower high much lower higher much higher no difference

9. *Suppose you are free now ,is it suitable spend money for traveling ?*

   very suitable suitable not suitable extremely not suitable suitable not sure

Part 3 - Comments

The first thing the government should do to solve the economic problem at present is

……

……

……

……

Part 4 - Weight of the questions

Please weight the following questions in terms of its importance to your life.

1. *How the general economics and business climate effect you?*

   little *average* *very much*

2. *How the economics and business condition in the next 3 mouth will effect you?*

   little *average* *very much*

3. *How did your income in the last 3 months effect you?*

   little *average* *very much*

4. *How will your expected income in the next 3 months effect you?*

   little *average* *very much*

5. *What is the chance of finding a new job now?*

   little *average* *very much*

6. *What is the chance of finding a new job in the next 3 months?*

   little *average* *very much*

7. *Is it the right time to purchase a new car, TV or refrigerator?*

   little *average* *very much*

8. *What would be the price level in the next 3 months?*

   little *average* *very much*

9. *How month will you spend for traveling now?*

   little *average* *very much*

MONTHLY BUSINESS TENDENCY SURVEY IN VIETNAM

by Nguyen Thi Lien

1. Introduction

The General Statistics Office of Vietnam (GSO) has decided to launch a new type of survey - *Business Tendency Survey (BTS)*. Initiated as a pilot survey in July 2000, the survey is now conducted on a regular monthly basis.

GSO is since 1954 responsible for co-ordination of statistical services as well as collection, compilation and dissemination of official major social and economic statistics at central level. At present there is a staff of 800 at central level. Statistical branches at provincial level, so-called Provincial Statistics Offices (PSO) and sub-branches at district level, or District Statistics Bureaus (DSB) have the same function as GSO. In total the statistical services of Vietnam employs about 5000 staff.

2. Recent trend and status of BTS in Vietnam

In Vietnam, in transition from a planned economy to market economy, there is an increasing interest from government and private agencies, recognising the importance of timely information of economic development. Indicators from BTS will provide early warning signals on cyclical development in aggregate economic activities.

Recognising the usefulness of standardising a number of questions to make the survey results internationally comparable, the GSO has basically implemented a harmonised business survey, as recommended by OECD and during the last workshop. This paper will present methodological review of the BTS as well as degree of harmonisation adopted in our survey.

3. Survey coverage

The BTS covers enterprises in the manufacturing sector, export trade, wholesale and retail trade.

For surveys in manufacturing, wholesale and retail trade, economic sectors are defined according to the Vietnam Standard Industrial Classification (VSIC), which is based on the International Standard Industrial Classification (revision 3) with certain adaptations. The coverage of BTS in these sectors is currently restricted to enterprises in 4 major cities: Hanoi, Haiphong, Danang, and Ho Chi Minh City.

In export trade, however, BTS covers the whole country including exporters of the following 12 main products/groups: crude oil, coal, fishery products, rice, coffee, rubber, cashew-nuts, peppers, textile and garments, footwear, fine arts and handicrafts, computer and electronic components.

4. Sample selection

Survey in manufacturing, wholesale and retail trade:

The GSO adopts a fixed panel sample with a sample size of 500 manufacturing enterprises and 700 enterprises in wholesale and retail trade. The sampling frame is the GSO business register. For these surveys, only enterprises with a complete balance sheet are covered. Basically, a multi-activity enterprise with at least 2 local units is classified in the category of VSIC that covers the kind of activity that accounts for the principal amount of manufacturers' shipment or wholesale/retail turnover. However, in certain cases, large enterprise engaged in both manufacturing and trading may be covered in both surveys. In such cases, kind-of-activity unit is used as a sampling unit rather than the enterprise itself.

The sampling frame is stratified by type of ownership, within each type of enterprise, by 2-digit VSIC manufacturing industries or by 4-digit VSIC trading industries. For these surveys, probability proportional to size (PPS) sampling is used for selection of sampling units.

Survey in export trade sector:

A fixed panel sample is also adopted for this survey. The sample frame is the list of exporters of the whole country classified according to 12 major products/groups and sorted by export value of 1999. This survey covers not only firms with a complete balance sheet but also local units with incomplete balance sheets. The sample includes 110 enterprises selected purposively to cover a top 10 up to top 15 major exporters within each of 12 products/groups.

5. Questionnaire and items covered

For each of surveys, a separate questionnaire is designed. Each type of questionnaire consists of two kinds of items. The first one is judgement level item: business situation, limits to production, stocks of finished goods, goods for exportation, demand/order books, and production capacity. The second is referring to judgmental assessment on the direction of change: production, new orders, sales, export volume, selling prices of finished goods. Except question referring to capacity utilisation, production constraints, the remaining questions are qualitative three-fold multiple-choice type. Answers are given as up/unchanged/down or as below-normal/normal/above-normal. (Questionnaires are attached).

In accordance with OECD recommendation and understanding among the Manila workshop participants the Vietnamese BTS covers the following variables:

Business situation	Present situation
Business situation	Future situation
Production	Present situation
Production	Future situation
Order Book - export	Present situation

The questions on business situation refer to the situation one month ago, while the future situation covers a 3-month period (next three months).

Most of the questionnaire variables are harmonised, except the question on fixed investment. The respondents are only asked whether new fixed investment is planned for within the next twelve months or not (Yes/No). Other questions related to investment - such as type and limiting factors - are not asked. In addition, no instructions about handling of seasonal adjustments are given.

The questionnaires are designed in A4-format (1-2 pages).

For surveys in manufacturing sector and wholesale/retail trade sector, direct interview is carried out in two consecutive months. Due to application of fixed panel sample, from the third month onwards, enumerators deliver a copy of questionnaire for the remaining months of the year in advance to the respondents. For survey in export trade, 40 selected export firms located in other provinces are surveyed by mail. For those located in the 4 cities mentioned above, the collection method is the same as that of surveys in other sectors. Normally, the questionnaires are distributed within the first ten days of the reporting month and are expected to be returned in a time span of 8-10 days.

6. Response rate

Response rates are in the range of 85-90 per cent for surveys in manufacturing and wholesale/retail trade. However, for respondents with mailed questionnaires in survey on trade sector, the response rates range between 50-60 per cent. Respondents, who delay or refuse returning questionnaires, telephone contacts are made to remind or persuade them to actively participate in the survey. Studies made have not confirmed that the non-response would cause any bias in the results.

7. Calculation of net value or diffusion index

7.1 Value assignment

For questions measured in an ordinal scale, a value of +1 is assigned where there is an "increase", 0 where there is "unchanged", -1 where there is a "decrease".

For question referring to capacity utilisation, utilisation ratio is the value of the question.

7.2 Weighting of questions

Due to lack of available data such as value added, manufacturer’s shipment or wholesale/retail sale are used as the weight for that enterprise/firm when weighted method is applied at enterprise level.

The use of employment as a weighting variable has been taken into account. It has been found that in many cases the correlation between employment and value added is quite weak in Vietnam at current level of development. For this reason, shipment and sale/turnover are preferable.

Sample fraction is also used for each enterprise/firm. To be able to calculate the net value (NV), total shipment or sale of industry is used as weight for that industry. In addition, unweighted or sampled method is applied at enterprise level as well. Unweighted method means that all reporting units are given the same weights.

8. Processing and dissemination

The BT surveys have only been conducted for 4 months, and as pilot surveys. Data-processing of the questionnaires have been made for the surveys in July - September, and the results have been presented and discussed at an internal seminar at GSO. However, the results have not yet been officially released.

9. Methodologies used for analysis of BTS results

As mentioned above, the BT surveys were initiated as late as in July 2000. The length of time series is still very short, why no analysis has been made for most of questions. Some inferences have been made for results derived from question referring to factors limiting productions.

10. Future activities

The coverage of BT pilot surveys is currently restricted to enterprises in 4 major cities: Hanoi, Haiphong, Danang, and Ho Chi Minh City. It is expected that the surveys will have a national coverage during next year.

11. Conclusion

It must be admitted that Business Tendency Survey is a cost-effective means of generating timely information on short-term developments of the economy. The results of BTS can also be used for determining business cycles. Recognising the importance of international comparisons, it is hoped that international standard should be introduced in the near future. The BTS are relatively inexpensive compared to more extensive surveys. BTS is also rather robust against statistical errors, e.g. sampling and respondent effects. Moreover, the questionnaire is simple and the questions can be answered in a swift manner by tickmarks for the alternatives. The data collection, processing and analysis can be made within a short durance of time and the result can be published within the period of measurements.

However, the question has been raised, if the BTS will be carried out monthly or on a quarterly basis.

The low response rate among export trade enterprises is a problem, but it is meant that when the enterprises in the future receive the results from the surveys on a continuous basis, this will increase the interest to participate and hereby the response rate.

Business Tendency Survey on Domestic Trade

General notes: *1. Top manager or senior official are highly expected to fill in*

2. Your answers will be confidential and used only for analytical or statistical purposes and not for any other purposes

Name of Enterprise:.....

Address:.....

Type of Ownership:.....

Main kind of Activity:.....

Main products:.....

Name of Respondent:.....

Position:.....: Tel:.....

Please give your assessments by placing tickmarks in the below boxes

01	How many people does your enterprise employ at the moment ? (including part-time and seasonal employed staff)		
02	How do you assess the current business climate of industry that your enterprise engaging in ?	Good	1
		Not good nor bad	2
		Bad	3
03	How do you assess the current business climate of your enterprise, compared to last month ?	Better	1
		Normal	2
		Worse	3

04	How do you expect the business climate to be next quarter, if you compare with the current situation ?		Better			1
			Normal			2
			Worse			3
05	How do you assess turnover (selling goods) of your enterprise ?					
	a. This quarter compared with last quarter			Up	Unchange	Down
			Total turnover	1	2	3
			of which: Retail sale	1	2	3
	b. Expected turnover in next quarter			Up	Unchange	Down
			Total turnover	1	2	3
			of which: Retail sale	1	2	3
06	Are there any reasons which limit the business of your enterprise ?		Yes	1 NO	2	*If No, continue to question 7*
	Some reasons:					
	+ Low demand of customer	1	+ Strong competition			5
	+ Supply side is insufficient	2	+ Lack of information			6
	+ Insufficient credits	3	+ Policies:	- Taxation		7
	+ Low selling prices	4		- Transferency policy		8
	+ Other reasons, please specified:					
07	How do you assess current stock ?		More than sufficient			1
			Sufficient			2
			Insufficient			3
08	What are your expectations on selling prices in the next quarter ? The selling prices will...		Up			1
			Unchange			2
			Down			3
09	What are your expectations about the staff situation in the next quarter in your enterprise? The number of employees will.		Increase			1
			Remain same			2
			Decrease			3

10	Do you plan for any fixed investments for the next 6 months?	Yes	1	
		No	2	*continue to question 11*
	Which is purpose of the planned investments ? Please tick at most 3 boxes.	Replacement of old equipment		1
		Extending current business capacity with an unchanged product range		2
		Extending current business capacity by adding new products		3
		Rationalization		4
		Expending business activities on other sectors (i.e. manufacture...)		5
		Training and retraining own staff		6
		Other, please specify below		
11	Are there any reasons, which prevent your enterprise from making investment in the next 6 months ?	Yes	1	
		No	2	*Continue to question 12*
	What are the most 3 important reason limiting investment in the next 6 months ?	Demand is insufficient		1
		The required machinery or equipment is too expensive		2
		The cost of loans is too high		3
		Difficulty in getting the necessary credits		4
		Difficulty in getting land-space		5
		Current profits are insufficient for new investments		6
		Fear for bankruptcy		7
		Lack of administrative procedures		8
		Other, please specify in the boxes below		
12	Please, submit your opinions:			
		Date:		
		Sign:		

Business Tendency Survey on Export Trade

The General Statistics Office would like to congratulate on your company's success

Your time is invaluable, but please spend a few minute answering the questions given below.

Your co-operation together with your assessments would be great contributions to the government's macro-economic management

our answers are confidential and will only be used for analytical or statistical purposes and CANNOT be used

CAN NOT be used for purposes of taxation, investigation, or regulation.

Please send this form to Department of Trade and Price Statistics, General Statistics Office, 2 Hoang Van Thu Str. Hanoi Tel. 04-8431217 Fax: 04-8438907

Reporting Month: 2000

Name of company:

Address: **FAX:**

Principal exports:

Name of Respondent: **Position:** **Telephone No:**

Please give your assessments by placing tick-marks in the boxes below

	Current situation		
1. How do you assess the current business situation	**good**	**normal**	**ad**
in your company	☐	☐	☐
2. What changes do you expect during the next three months	**better**	**the same**	**worse**
	☐	☐	☐
3. How do you assess the current level of	**above normal**	**normal**	**below normal**
+ Total demand from abroad/ export order books	☐	☐	☐
+ Stocks of goods for exportation	☐	☐	☐

4. How do you assess the current level compared to the last month and what changes do you expect in the next three in respect of:

	compared to last month			next three months		
	up	the same	down	up	the same	down
+ Total volume of principle exports						
+ Total demand from abroad/ export order books						
+ Selling prices of principle exports						
+ Number of employees (Including part-time and seasonal employed staff)						

5. For your company, which factors are limiting your ability to increase the sale of exports in this month

Please tick relevant factors

+ Domestic supply is insufficient		+ Lack of information on foreign market	
+ Foreign demand is insufficient		+ Competition among Vietnamese exporters	
+ Low selling prices		+ Competition among ASEAN exporters	
+ Insufficient credits		+ Competition between VN & Chinese exporters	
+ Redundancy of labor		+ Competition among other exporters	
+ Lack of skilled labor		+ Uncertain economic environment	
+ Lack of storage capacity		+ Unclear or restrictive economic laws	

+ Other reasons, please specify below:

6. Please give your comments or recommendations on this questionnaire below.

Thank You very much for your co-operation

Date month year 2000

Signed

COUNTRY PAPER – MALAYSIA
HARMONISING AND STRENGTHENING BUSINESS TENDENCY SURVEYS IN SELECTED DEVELOPING MEMBER COUNTRIES

Alison Ang – Central Bank of Malaysia

1. Introduction

This country paper aims to share the Central Bank of Malaysia's experience in conducting the Business Tendency Survey (BTS). With this, the paper provides a brief background of the Central Bank of Malaysia and the rationale for conducting the BTS. In the Bank, the BTS is conducted on an annual basis. The survey is called the Annual Survey of Manufacturing Companies, aiming to provide a reliable perspective on the developments and trends of the manufacturing sector which is the engine of growth in the Malaysian economy. While elaborating on the Bank's survey, the paper also touches briefly on the BTS which are currently being carried out by the other agencies in the country.

2. Background of the Central Bank of Malaysia

The Central Bank of Malaya Ordinance, 1958 (CBO), which established the Central Bank of Malaysia (Bank Negara Malaysia or BNM) was enforced on January 26,1959. This establishment can be fundamentally attributed to the recognition then for the need for deliberate management of the money and credit situation in the country. The main objectives of the BNM are:

i) To issue currency and keep reserves safeguarding the value of the currency;

ii) To act as a banker and financial adviser/agent to the Government;

iii) To promote monetary stability and a sound financial structure; and

iv) To influence the credit situation to the advantage of the country.

The objectives of BNM are inter-related and complementary. BNM, because of its ability to issue currency, has the primary responsibility to ensure that domestic prices remain stable so that benefits of economic growth are not eroded. Monetary stability, in turn, is dependent on the existence of a sound and stable financial system for the effective conduct of monetary policy. In contrast to matured industrial economies that have developed and sophisticated financial systems, BNM has, therefore, a wider role in developing the financial infrastructure, including the capital market to ensure that monetary measures implemented have the desired effects in a predictable manner on the ultimate objectives that have been identified. Of importance is also the need to promote the soundness of the financial system to allow the smooth functioning of the intermediation process to ensure efficient and adequate financing for investment and production, thereby contributing to the overall economic growth.

Like most central banks in the developing countries, BNM assumes a wide area of responsibility, including the involvement in the nation's economic growth and distribution. The direct involvement of BNM in the macroeconomic framework is to ensure that the monetary and financial impact of any plan would have a chance of success in being implemented effectively to promote economic growth.

In this regard, BNM is represented at the highest level in the planning and implementation process in the country. The Governor is a member of the National Development Planning Committee (NDPC), the highest official group which oversees the formulation and implementation of the nation's development plans. At the technical and policy levels, BNM forms one of the core agencies responsible for the formulation of the country's five year development plans. Constant dialogues with other Government agencies represent an integral part of BNM's advisory function to the Government. In addition, BNM also established several funds to provide financing with preferential interest rates to the priority sectors, with the objective to promote industrial and economic development. Some of these funds include the New Entrepreneur Fund, Fund for Food, Special Fund for Small and Medium-scale Industries as well as Special Fund for Tourism.

In this regard, the Economics Department of the Central Bank is responsible for the development of the real economy. To perform its function, the Department closely monitors and analyses economic, monetary and financial developments and risks based on information gathered at the micro, sectoral and macro levels within the country and abroad. In line with this, the Department conducts the Annual Survey of Manufacturing Companies to gather information and projections from companies, to be used as inputs to facilitate the monitoring process as well as for forecast and policy formulation purposes.

3. Recent trends and status of BTS in Malaysia

Besides Bank Negara Malaysia, there are two other agencies, namely, the Malaysian Institute of Economic Research (MIER) and the Federation of Malaysian Manufacturers (FMM) also conduct BTS, but on a quarterly basis.

(a) MIER – Business Conditions Survey

The Business Conditions Survey covering 750 business organistions from the manufacturing sector is conducted four times a year by MIER. It was first conducted in the second quarter of 1987 with the aim to provide an assessment of the short-term outlook for the Malaysian economy. The sample of manufacturing firms selected for the survey was designed to reflect the relative contribution of the different industries to total manufacturing value added. Respondents were asked about their perception of the current economic environment and expected business situation. Rather than attempting to quantify trends, the Business Condition Index summarises the results of the survey. It is intended to detect changes in the short-term outlook allowing inferences to be drawn regarding near-future economic performance and be used as a tool to gauge impending economic climate. The final index is an arithmetic average of the proportion of positive responses to eight questions contained in the questionnair. Questions posed are on key determinants such as production, sales, orders, capacity, investment, stock levels, prices and employment.

(b) FMM – FMM Survey Report

Similarly, the FMM Survey is conducted on a quarterly beginning the first quarter of 1998, aiming to provide an assessment of the latest business performance and expectations of business conditions in the economy. The survey covers about 2000 business organisations which are members of the FMM. Like the MIER, the FMM survey also covers key economic variables, namely, production, sales, orders, profit, prices, costs, stocks, capacity and employment. Nevertheless, the survey results are presented by comparing the magnitude of the positive frequency counts for the respective variable in the present quarter against the previous quarter (see example in Table 1).

Table 1.

Performance in 1Q and 2Q 2000

Performance	**1Q 2000**			**2Q 2000**		
	Up	**Same**	**Down**	**Up**	**Same**	**Down**
	% of respondents					
New domestic sales	**25.9**	**60.7**	**13.4**	**34.8**	**59.8**	**5.4**
New export sales	**31.8**	**58.2**	**10.0**	**33.6**	**56.1**	**10.3**
Profit	**32.3**	**25.8**	**41.9**	**39.2**	**33.3**	**27.5**
Average selling prices	**19.8**	**56.3**	**23.8**	**16.0**	**65.6**	**18.4**
Production costs	**45.2**	**39.7**	**15.1**	**39.8**	**48.8**	**11.4**

In addition to providing findings on business conditions, the survey also includes special topics and areas related to issues affecting business performance (see examples in Tables 2 and 3).

Table 2.

Special Topic – Skilled labour and Delivery Schedule

Key Problem Faced	Effect on Company		
	Critical	Still OK	No effect
Skilled labour	**35.4**	**58.5**	**3.1**
Delivery schedule	**16.2**	**70.0**	**6.8**

Table 3.

Factors Limiting Expansion of Production

Factors	1Q 2000		2Q 2000	
	Percentage	Rank	Percentage	Rank
	% of overall respondents			
High cost of raw materials	**40.8**	**1**	**43.1**	**1**
Labour shortage	**31.5**	**2**	**31.5**	**2**
Low orders	**30.0**	**3**	**26.2**	**3**

4. Progress of Business Tendency Survey (BTS) – The Annual Survey of Manufacturing Companies, Bank Negara Malaysia

Bank Negara Malaysia's Annual Survey of Manufacturing Companies covers companies from a cross-section of all industrial group in the manufacturing sector. The main objectives of the survey are to provide the Bank with timely insights into the performance and private investment trends of manufacturing activities, as well as to serve as a source of input for forecast, research and policy formulation purposes.

(a) Content and Size of the Questionnaire

- The survey questionnaire is divided into two parts. Part I contains quantitative questions on key variables, namely, sales, profit, production, costs, capacity and investment. Meanwhile, part II contains qualitative questions related to business conditions as well as topical issues in the manufacturing sector. The key determinants used for business conditions include demand for products, orders, inventory of finished goods and access to bank financing. In general, the timeframe covered by the questionnaire stretches across a period of three years (past, present and future).

- The questionnaire consists of about 6 – 7 pages and respondents are given one-and-a-half month deadline to respond. Normally, an extension of another one to two weeks to complete the questionnaire is allowed upon requests by respondents.

(b) Sample Design and Sample Frame

- The selection of companies was based on a mixture of purposive and random sampling gathered from various sources, including directories of business associations and the Registrar of Companies. The number of companies representing each industry was determined based on the industry's value added contribution to the manufacturing sector. For example, in Malaysia, the electronics and electrical products industries account for about one-third of total value added of the manufacturing sector. This implies that the proportion of electronics and electrical products companies to the total companies covered in the survey would reflect the value added contribution of these industries to the manufacturing sector. At present, the Annual Survey of Manufacturing Companies covers a total 245 companies.

(c) Type of Survey and Response Rate

- The survey is a "mail and reply" type. Usually, telephone calls and reminder papers are made to companies to expedite their submission of questionnaire returns. The response rate of the survey is generally high, averaging 80–90%. Nevertheless, in several occasions, the deadline has to be extended as the response rate was not encouraging**.**

(d) Methodologies/Types of Analysis Used for BTS Results

- The survey results are consolidated based on aggregation. At the industry level, answers for the respective variables are consolidated by using sales turnover of companies from the respective industry as the weightage to allow for the computation of each industry aggregate. Subsequently, a weight (based on value added contribution to the manufacturing sector) will be assigned to the respective industry for the computation of the overall manufacturing sector aggregate.

- The types of analysis used in Part I of the questionnaire include:

- Computation of year-on-year change to monitor growth trend of the economic variables;

- Construction of indicators by computing ratios between the various key variables e.g. profit margin, labour productivity, unit cost, capital efficiency etc.

  - In Part II, the survey results are analysed in the form of frequency counts, similar to that of the FMM Survey.

  - The survey findings are presented in a report which will be bound as a book for distribution to the respondents, as well as various government agencies, securities houses or research bodies that have requested for it. In the past, circulation of the survey report has been limited as it is largely for internal use. The survey reports have been available for sale to the public for the 1996 and 1999 issues. However, response from the public has not been encouraging.

(e) Problems and Issues

- Difficult to obtain timely response from the respondents;

- Incomplete answers provided the respondents;

- Manpower constraints in follow-up mechanism.

5. Conclusion

Going forward, BNM will continue to improve the format of the survey questionnaire, with the view to enhance its effectiveness and make it friendlier to the respondents. To achieve this, workshops on business tendency survey especially at the international level are important, as it provides the avenue for continuing learning and allows participants from various countries to exchange views to enhance the effectiveness of the BTS in their respective countries.

NATIONAL-WIDE BUSINESS SURVEY IN CHINA

by Lin Tao – National Bureau of Statistics, China

1. Introduction

The Business Survey in Industry has been conducted by National Bureau of Statistics (NBS) quarterly since 1994. The survey coverage was extended from industry sector to other sectors in 1998. The survey covers the most sectors of economic activities: industry (including mining, manufacture, power industry, gas and water), construction, transportation & storage & postal and telecommunications services, wholesale and retail trade & catering services, real estate trade, and social service. Some contents of the survey were revised according to the suggestions of IFO Institute and the last meeting in 2000. The Business Survey was also listed into the official statistics program of the government of China in 2000. The total sample for all sectors is over 16 000 units, which cover all type of ownership in all 31 provinces in China as following:

Economic Sectors	Sample Amount	
	Year 2000	Year 2001
Total	16 000	18 000
Industry (including mining, manufacture, power industry, gas and water)	10 500	11 900
Construction	1 000	1 100
Transportation, storage, postal and telecommunications services	800	900
Wholesale and retail trade and catering services	1 500	1 700
Real estate trade	900	1 000
Social service	1 300	1 400

2. Harmonisation of business survey

In order to make inter-country comparisons possible, we adjusted some contents of the questionnaires in 2000.

- Adding some items: export order books/demand from abroad in industry and construction sectors, export in wholesale and retail trade sectors.

- Cutting out some items: cost of production, buildings under construction and buildings completed.

- Adjusting the form of some questions: the form of order books and stocks of finished goods is adjusted from *judgements of direction of change items* to *judgements level items*.

2.1 Content of questionnaires

For each business sector covered, a separated questionnaire is designed. Each type of questionnaire includes three parts. The first part collects views of the managers on the general economic situation of this sector as whole. The second part is manager's judgements about the actual (present) condition and the future condition of the unit being surveyed. A list of the questions in this part of the questionnaire is in Annex 1. The third part contains limits to production and the manager's requests.

2.2 Type of questions

Each questionnaire includes four types of questions:

- Questions referring to actual (present) and expected (future) directions of change. These questions imply a comparison between the quarter surveyed and the last quarter or the next quarter.

- Questions asking the manager to judge the actual (present) level. These questions imply a comparing with the normal.

- Questions concerning present/future business situation.

- Questions asking the managers to state the percentage, such as capacity utilisation.

2.3 Period covered by questions

The time period covered by the different questions is following:

- Questions concerning present tendency compare the current quarter against the previous quarter.

- Questions concerning future tendency compare the next quarter to the current quarter.

2.4 Size of questionnaires

Each questionnaire is designed in one leaf, two pages. The number of question is between 10 and 15. The manager can complete the questionnaire in 15 minutes.

2.5. Sampling

Samples are random samples drawn from the whole population of the enterprises. The large enterprises are exhaustively surveyed. The sample units of medium-size and small enterprises are chosen in the PPS (Proportional Possibility Survey) method.

The sampling frame is extracted from the Establishment Survey by the Censor Centre of NBS. The Establishment Survey is carried out every five years.

3. Operation

National-wide Business Survey is carried out by the Enterprise Survey Organisation (ESO). As a survey organisation under the direct jurisdiction of the National Bureau of Statistics and exercising administrative function of statistical survey, its main responsibilities are followings:

- Regular sampling surveys on the situation of enterprise output, profit and management over all kinds of enterprises.
- Casual sampling surveys and panel surveys on the development of the enterprise reform and market system.
- Analysis and research on government economic decision and corporate management.
- Special survey and research projects entrusted by customer.

ESO has a massive network across China with the Beijing headquarter, 31 provincial branches and 210 prefectural survey teams, and with 7200 qualified surveyors. There are hundreds of full-time persons and thousands of part-time enumerators working for the National-wide Business surveys.

The questionnaires are filled out by the senior management or chief executive. The local ESO are responsible for distributing and collecting the questionnaires. ESO will do data processing and aggregating and publish the final result about the whole country.

Questionnaires are returned to ESO by mail or fax, as well by on-line returns by Internet. The local ESO usually visit/interview the respondents and accompany them in filling the questionnaires. The rate of personal visit by local ESO is about 25% quarterly. Most respondents will be visited in a year. So the response rate increases and is over 95% presently.

4. Data collection and processing

4.1 Data collection

Most questionnaires are returned to local ESO in the first week of the last month in each quarter. As soon as a questionnaire is received, answers are transferred by computer tapes by specialised operators. The answers of each enterprise are transferred in a database, which includes 3 data sets:

- Identification of the enterprise (enterprise code)
- Annual characteristics of the enterprise (e.g.: amount of its sales the previous year)
- Answers to the survey itself

4.2 Data checking

Completed questionnaires received are first subject to preliminary edits by statistician of local ESO and the detail validation checked by computers before tabulation. Such checking includes completeness of entries, consistency among data item and credibility of reported data. Dubious cases are followed up by telephone inquiry or field verification visit.

4.3 Aggregation and weighting

For each sector and each question, the percentages of each possible answer (i.e. + = -) are computed. Within each sector, individual answers are weighted by the size of the answering unit (measured by sales).

Then the percentages of each possible answer computed for each sectors is weighted by the size of the sectors (measured by national account data), and global percentages of each possible answer of each question are computed. For each question, we obtain three global percentages: percentage of “positive change” answers (P), percentage of “negative change” answers (M) and percentage of “unchanged” answer (E). Clearly, it will be P+E+M=100%.

4.4 Calculation of BSI

We use the net balance method in which we calculate the difference between the percentage of “positive change” (P) and “negative change” (M). Those who answer “unchanged” (E) are left out, because the answers do not affect the business development. Then, we calculate diffusion index of each question:

BSI=P - M

5. Data analysis

5.1. Interpretation of BSI

The aggregate results i.e. the BSI, can be used to indicate the likely overall direction of change of a particular activity or sector by calculating the predominance of the percentage of "positive" over "negative" or vice versa and disregarding the "unchanged". The magnitude of the BSI is indicative of the likelihood that the activity or sectors on the whole has moved or is likely to move in a particular direction. A large magnitude implies a strong movement whereas a small magnitude would indicate business uncertainty.

5.2. Classification of BSI

Values of the index are classified into 3 groups: above 0, 0, and below 0. The level of 0 is called critical position. That is;

- BSI>0 means that the growth of the item asked, for example, the production, is higher in the quarter surveyed compared to the previous quarter.

- BSI=0 means that the growth in the quarter surveyed is the same with the previous quarter.

- BSI<0 means that the growth of the item asked is lower in the quarter surveyed compared to the previous quarter.

6. Survey results and application

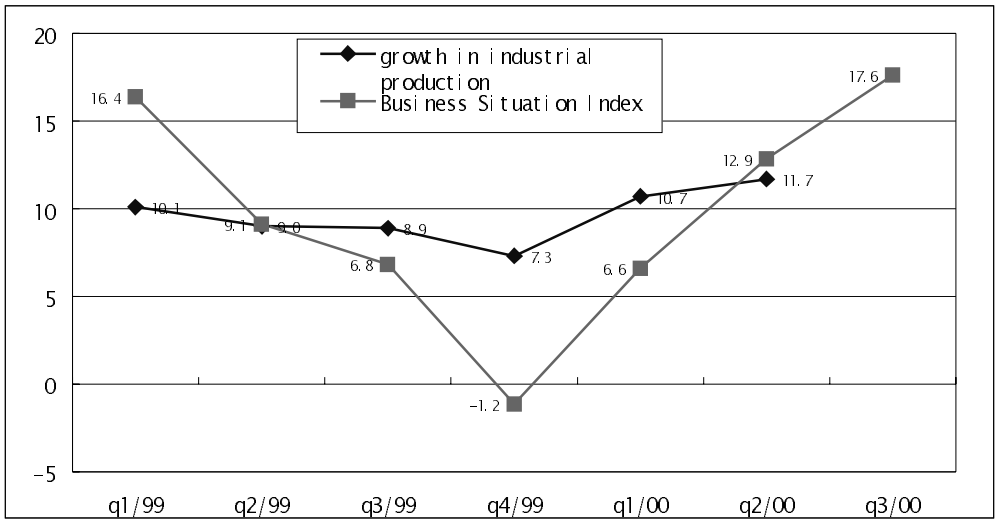
The results of survey are the main foundation to form the basic judgement about the business tendency about the whole national economy and the 6 sectors, and provide the government with suggestion of macro-economical adjustment.

The final results of the National-wide business survey are published in a report before the middle of the first month in the next quarter. At first the report is given to the State Council and the most government ministries. A report giving more information of the survey is released to the general public by the press, such as Xinhua Agency, CCTV, and People Daily several days later. The softcopy report is also available for downloading from our web-site www.stats.gov.cn (in Chinese).

An illustration of the indicators in industry based on business survey results in China is given in figure 1. The result of the survey in industry showed that a close relation exits between Business Situation Index and the growth of industrial production. The correlation coefficient is 0.729.

Figure 1

Correction between Business Situation Index and the growth of industrial production (in %)



7. Questions

(1). How to do seasonal adjustment when the time series is very short?

(2). How to construct composite indicators and monitor business cycle development based on business survey results?

(3). How to deal with enterprise group when it provides several different types of products or services (ex: hotels may combine hotel and restaurant activities).

8. Future development

(1). We will adjust the industries of business survey according to the new Standard Industrial Classification of China.

(2). We will try to construct the composite indicators such as industrial confidence indicator, construction confidence indicator and the confidence of the other sectors and calculate the economic sentiment indicator.

(3). We are planning to develop another kind of business survey named the Monthly Principal Enterprises Business Survey, which includes the largest enterprises in Industry sector based on Quarterly National-wide Business Survey with the object of providing the monthly business activity.

(4). The survey results will be sent to respondents from next year.

ANNEX 1. List Questions of Business Surveys

1. Questions of Business survey in Industry

Question	Variable	Type of Variable/Period Covered
1	General economic situation	Present/future condition, (this quarter and next quarter)
2	Business situation	Present/future condition, (this quarter and next quarter)
3	Order books, total	Present/future level, (this quarter and next quarter)
4	Order books, export market	Present/future level, (this quarter and next quarter)
5	Stocks of finished goods	Present/future level, (this quarter and next quarter)
6	Capacity utilisation	Present/future rate, (this quarter and next quarter)
7	Financing situation	Present/future condition, (this quarter and next quarter)
8	Production	Present/future tendency, (this quarter and next quarter)
9	Sale	Present/future tendency, (this quarter and next quarter)
10	Selling Price	Present/future tendency, (this quarter and next quarter)
11	Employment	Present/future tendency, (this quarter and next quarter)
12	Profit	Present/future tendency, (this quarter and next quarter)
13	Payment delayed by client	Present/future tendency, (this quarter and next quarter)
14	Fix investment	Present/future tendency, (this quarter and next quarter)
15	Limit of production	Present/future condition, (this quarter and next quarter)

2. Questions of Business Survey in Other Sectors

Question	Variable	Type of Variable/Period Covered
1	General economic situation	Present/future condition, (this quarter and next quarter)
2	Business situation	Present/future condition, (this quarter and next quarter)
3	Order books, total	Present/future level, (this quarter and next quarter)
4	Financing situation	Present/future condition, (this quarter and next quarter)
5	Output	Present/future tendency, (this quarter and next quarter)
6	Employment	Present/future tendency, (this quarter and next quarter)
7	Profit	Present/future tendency, (this quarter and next quarter)
8	Payment delayed by client	Present/future tendency, (this quarter and next quarter)
9	Fix investment	Present/future tendency, (this quarter and next quarter)
10	Limit of production	Present/future condition, (this quarter and next quarter)

ANNEX 2. Business Survey Questionnaire in Industry

Item	Current quarter	Next quarter (Forecast)
1. Evaluation of General Economic Situation		
1) General economic situation	Good ( ) Normal ( ) Bad ( )	Good ( ) Normal ( ) Bad ( )
2. Judgement Level on the following items (Condition related to the given quarter)		
2) Business situation	Good ( ) Sufficient ( ) Bad ( )	Better ( ) Sufficient ( ) Worse ( )
3) order books, total	Above normal ( ) Normal ( ) Below normal ( )	Above normal ( ) Normal ( ) Below normal ( )
4) Order books, export market	Above normal ( ) Normal ( ) Below normal ( )	Above normal ( ) Normal ( ) Below normal ( )
5) Stocks of finished goods	Excessive ( ) Proper ( ) Insufficient ( )	Excessive ( ) Proper ( ) Insufficient ( )
6) Capacity utilisation	>=80% ( ) 50-80% ( ) <=50% ( )	>=80% ( ) 50-80% ( ) <=50% ( )
7) Financing situation	Good ( ) Proper ( ) Bad ( )	Good ( ) Proper ( ) Bad ( )
3. Judgement of the direction of change (Compared with the previous quarter)		
8) Production	Increase ( ) Same ( ) Decrease ( )	Increase ( ) Same ( ) Decrease ( )
9) Sale	Increase ( ) Same ( ) Decrease ( )	Increase ( ) Same ( ) Decrease ( )
10) Selling Price	Up ( ) Unchanged ( ) Down ( )	Up ( ) Unchanged ( ) Down ( )
11) Employment	Increase ( ) Same ( ) Decrease ( )	Increase ( ) Same ( ) Decrease ( )
12) Profit	Increase ( ) Same ( ) Decrease ( )	Increase ( ) Same ( ) Decrease ( )
13) Payment delayed by client	Increase ( ) Same ( ) Decrease ( )	Increase ( ) Same ( ) Decrease ( )
14) Fix investment	Increase ( ) Same ( ) Decrease ( )	Increase ( ) Same ( ) Decrease ( )

4. Answers Question	
15) Limit of production	• Insufficient demand • Lack of equipment or technology • Shortage of finance • Poor management • Delay payment by client • Debt and burden • Cost of labour • Cost of finance • Competition in own sectors • Other, please specify

CHINA INDUSTRIAL BUSINESS SURVEY CONDUCTED BY SIC

by Gao Huiqing – State Information Centre, China

1. Introduction

The purpose of this paper is to give a review of recent progress in adapting the Harmonised and Standard BTS in the China Industrial Business Survey, conducted by the Department of Economic Forecasting of State Information Centre and its future outlook.

The focus of the paper includes: recent progress in adapting the Harmonised and Standard BTS, problem and issues involving the adoption of the Harmonised and Standard BTS and future plans.

There are two organisations conducting BTS in China. One is National Bureau of Statistics (NBS); the other is State Information Centre (SIC). The status of BTS in NBS, which covers many national industrial sectors, should be described in the BTS' report. This paper is restricted to the industrial business survey conducted by SIC.

2. Background of the organisation

SIC came into existence in 1986. In the early stage, as an underling institution of the State Planning Commission (In 1998, it renamed as State Development Planning Commission), SIC took on the task to provide consultation services for the decision-making of the National Plan Committee with all the relative funds coming from the governmental appropriations. Since 1996, as the reform of governmental structure goes on, the financial assistance provided by the government has been becoming less and less. After 2001, SIC will obtain no money except the wages of some employees from the government. Until now, SIC has initially changed its operational mechanism into a market-oriented one, with the most of its capital gained by selling databases, economic consultation reports and supplying internet information services.

The Department of Economic Forecasting of SIC is one of the most authoritative organisations for economic analysis and forecast in China. Besides national business cycle monitoring and forecasting, the department also studies international economy, money market and industrial economy. As a UN's co-operation partner of the LINK project and the UNIDO project, it has gained its reputation in broadly international co-operations. It has two investigative systems developed respectively for industrial business survey and consumers' intention survey. By utilising the first-hand data from both systems, researchers are able to adjust their judgements, which are usually derived out with the aid of econometric models and other analytical tools, on economic situations more accurately. It also publishes some periodicals, e.g. Economic Forecasting and Analysis (printed weekly), Analysis of Macro-economy Dada (printed monthly) and Prospects on Chinese Economy (printed annually).

3. Recent status of the China Industrial Business Survey

In the first quarter of 1990, the Industrial Business Survey was conducted for the first time in China by the Department of Economic Forecasting of SIC. Before the year 1992, the survey had touched upon only about 1000 manufacturing enterprises in three provinces and two municipalities. Up to 1997, there were more than 7000 enterprises, coming from eleven provinces and four municipalities, to join the survey. Since 1998, the government has ceased the financial assistance to our survey. We has to raise all of money. Due to the shortage of funds, this survey has been suspended in one province and two municipalities. Now there are about 5000 enterprises, separately belonging to thirty-seven sectors, to take part in the survey on quarterly basis.

4. Progress in adapting the Harmonised/Standard BTS

4.1 Information requested

There are 26 indices involved in our survey. Those indices are related to Marco-economic environment, consumption of energy, loans of bank, production, efficiency, income of worker and investment plan, respectively.

It takes about 30 minutes to fill out a questionnaire.

Main series published by SIC are as follows.

1. General situation
2. Production bottlenecks
3. Increasing rate of value added
4. Production
5. Capacity utilisation
6. New orders
7. Purchase of energy
8. Purchase of raw materials
9. Energy prices
10. Raw material prices
11. Circulation funds
12. Finished goods stocks
13. Selling prices
14. Gross sales
15. Profit or loss
16. Income of employees
17. Cost of goods manufactured
18. Investment intent

4.2 Form of questions

Each respondent is requested to give his judgement on the actual current situation and the tendency for the coming quarter upon each indicator. Qualitative questions of the three-fold multiple-choice type are used for most variables. What a respondent need to do is just to tick the corresponding number he chooses.

4.2.1 Appreciation of current situation

We design the types of questions the same as that used in OECD countries, the pre-printed answers for the assessments of the current situation are as follows:

A fast	B normal	C low
A enough	B normal	C short
A good	B normal	C bad

4.2.2 Expectation for the next quarter

The expectation for the next quarter, comparing with the recent quarter, takes one of the following forms:

A faster	B same	C lower
A more	B same	C less
A better	B same	C worse

Above forms of questions are applied to almost all variables except for two, i.e. production bottlenecks and intent of investment.

4.2.3 Production bottlenecks

The form of questions for production bottlenecks is of five-fold multiple-choice type. All the respondents tick the relevant number according to the degree of its importance that he appreciates. The pre-printed answers cover the following alternatives:

Shortage of order books

a. First b. Second c. Third d. Fourth c. Fifth

Shortage of skilled workers

a. First b. Second c. Third d. Fourth c. Fifth

Shortage of good production

a. First b. Second c. Third d. Fourth c. Fifth

Shortage of circulation funds

a. First b. Second c. Third d. Fourth c. Fifth

Shortage of raw materials

a. First b. Second c. Third d. Fourth c. Fifth

4.2.4 Intent of investment

The pre-printed answers for investment intent just cover two alternatives:

Do your company has investment plans in the future 6 months?

a. Yes b. No

4.3 Sample selection

In the selection of participants in the China Industrial Business Survey, the statistical-register type of frame is used. The sampling unit is an enterprise.

The sampling method used by us is the stratified random sampling type. Large enterprises are almost chosen for each time. A random sub -sample is drawn from the others.

4.4 Survey characteristics

The China Industrial Business Survey is conducted on a quarterly basis. The size of the sample is about 5000 units.

The representativeness of the sample is expressed in terms of the value added. The coverage is in the range of 20 to 50 percents for each industrial branch.

The response rate is over 90 percents.

4.5 Data collection

Generally, the questionnaires are mailed to enterprises about 20 days before the deadline for return. Each enterprise is requested to fill it out by persons at the senior management level. When respondents finish the forms, they mail returns to local economic information centres. After researchers who are in charge of the BTS in local economic information centres input all data into computers, they send us the databases by e-mails.

4.6 Aggregation method

In the calculation procedure for aggregation of survey results, a weighting method is used with value added as the weighs. The final sample results are extended to all population levels for each industrial branch.

5. Utilisation of survey results

Comparing with industrial realities, the results of our survey are proved trustworthy to a great extent.

The statistical series of weighting results for the order books is a good leading indicator for the growth rate of value-added. It is an important index for us to forecasting the future situation of industry.

We calculate a composite index by averaging weighting results of four variables, namely production, new orders, gross sales and profit or loss. When the composite index goes up, it means that industrial activity is increasing; when the composite index gets down, it makes clear that the activity is declining.

The survey results of investment intent are often used to adjust our opinions on the future investment activities.

6. Dissemination of BTS results

The reports on industrial business surveys are not only sent to the State Council and the State Development Planning Commission, but also made known by the press, such as Economics Daily, China Bonds and CCTV (China Central TV). Through disseminating survey reports widely, the China Industrial Business Survey has won a high reputation.

7. Problems and difficulties

i) Because we lack actual experience of utilising some techniques such as composite indicators and diffusion indices, if possible, the relevant guidance is welcome.

ii) The industrial classification in China differs to that in Europe. It may result in some trouble for international comparisons.

iii) Since 1997, we have stop returns of respondents with regard to financial factors. The size of sample has reduced and the qualities of survey results become a little worse.

iv) For majority of respondents, it is difficult to give assessment for some variables particularly for international variables, such as demand from abroad, more than 3 months ahead.

8. Future activities

In the next phase, we have a long-term plan to improve the China Industrial Business Survey by taking the following measures:

i) Return survey results to respondents as acknowledgement for their participation.

ii) Calculate the Diffusion Index based on BTS data as a tool of economic analysis.

iii) Modify the China Industrial Business survey to become a harmonised survey before the headline requested, if we can come to an agreement on it in the meeting.

iv) Change the survey of investment into a harmonised type.

9. Conclusion

Generally, we are very interested in the harmonised BTS. It is an aim for us to improve our survey. There will exist little technical difficulties for us to do that. However, how many steps described in Part 7 will come to true depend on the amount and course of our financing. If we can obtain enough financial assistance, our BTS are going to extend some important non-manufacturing sectors. If there is not enough money, we maybe conduct the survey in the Internet in order to reduce costs.

Sample company code □ • • • • • • • • • • • •

Department of Economic Forecasting
State Information Centre

Questionnaire for China's Industrial Survey

Name of the company official filling-in the schedule •
Post •_____ Date •___(day/month/year)

General situation of the company

Name of the company •_____ legal person•_____.

Gross industrial output value in last year •_____•a t current price, 1,000yuan•

Address in detail •___Province(district, municipalities)___Prefecture(city)___County_____Residential district(township), No.__.

Post code •_____ Tel. No. •_____.

Scale •Please mark "✔" at the appropriate cell •
1. Large enterprises
2. Medium-sized enterprises
3.Small enterprises

Type •Please mark "✔" at the appropriate cell •
1. State-owned enterprises
2. Collective-owned enterprises
3. Individual-owned enterprises
4. Share-holding corporations
5. Enterprises funded by foreigners
6. Enterprises funded by entrepreneurs from Hong Kong, Macao and Taiwan
7. Enterprises of other types of ownership

Industrial branch •Please tick at the appropriate number•	
06 Coal mining and processing	27 Medical and pharmaceutical products
07 Petroleum and natural gas extraction	28 Chemical fibre
08 Ferrous metals mining and dressing	29 Rubber products
09 Non-ferrous metals mining and dressing	30 Plastic products
10 Non-metal minerals mining and dressing	31 Non-metal mineral products
13 Logging and transport of timber and bamboo	32 Smelting and pressing of ferrous metals
14 Food processing and production	33 Smelting and pressing of non-ferrous metals
15 Beverage production	34 Metal products
16 Tobacco processing	35 Ordinary machinery
17 Textile industry	36 Special purposes equipment
18 Garments and other fibre produce	37 Transport equipment
19 Leather, furs, down and related produces	40 Electric equipment and machinery
20 Timber processing, bamboo, cane, palm fibre and straw production	41 Electronic and telecommunications
21 Furniture manufacturing	42 Instruments, meters, cultural and clerical machinery
22 Papermaking and paper products	43 Other manufacturing
23 Printing and record medium reproduction	44 Production and supply of power, steam and hot water
24 Cultural, educational and sports goods	45 Production and supply of gas
25 Petroleum refining and cooking	46 Production and supply of tap water
26 Raw chemical materials and chemical products	

A□Macro-economic situation□□choose appropriate number corresponding your answer□

	this quarter	next quarter comparing with this quarter
Macro-economic situation	a good b normal c bad	a better b same c worse

B□General Business situation

	this quarter	next quarter comparing with this quarter
General Business situation	a good b normal c bad	a better b same c worse

Bottleneck	this quarter	next quarter
a Shortage of order books	**1 2 3 4 5**	**1 2 3 4 5**
b Shortage of skilled worker	**1 2 3 4 5**	**1 2 3 4 5**
c Shortage of good production	**1 2 3 4 5**	**1 2 3 4 5**
d Shortage of circulation funds	**1 2 3 4 5**	**1 2 3 4 5**
e Shortage of raw materials	**1 2 3 4 5**	**1 2 3 4 5**

Check the corresponding number according to the degrees of importance you appreciate

C

	this quarter	next quarter comparing withthis quarter
Increasing rate of industrial value added ❶	a fast b normal c low	a faster b same c lower
New orders	a enough b normal c short	a more b same c less
Output of products	a enough b normal c short	a more b same c less
Capacity utilisation	a enough b normal c short	a more b same c less
Finished goods stocks	a low b normal c high	a less b same c more

❶•Choose the answer "fast" when the increasing rate of industrial value added is above 10%, choose the answer "normal" when the rate is between 5% and 10%, and the "low" for those below 5%.

	this quarter	next quarter comparing with this quarter
C21 Supply of energy	a enough b normal c short	a more b same c less
C22 Supply of raw materials	a enough b normal c short	a more b same c less
C23 Purchasing price of energy	a low b normal c high	a lower b same c higher
C24 Purchasing price of raw materia	a low b normal c high	a lower b same c higher

	this quarter	next quarter comparing with this quarter
C30 Circulation funds	a enough b normal c short	a more b same c less
C31 Short-term loan	a enough b normal c short	a more b same c less
C32 Stocks	a enough b normal c short	a more b same c less

	this quarter	next quarter comparing with this quarter
C41 Gross sales	a enough b normal c short	a more b same c less
C42 Prices of sale	a high b normal c low	a higher b same c lower
C43 Profit or loss	a profit b unbiased c loss	a better b same c worse
C44 Income of worker	a high b normal c low	a higher b same c lower
C45 Cost of goods manufactured	a high b normal c low	a higher b same c lower

D

Do your company has investment plans in the future 6 months?	
a. Yes	**b. No**

BT-CBRD BUSINESS TENDENCY SURVEY: SINGAPORE

by Chow Kit Boey – National University of Singapore

A quarterly business survey to track the business climate in Singapore was launched in January 1996 by The Business Times and CBRD. The survey is the first in Singapore covering all sectors of the economy.[3] It aims primarily to develop a quarterly index of business activity for monitoring the performance of Singapore corporate sector. A secondary objective is to reflect and ascertain any difference in performance with respect to firm size and equity ownership.

This paper provides background information on the survey procedure and some of the survey findings as inputs to the process of harmonizing and strengthening business tendency surveys in the region. Some background information on CBRD is presented first.

1. CBRD

Established in December 1990, the Centre for Business Research and Development (CBRD) is an applied research unit of the Faculty of Business Administration, National University of Singapore. CBRD aims to be the focal point for private sector-university-government interaction in activities relating to business research and development.

Since its inception, the Centre has undertaken 186 projects for over 100 companies or organisations. Apart from associate researchers from within and outside the faculty, the Centre is supported by six full-time research fellows and analysts, two part-time administrative and clerical personnel, and one part-time director.

CBRD projects can be broadly classified into five areas:

i) market studies (e.g. customer satisfaction survey of medical services in Singapore, consumer education on credit card services, effectiveness of bus advertisements, focus group on instant noodles consumption pattern);

ii) industry studies (e.g. liberalization of shipping agencies in Singapore, IT awareness, acceptance and adoption, the capital structure of food and agribusiness corporations in S.E. Asia, internet survey on electronic commerce);

iii) forecasts (e.g. a delphi study of future lifestyles and consumption patterns in Singapore, leading indicators for the Singapore economy, estimating import demand functions, econometric modeling and forecasting system);

[3] *There are two official expectations surveys covering manufacturing and commerce & services respectively. The construction sector is not included in these surveys.*

iv) entrepreneurship (e.g. a study on entrepreneurial culture in Singapore, business planning for better management, viable business checklist, "How to" seminar series, best business idea competition); and

v) Asia-Pacific studies (e.g. regional co-operation and growth triangles in ASEAN, promotion of investment in countries of early stages of tourism development, business expectations survey of operations in China and India).

2. BT-CBRD Business Activity Survey

This joint survey between the academia and a media organisation aims in the long run to develop an index of business activity reflecting the performance of Singapore corporate sector and the overall economy. In the short run, its objective is to ascertain any performance differential between small and large companies and between local and foreign companies.

3. Survey methodology

A mail survey is chosen for cost and time considerations. A one-page questionnaire was mailed out to 1,000 firms in the first year of the survey. The sample was reduced to 750 subsequently with no significant reduction in the number of responses from the firms. The questionnaire covers changes in sales, profits, orders, and business prospects compared to a year ago. Firms are also asked to indicate the extent of changes in sales (from >25% lower to >25% higher), and profits (from >10% lower to >10% higher). Reasons for the sales and profit performance (e.g. poorer demand, higher material costs, increased product lines) were also covered until 1998.[4] Each round of the survey carries a special question. For instance, the latest twentieth survey asked for the average expenditure on workers' training and skills development in 2000. (A copy of the latest questionnaire is attached in the Appendix.)

Initially the survey sample comprised 200 largest manufacturing firms, 200 largest services firms in Singapore,[5] and 600 representative firms obtained from the Department of Statistics (DOS), Ministry of Trade and Industry. After one year, the mailing list was revised. Only 115 firms from the DOS list that have responded at least once to the survey were retained. The survey sample was extended to include 235 members of the Association of Small and Medium Enterprises. The smaller survey sample did not affect the profile of the respondents as shown in Appendix Table 1.

Generally, the survey questionnaires are sent out in the last week of the quarter to be surveyed. The survey closes in the middle of the following month after reminders by fax or telephone whenever necessary. The survey report is completed by the end of the month. Highlights of the results are reported in The Business Times. The respondents receive a copy of the summary report prior to the release of the results in the press.

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[4] *The reasons were dropped when the pattern of responses became stabilized. It was observed that demand affected sales and sales in turn affected profits. Since the Asian financial crisis, demand has become a more significant factor than competition for sales, and poorer sales has overtaken lower selling prices in the case for lower profits.*

[5] *From* **Singapore 1000 Industrial 1994** *and* **Singapore 1000 Services 1994** *respectively*.

An internet form of the survey questionnaire was started in 1999Q4. It was noted after three rounds of the survey that though some respondents welcomed the new survey mode, they did not respond as frequently as previously. Hence, a hard copy was sent to all companies in 2000Q3 but participants are given the choice of responding through the internet.

4. Profile of respondents

The number of respondents increased from 120 in the first survey to 162 in the eighth survey, and has fluctuated around 140 since then (Appendix Table 1). Correspondingly, the response rate has increased from 12% in the first survey to 22% in the eighth, after which it has been around 19%.

Around half (41%-55%) of the firms are wholly or majority foreign owned. Among firms which indicated country of origin, the largest proportion (35%-54%) are Japanese companies. American companies are the second largest group (14%-31%) of foreign firms.

Over two-thirds (66%-81%) are large firms, i.e. firms with at least S$5 million sales for services industries or at least S$10 million sales for manufacturing industries. A majority (57%-70%) of the respondents are firms with annual sales not exceeding S$100 million.

The largest proportion (31%-48%) of the firms is in the manufacturing sector. Firms engaged in commerce or financial and business services account for 14%-29% each of the total number of respondents.

5. Net balances

Firms are asked to indicate the changes in their sales, profits and orders in the immediate past quarter compared to the same quarter a year ago. Their views on business prospects in the next six months as compared to a year ago are also obtained.

The survey responses are computed as net balances. The overall net balance[6] for each performance measure -- sales, profits, orders, and business prospects -- is weighted by sectoral GDP and by size of firms.[7]

The survey results, as shown in Table 1, reveals that business conditions began to weaken in 1996Q3 with all four net balances having negative values. The number of firms with lower sales exceeded those with higher sales. Those with lower profits outnumbered those with higher profits by a large percentage. There were more firms with lower orders than those which received more orders. And pessimistic firms dominated for the first time since the survey began one year ago.

Table 1 reflects also the impact of the Asian financial crisis on the Singapore economy. The negative net balances in sales, profits, orders/new businesses, and business prospects deteriorated further till 1998Q2 when record lows of between -68% (sales) and -77% (business prospects) were registered.

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[6] Net balances are computed for small, large, local and foreign firms. These are weighted by sectoral GDP.

[7] Firms are broadly classified into large and small firms and the weights are 0.1 for small firms and 0.9 for large firms, based on the shares of sales/operating receipts in the whole economy compiled from various survey reports.

This provided early indications that the economic slowdown would be leveling off, as observed in the quarterly GDP growth rate which reached a trough in 1998Q4, that is, two quarters after the trough in the net balances.

All the net balances became positive in 1999Q2 and remained in the positive territory for the next three quarters till 2000Q1. Indications that the economic upturn was approaching a plateau were revealed in 2000Q2 when profit net balance became negative and the net balance in business prospects declined. Preliminary estimates of GDP suggest that the growth rate in 2000Q3 is slightly above 10%. Very likely this would be the peak in GDP growth. And when this is confirmed, then the survey net balances would have led by two quarters again.

Table 1.

Overall Net Balances, 1995q4-2000q3

Yr/Qtr	**Sales**	**Profits**	**Orders/New Business**	**Business Prospects**
1995Q4	19%	-15%	20%	6%
1996Q1	22%	-8%	10%	22%
1996Q2	7%	-1%	12%	4%
1996Q3	-5%	-31%	-6%	-26%
1996Q4	-4%	-36%	-9%	-10%
1997Q1	-7%	-23%	-4%	-12%
1997Q2	-28%	-38%	-15%	-15%
1997Q3	-15%	-36%	-29%	-26%
1997Q4	-33%	-43%	-46%	-69%
1998Q1	-45%	-52%	-61%	-68%
1998Q2	-68%	-75%	-73%	-77%
1998Q3	-59%	-66%	-72%	-75%
1998Q4	-52%	-58%	-56%	-53%
1999Q1	-12%	-22%	-17%	-4%
1999Q2	8%	7%	26%	61%
1999Q3	16%	14%	13%	47%
1999Q4	28%	21%	33%	57%
2000Q1	30%	20%	20%	45%
2000Q2	15%	-2%	25%	37%
2000Q3	38%	-4%	39%	37%

The four net balances in sales, profits, orders and business prospects have been found to be strongly related. Simple regression results show that sales net balance is significantly related to net balances of profits, orders and business prospects.[8] The R^2 values are 0.948 for profits, 0.930 for orders and 0.874 for business prospects. (Lagged orders of one period produced a lower, but still significant R^2.)

[8] *At a significance level of 5% (i.e. p-value of 0.05). Chow Kit Boey and Louis Ta, "An Overall Index of Business Activity of Singapore Economy", presented at 24th Ciret Conference, 1999.*

6. Special question

Apart from the standard questions on sales, profits, orders/new businesses and business prospects, a question is asked on different topics each quarter. These questions are:

i) the top concern for business (in the fourth quarter survey of each year);

ii) investments for the year compared to the previous year (in the first quarter survey);

iii) Singapore GDP growth in the year (in the second quarter survey).

The other non-regular questions are:

i) the impact of Asian financial crisis on sales;

ii) duration of slowdown due to the crisis;

iii) most important measures that the government can introduce to enhance Singapore's competitiveness;

iv) likelihood of retrenchment of staff in 1999;

v) restoration of the 10% cut in employers' CPF; and

vi) average training expenditure for staff in 2000.

A list of the questions and the main findings are tabulated in Appendix Table 2.

7. Comparison with official net balances

Under the Ministry of Trade and Industry are two expectations surveys. The Survey of Business Expectations of the Manufacturing Sector Singapore is conducted by the Economic Development Board, while Business Expectations: Commerce and Services Sectors is conducted by the Department of Statistics.

Changes in activities in the quarter covered in the two official surveys are with reference to that of the previous quarter. Hence the net balances contain seasonal factors. The BT-CBRD net balances are on a year-on-year basis and are thus deseasonalised. Because of this difference in reference periods, the net balances from the two sources could not be compared directly.

Since the net balances in business prospects exhibit little seasonality, an earlier study has attempted to compare the survey results. Simple regression analyses showed that net balances in business prospects of the manufacturing sector in both surveys are significantly correlated with an R^2 of 0.797.[9] Similarly, an R^2 of 0.790 was computed between the business prospects net balances of the financial services sectors. Significant results were also obtained for commerce and business services sectors, though the R^2 values were smaller. Insignificant correlations were obtained for the transport and

[9] *Chow Kit Boey and Louis Ta, "An Overall Index of Business Activity of Singapore Economy", presented at 24th Ciret Conference, 1999.*

communications, and real estate sectors. (The latter is a small subset of BT-CBRD financial and business services sector.)

As a high degree of consistency or agreement exists between the two sources of survey results for the three largest economic sectors in Singapore -- manufacturing, financial and business services, and commerce -- one can conclude that the smaller BT-CBRD survey is effective in capturing the business activities in the whole economy.

8. Comparison with GDP

BT-CBRD net balances in total sales and in sales of the five sectors -- manufacturing, construction, commerce, transport and communications, and financial and business services -- have been regressed with their corresponding GDP growth rates for the period 1995Q4-1998Q3.

The regression results showed significant correlations between net balances and GDP growth rate for four out of six equations.[10] The highest correlation was obtained for the commerce sector (R^2 of 0.667) and the lowest for manufacturing (R^2 of 0.398). Total sales net balance was significantly related to GDP (R^2 of 0.428).

The findings implied that it may be possible to construct an index from the BT-CBRD net balances to reflect GDP growth in the Singapore economy.

9. Composite index

Two composite indices were constructed and assessed for their predictive power of GDP growth. The components of each index are the same, namely BT-CBRD net balances of sales, profits, orders and business prospects. The difference lies in the weights used. The first index, C1, used weights based on the coefficient of determination R^2 between sales net balance and each of the other three net balances. The second index, C2, used weights based on the R^2 between GDP growth rate and each of the net balances.

The compilation of the indices is as follows:

a. The sum of the R^2 values of the net balances is adjusted to 1.

b. The adjusted values are adopted as weights.

c. Each net balance data series is multiplied by its weight, giving a weighted net balance.

d. The weighted net balances are added for each quarter, resulting in a weighted average net balance for each quarter.

e. A value of 100 is added to each weighted average net balance because of negative net balances.

f. An index is compiled with the first data value made equal to 100.

[10] *The other two equations are significant at the 10% level.*

The two indices contain similar values with the highest at 104 in 1996Q1 and the lowest at 25 in 1998Q2. The weights for C1 range from 0.233 (business prospects) to 0.2665 (sales), whereas the weights for C2 range from 0.2127 (orders) to 0.2692 (profits).

C1 explains the variations in GDP growth rates slightly better ($R^2 = 0.454$) than C2 ($R^2 = 0.418$). But C1 has a larger standard error than C2 (3.076 vs 2.895). The predicted GDP growth rate for 1998Q4 from C1 is, however, more accurate than that of C2 based on the lower end of the prediction range in both cases. C1 gives a prediction of 0.23% growth, while the predicted growth rate of C2 is 1.12%, as against a preliminary estimate of -0.8%.

10. Concluding remarks

The analysis shows that the small sample BT-CBRD survey tracks the business activity level in Singapore relatively well. Apart from its low cost, the survey provides prompt release of its findings and early signals of economic changes in Singapore.

APPENDIX TABLE 1. BT-CBRD SURVEYS, I-XX

	I	II	III	IV	V	VI	VII	VIII	IX	X
1. **Sample (Number mailed out)**	1000	1000	1000	1000	750	750	750	750	750	750
2. **Response Rate**										
(a) **Number**	120	137	147	150	158	152	148	162	153	156
(b) **%**	12.0	13.7	14.7	15.0	21.1	20.3	19.7	21.6	20.4	20.8
3. **Profile**										
(a) **% Foreign - wholly** **- majority**	33 12	37 13	42 13	33 20	32 15	35 13	38 13	31 17	33 12	28 17
(b) **% Large**	66.1	69.9	72.7	74.5	72.0	75.0	76.2	74.5	79.1	68.6
(c) **≤100m sales**	70	64	64	61	64	60	58	62	58	65
(d) **% manufacturing**	-	31	33	35	34	43	41	38	42	41
% commerce	-	28	29	25	27	19	20	21	17	24
% financial and business	-	17	14	17	23	22	25	29	23	22
(e) **Number (%) of foreign firms+**	36	59	72	78	73	72	74	77	67	68
Japan	15 (42)	22 (37.2)	36 (50.0)	33 (42.3)	30 (41.1)	27 (37.5)	28 (37.8)	30 (39.0)	26 (38.8)	25 (36.8)
US	5 (14)	17 (28.7)	17 (23.6)	24 (30.8)	18 (24.7)	15 (20.8)	19 (25.7)	18 (23.3)	14 (20.9)	14 (20.6)
Germany	1 (0.03)	1 (0.02)	1 (0.01)	3 (3.8)	3 (4.1)	10 (13.9) *	4 (5.4)	3 (3.9)	3 (4.5)	5 (7.4)
UK	2 (5.5)	2 (3.4)	4 (5.6)	4 (5.1)	5.6 (6.8)	5 (7.0)	5 (6.8)	6 (7.8)	6 (9.0)	4 (5.9)

	XI	XII	XIII	XIV	XV	XVI	XVII	XVIII	XIX	XX
1. **Sample (Number mailed out)**	750	750	750	750	750	750	750	750	750	750
2. **Response Rate**										
(a) **Number**	157	147	156	142	146	142	145	136	142	138
(b) **%**	20.9	19.6	20.8	18.9	19.5	18.9	19.3	18.1	18.9	18.4
3. **Profile**										
(a) **% Foreign - wholly**	34	35	32	33	37	35	33	28	30	30
- majority	19	11	13	17	12	12	17	13	14	13
(b) **% Large**	77.7	73.5	76.9	74.6	78.1	73.9	81.4	77.2	76.1	73.9
(c) **≤100m sales**	61	62	62	62	60	67	57	60	67	67
(d) **% manufacturing**	48	41	40	46	37	40	41	40	38	34
% commerce	18	18	24	18	24	25	20	23	20	27
% financial and business	20	25	20	19	20	16	20	19	19	22
(e) **Number (%) of foreign firms+**	81	68	71	70	71	67	73	56	62	59
Japan	34 (42.0)	26 (38.3)	25 (35.2)	28 (40.0)	33 (46.5)	22 (32.8)	33 (45.2)	30 (53.6)	27 (43.5)	25 (42.3)
US	15 (18.5)	15 (22.1)	15 (21.1)	15 (21.4)	16 (22.5)	14 (20.9)	14 (19.2)	8 (14.3)	15 (24.2)	17 (28.8)
Germany	5 (6.1)	2 (2.9)	6 (8.5)	4 (5.7)	2 (2.8)	3 (4.5)	4 (5.5)	3 (5.3)	3 (4.8)	3 (5.1)
UK	6 (7.4)	4 (5.9)	5 (7.0)	4 (5.7)	3 (4.2)	5 (7.5)	5 (6.9)	2 (3.6)	4 (6.5)	3 (5.1)

[+] *Firms which indicated country of origin.*

[*] *Refers to total for Germany, Australia, Indonesia, Malaysia and New Zealand.*

Appendix Table 2 : Special Questions for BT-CBRD Surveys, I - XX

	Questions	**Results**	**% of Respondents**
1995Q4	1. The No. 1 concern for my business today is	Costs	36.8
1996Q1	1. Compared to 1995, investments for this year will be	Higher	42.0
1996Q2	1. Singapore's GDP growth in 1996 will likely be	8% (median)	-
1996Q3	1. The current economic slowdown will probably last	Mid 1997	54.0
1996Q4	1. The No. 1 concern for my business in 1997 is	Business Prospects	30.2
1997Q1	1. Compared to 1996, investments for this year will be	Unchanged	36.0
1997Q2	1. Singapore's GDP growth in 1997 will likely be	6% (median)	-
1997Q3	1. The impact of the regional currency turmoil on sales is likely to be 2. Over 50 per cent of sales are for	Negative Singapore	55.0 52.8
1997Q4	1. The Number One concern for my business in 1998 is	Business Prospects	37.0

1998Q1	1. Compared to 1997, investments for this year will be 2. Compared to 1997, sales for this year will be	Lower Up to 25% lower	45.0 48.0
1998Q2	1. Singapore's growth for 1998 will likely to be	1% (median)	-
1998Q3	1. Three most important measures which the government can introduce to enhance Singapore's competitiveness are: 2. Given the current situation, when do you think your industry will start to recover from the regional meltdown?	Costs reduction 2 years from 1998	68.0 72.0
1998Q4	1. The Number One concern for my business in 1999 is 2. My company is likely/ unlikely to retrench staff in 1999.	Business Prospects Unlikely	40.0 81.0
1999Q1	1. Compared to 1998, investments for this year will be 2. Compared to 1998, sales for this year will be	Worse Better	50.0 42.0
1999Q2	1. Singapore's GDP growth for 1999 will be 2. The best performing sector in 1999 in Singapore will be	2.5% (median) Manufacturing	- 43.0
1999Q3	1. The 10% cut in employers' CPF	Should be restored	55.0
1999Q4	1. The Number One concern for my business in year 2000 is	Competition	28.0
2000Q1	1. Compared to 1999, investments for this year will be 2. Compared to 1999, sales for this year will be	Better Better	46.0 60.0
2000Q2	1. Singapore's GDP growth for 2000 will likely be 2. The best performing sector in 2000 in Singapore will be	6.5% (median) Manufacturing	- 44.0
2000Q3	1. Besides the mandatory Skills Development Levy, has your company set aside funds for workers' training and skills development in 2000?	Yes S$400.00 (median)	73.0

BT-CBRD BUSINESS ACTIVITY INDEX

A Questions 1, 2 and 3 relate to the July-September 2000 quarter. Compared to the same quarter a year ago (July-September 1999):

1. Sales were:

- ☐ > 25% lower
- ☐ Up to 25% lower
- ☐ Unchanged
- ☐ Up to 25% higher
- ☐ > 25% higher

2. Profits were:

- ☐ > 10% lower
- ☐ Up to 10% lower
- ☐ Unchanged
- ☐ Up to 10% higher
- ☐ > 10% higher

3. Orders were:

- ☐ Much lower
- ☐ Lower
- ☐ Unchanged
- ☐ Better
- ☐ Much better

B Compared to a year ago, business prospects in the next six months look:

☐ Much worse ☐ Worse ☐ Unchanged ☐ Better ☐ Much better

C Besides the mandatory Skills Development Levy, has your company set aside funds for workers' training and skills development in 2000?

☐ Yes
On average, how much do you set aside per worker? S$_____

☐ No
If No, why?

_____

_____

_____

D Company particulars (if you are responding for the first time)

Sales in 1999:

- ☐ Less than $100,000
- ☐ $100,000 - $1 million
- ☐ $1 million - $5 million
- ☐ $5 million - $10 million

Sector:

- ☐ Manufacturing
- ☐ Construction
- ☐ Commerce
- ☐ Transportation and

Ownership:

- ☐ Wholly local
- ☐ Majority local
- ☐ Wholly foreign*
- ☐ Majority foreign*

☐ $10 million - $50 million
☐ $50 million - $100 million
☐ $100 million - $500 million
☐ $500 million and above
(Please specify: _____)

Communications
☐ Financial and Business Services
☐ Other Services

*Country of origin:
_____

Thank you for your participation

Please attach your name card here if you are a new respondent or there is a change in your particulars

Please give us your e-mail address if you are interested in participating in subsequent surveys through the Web.

E-mail: **_____**

PART II

EXPERT PAPERS

REVIEW OF CURRENT INTER-COUNTRY COMPARABILITY OF BUSINESS TENDENCY SURVEYS IN THE ASIA/PACIFIC REGION

by Ronny Nilsson - OECD

1. Introduction

The harmonisation of business tendency surveys is very important if the results are to be used for international comparisons of short–term economic developments. Lack of harmonisation with regard to definitions, question format, periodicity etc. creates difficulties when comparing data from different countries. The system of harmonised business tendency surveys by the European Commission (EC) therefore represents useful progress in this field since it makes it possible to compare countries within the European Union (EU).

The development of harmonised business tendency surveys in transition countries in Central and Eastern Europe is a further step in this direction which enables the compilation of data comparable between transition countries and with OECD Member countries located in Europe and European Union. Introduction of harmonised business tendency surveys in Asian/Pacific countries would represent further progress in establishing comparable data on an international level.

The requirements needed to obtain harmonised business tendency surveys in industry in Asian/Pacific countries comparable with the harmonised business tendency surveys in industry in EU and transition countries in Central and Eastern Europe cover the following aspects:

- Content (questions or variables included in the questionnaire);
- Definitions and specifications;
- Type of variable (form of question);
- Period covered by variable;
- Frequency and
- Timing of survey;
- Classifications;

Implementation of above requirements would give as a result fully harmonised surveys. However a first step in harmonisation is the adoption of a core set of standard questions in the business surveys in Asia/Pacific region to make inter-country comparisons possible. For this purpose the harmonised business survey in industry in EU countries and transition countries in Central and Eastern Europe is used as reference frame. This would make business tendency survey results comparable across countries on a broad international level.

A standard set of business survey questions would require harmonisation in the following aspects:

- content (questions or variables included in questionnaires);
- type of variable (form of question);
- period covered by variables.

The first workshop on business tendency surveys for Asia/Pacific countries in Manila in 1999 discussed the individual questions to be included in a possible harmonised business survey in Asia/Pacific countries. The questions considered are set out in the tables below.

Harmonisation of business tendency surveys

1 Harmonised questions: Business surveys in industry

Question	Variable	Type of Variable/Period Covered
1	Production	present tendency, (3-4 months ago)
2	Production	future tendency, (3-4 months ahead)
3	Order books, total	present level
4	Order books, export market	present level
5	Stocks of finished goods	present level
6	Selling prices	future tendency, (3-4 months ahead)
7	Employment	future tendency, (3-4 months ahead)
8	Limits to production	present situation
9	Capacity utilisation	present rate
10	Business situation	present situation
11	Business situation	future tendency, (6 months ahead)
12	Financial situation	present situation
13	Access to credit	present situation

2 Harmonised questions: Business surveys in other sectors

Question	Variable	Type of Variable/Period Covered
1	Demand	present tendency, (3-4 months ago)
2	Demand	future tendency, (3-4 months ahead)
3	Employment	Present tendency, (3-4 months ahead)
4	Employment	future tendency, (3-4 months ahead)
5	Limits to production	present situation
6	Business situation	present situation
7	Business situation	future tendency, (6 months ahead)
8	Financial situation	present situation
9	Access to credit	present situation

The general principles, the type of variables (form of questions) and period covered by variables,noted below with reference to the questions listed above should be followed in order to ensure comparability of survey results.

General principles:

- unless otherwise stated, all information should be *qualitative*;
- unless otherwise stated, all questions refer to the *unit being surveyed* and not to the industry or economy as a whole;
- unless otherwise stated, all questions on *present/future changes* should be evaluated on a 3–4 month basis;

Form of questions:

- The exact formulation of the questions may differ from country to country, but the following basic principles concerning the form of the questions should be applied.
- All questions referring to an *assessment of the current situation* should imply a comparison with the normal. The pre-printed answers would be of the form: above normal/normal/below normal
- The question and *present business situation* should however use the following form: good/sufficient/bad.
- All questions referring to an appreciation of past/present and future changes should imply a comparison between the situation at the time of the survey and an earlier or an expected later situation, i.e. the pre-printed answers should be of the form: up/unchanged/down.

Period covered by variables:

The time period covered by the different variables or questions should use the following general principles for questions referring to an appreciation of past/present and future changes.

- Questions concerning *past/present tendency* should compare the previous month or quarter, depending on survey periodicity, against the current month or quarter.
- Questions concerning *future tendency* should compare the next 3 to 4 months or quarter, depending on survey periodicity to the current month or quarter.

The only *exceptions* to these principles should be:

- the question on the general economic situation which should use *the next six months* as the reference period.

2. Review of current business tendency surveys in Asia/pacific countries

The review in this section of the main characteristics of the surveys conducted by the different institutions is mainly based on papers prepared by country experts for the meeting on BTS in Manila in1999. For some countries namely, China, India and Vietnam additional information was also

obtained directly from the countries. The review is restricted to surveys in industry and to countries for which information on the content of the surveys is available.

2.1 Frequency and coverage of harmonised core questions

The first issue to consider when checking current inter-country comparability is that of coverage of a common set of questions or variables. The coverage and frequency of the harmonised set of core questions are set out in Table 1.

The main aim of the business tendency surveys is to monitor and forecast short-term economic developments. For this reason it is necessary to conduct the surveys regularly with a quarterly or preferably monthly frequency. The surveys conducted by NSO in China Hong-Kong, NSO in Malaysia, Bank of Philippines and NSO in Singapore are conducted two times a year and would not be considered as short-term surveys. All other surveys investigated are conducted on a quarterly basis with exception of the survey conducted by the Bank of Thailand, which has a monthly frequency.

The coverage of the harmonised core questions is quite different across the countries. A good coverage of the core questions is present in the surveys conducted in China by the National Bureau of Statistics (NBS) and the State Information Centre (SIC), in India by the Reserve Bank, in Korea by the Central Bank, in Thailand by the National Economic and Social Development Board (NESDB) and in Vietnam by the General Statistical Office (GSO). In other countries the surveys cover less than half the number of the core questions.

Table 1.

Business surveys in industry in Asia/Pacific countries Coverage and frequency of harmonised core questions

	China NBS	**China SIC**	**China HK NSO**	**India Bank**	**India NCAER**	**Indonesia Bank**	**Korea Bank**
Harmonised question							
Production	Q	Q		Q			Q
Production	Q	Q		Q			Q
Order books, total	Q	Q	B	Q			Q
Order books, exports			B	Q			
Stocks of finished goods	Q	Q		Q			Q
Selling prices	Q	Q	B	Q		Q	Q
Employment	Q		B	Q			Q
Limits to production	Q	Q		Q		Q	
Capacity utilisation	Q	Q	B	Q	Q		
Business situation	Q	Q		Q		Q	Q
Business situation	Q	Q		Q	Q	Q	Q
Financial situation	Q	Q			Q		
Access to credit		Q		Q			

B – Bi-annul Q – Quarterly M – Monthly
NBS – National Bureau of Statistics SIC – State Information Centre
NSO – National Statistical Office NCAER – National Council of Applied Economic Research

Table 2.

Business surveys in industry in Asia/Pacific countries:
Coverage and frequency of harmonised core questions

	Malaysia NSO	Malaysia MIER	Philippines Bank	Singapore NSO (1)	Thailand Bank	Thailand NESDB (2)	Vietnam GSO
Harmonised question							
Production	B	Q				Q	Q
Production		Q				Q	Q
Order books, total						Q	Q
Order books, exports		Q			M		Q
Stocks of finished goods	B				M	Q	Q
Selling prices		Q		B		Q	Q
Employment				B	M		Q
Limits to production	B			B			Q
Capacity utilisation		Q					Q
Business situation			B		M	Q	Q
Business situation			B	B	M	Q	Q
Financial situation						Q	
Access to credit					M	Q	

B – Bi-annual Q – Quarterly M – Monthly (1) Service sector survey (2) Retail trade survey
NSO – National Statistical Office MIER – Malaysian Institute of Economic Research
NESDB – National Economic and Social Development Board GSO – General Statistical office

The current situation, as noted above, concerning frequency and core questions would imply that inter-country comparisons could be possible between China, India, Korea, Thailand and Vietnam for most of the survey information. For a few questions inter-country comparisons would also be possible in the case of India (NCAER), Indonesia (Central Bank), Malaysia (MIER) and Thailand (Central Bank).

The format of the questions, however, is not considered in above results and the picture may be quite different if this is taken into account. This is the subject of the next section.

2.2 Format of harmonised core questions

The format of the questions concerns two main issues, first the basic form of the question which could be level form or change form and second the period covered by the question. The **level form (L)**concerns the following questions and answer modes:

- order books, total and exports (above normal/normal/below normal)
- Stocks of finished goods (above normal/normal/below normal)
- Business present situation (good/satisfactory/bad)
- Financial situation (good/satisfactory/bad)
- Access to credit (easy/normal/tight)

The change form concerns the following questions on appreciation of **past/present changes (T)** and **future changes (F)** with the following answer modes:

- Production, past/present and future (up/same/down)
- Selling prices, future (up/same/down)
- Employment, future (up/same/down)
- Business future situation (better/same/worse)

The period cover by change questions is the same for all questions concerning **past/present changes (T1)** and is one month or quarter depending on survey periodicity. For questions concerning **future changes (F3)** the period covered is 3-4 months. The only exception concerns the question on business future situation, which covers the **next 6 months (F6**).

The questions on **limits to production (N)** uses a nominal list of alternatives and the question on **capacity utilisation (R)** is answered in quantitative terms as the per cent rate of utilisation.

The form of the questions including period covered by change questions are set out in Table 2. This table shows the format of questions as defined for the harmonised core questions and the format of corresponding questions asked in current surveys in Asia/Pacific countries. How well individual questions correspond to the harmonised format is examined in the following by country and survey for which information is available.

China (NBS)

The NBS survey covers 11 of the 13 harmonised core questions, but 5 questions in the NBS survey use a format different from the harmonised format. The actual NBS format (indicated in bold in Table 2) and the corresponding harmonised format for these questions are as follows:

		NBS format	*Harmonised format*
1 Order books, total	Past/present change compared to 3-4 months ago	(T3)	L
2 Stocks of finished goods	Past/present change compared to 3-4 months ago	(T3)	L
3 Capacity utilisation	Past/present change compared to 3-4 months ago	(T3)	R
4 Business future situation	Future level	(FL)	F6
5 Financial situation	Past/present change compared to 3-4 months ago	(T3)	L

China (SIC)

The SIC also survey covers 11 of the 13 harmonised core questions, but 4 questions in the SIC survey use a format different from the harmonised format. The actual SIC format (indicated in bold in Table 2) and the corresponding harmonised format for these questions are as follows:

		SIC format	Harmonised format
1 Production	Present level	(L)	T3
2 Order books	New orders	(L)	L
3 Capacity utilisation	Present level	(L)	R
4 Business future situation	Future change for 3-4 months ahead	(F3)	F6

In the case of question 2 above, the format is not different, but the SIC survey asks for new orders and not for order books as is requested by the harmonised question.

Table 3.

Business surveys in industry in Asia/Pacific countries
Format of questions in individual countries corresponding to harmonised questions

	Format of question	**China NBS**	**China SIC**	**China HK NSO**	**India Bank**	**India NCAER**	**Indonesia Bank**	**Korea Bank**
Survey frequency		Quarterly	Quarterly	Bi-annual	Quarterly	Quarterly	Quarterly	Quarterly
Harmonised question								
Production	T3/T1	T3	**L**		T3			**T12**
Production	F3	F3	F3		F3			**F12**
Order books, total	L	**T3**	**L***	**F6**	**T3**			**T12***
Order books, exports	L			**F6**	**T3**			
Stocks of finished goods	L	**T3**	L		**T3**			L
Selling prices	F3	F3	F3	**F6**	F3		F3	F3
Employment	F3	F3		**F6**	F3			**FL**
Limits to production	N	N	N		N		N	
Capacity utilisation	R	**T3**	**L**	**F6**	**L**	na		
Business situation	L	L	L		**T3**		**T3**	L
Business situation	F6	**FL**	**F3**		**F3**	na	**F3**	**FL**
Financial situation	L	**T3**	L			na		
Access to credit	L		L		**T3**			

Table 4.

Business surveys in industry in Asia/Pacific Countries
Format of questions in individual countries corresponding to harmonised questions

	Format of question	**Malaysia NSO**	**Malaysia MIER**	**Philippines Bank**	**Singapore NSO (1)**	**Thailand Bank**	**Thailand NESDB (2)**	**Vietnam GSO**
Survey frequency		Bi-annual	Quarterly	Bi-annual	Quarterly	Monthly	Quarterly	Quarterly
Harmonised question								
Production	T3/T1	na	na				T3	T3
Production	F3		na				F3	F3
Order books, total	L						**T3***	L
Order books, exports	L		na			**T1**		L
Stocks of finished goods	L	na				**T1**	**T3**	L
Selling prices	F3		na		F3		F3	F3
Employment	F3				F3	**F1**		F3
Limits to production	N	na			N			N
Capacity utilisation	R		na					R
Business situation	L			**T6**		L	**T3**	L
Business situation	F6			F6	F6	**FL**	**F3**	**F3**
Financial situation	L						**T3**	
Access to credit	L					**T1****	**T3**	

T1 = Past/ present change compared to 1 month ago
T3 = Past/present change compared to 3-4 months ago
T6 = past/present change compared to 6 months ago
T12 = Past/present change compared to 12 months ago
F3 = Future change for 3-4 months ahead
F6 = Future change for 6 months ahead
F12 = Future change for 12 months ahead
L = Present level
FL = Future level
R = Present rate
N = Nominal list of alternatives
na = Not available
(1) Service sector survey
(2) Retail trade survey
* New orders
**Customer credit

China, Hong Kong (NSO)

Five of the thirteen harmonised core questions are covered by the NSO survey, but all of them use a format different from the harmonised format. The actual NSO format (indicated in bold in Table 2) and the corresponding harmonised format for these questions are:

		NSO format	*Harmonised format*
1 Order books, total	Future change for 6 months ahead	(F6)	L
2 Order books, export	Future change for 6 months ahead	(F6)	L
3 Selling prices	Future change for 6 months ahead	(F6)	F3
4 Employment	Future change for 6 months ahead	(F6)	F3
5 Capacity utilisation	Future change for 6 months ahead	(F6)	R

India (Bank)

The survey conducted by the Reserve Bank of India covers all harmonised core questions except one. However, 7 of these questions use a format different from the harmonised format. The actual format used by the Bank (indicated in bold in Table 2) and the corresponding harmonised format of these questions are as follows:

		Bank format	*Harmonised format*
1 Order books, total	Past/present change compared to3-4 months ago	(T3)	L
2 order books, export	Past/present change compared to3-4 months ago	(T3)	L
3 Stocks of finished goods	Past/present change compared to3-4 months ago	(T3)	L
4 Capacity utilisation	Present level	(L)	R
5 Business present situation	Past/present change compared to 3-4 months ago	(T3)	L
6 Business future situation	Future change for 3-4 months ahead	(F3)	F6
7 Access to credit	Past/present change compared to 3-4 months ago	(T3)	L

Indonesia (Bank)

Only 4 of the 13 harmonised core questions are covered by the survey conducted by the Central Bank and two of them use a format different from the harmonised format. The actual format used by the bank (indicated in bold in table 2) and the corresponding harmonised format for these questions are as follows:

		Bank format	*Harmonised format*
1 Business present situation	Past/present change compared to 3-4 months ago	(T3)	L
2 Business future situation	Future change for 3-4 months ahead	(F3)	F6

Korea (Bank)

The Bank of Korea survey covers 8 of the 13 harmonised questions, but the format of 5 of the bank questions differs from the format used for the harmonised questions. The actual format of the bank questions (indicated in bold in Table 2) and the corresponding harmonised format for these questions are as follows:

		Bank format	*Harmonised format*
1 Production	Past/present change compared to12 months ago	(T12)	T3
2 Production	Future change for 12 months ahead	(F12)	F3
3 Order books, total	Past/present change compared to12 months ago	(T12)	l
4 Employment	Future level	(FL)	F3
5 Business future situation	Future level	(FL)	F6

In the case of question 3 above, the Bank survey asks for new orders and not for order books as is requested by the harmonised question.

Philippines (Bank)

Only 2 of the harmonised questions are covered by the Bank of Philippines survey and one of the questions use a format different from the harmonised format. The actual format of the bank question (indicated in bold in Table 2) and the corresponding harmonised format for the question are as follows:

		Bank format	*Harmonised format*
1 Business present situation	Past/present change compared to 6 months ago	(T6)	L

Singapore (NSO)

The NSO survey covers 4 of the 13 harmonised core question and all of the NSO questions use the harmonised format. The survey is restricted to the service sector.

Thailand (Bank)

The survey conducted by the Bank of Thailand covers 6 of the 13 harmonised core questions, but 5 of the Bank questions use a format different from the harmonised format. The actual format of the bank questions (indicated in bold in Table 2) and the corresponding harmonised format for these questions are as follows:

		Bank format	*Harmonised format*
1 Order books, exports	Past/present change compared to1 month ago	(T1)	L
2 Stocks of finished goods	Past/present change compared to1 month ago	(T1)	L

3 Employment	Future change for 1 month ahead	(F1)	F3
4 Business future situation	Present level	(L)	F6
5 Access to credit	Past present change compared to 1 month ago	(T1)	L

In the case of question 5 above, the Bank survey asks for customer credits and not for access to credit as is requested by the harmonised question.

Thailand (NESDB)

The NESDB survey covers 9 of the 13 harmonised core question. However, the questionnaire investigated refer to the retail trade sector only. Six of the NESDB questions use a format different from the harmonised format. The actual format of the NESDB questions (indicated in bold in Table 2) and the corresponding harmonised format for these questions are as follows:

		NESDB format	*Harmonised format*
1 Order books, total	Past/present change compared to 3-4 months ago	(T3)	L
2 Stocks of finished goods	Past/present change compared to 3-4 months ago	(T3)	L
3 Business present situation	Past/present change compared to 3-4 months ago	(T3)	L
4 Business future situation	Future change for 3-4 months ahead	(F3)	F6
5 Financial situation	Past/present change compared to 3-4 months ago	(T3)	L
6 Access to credit	Past/present change compared to 3-4 months ago	(T3)	L

In the case of question 1 above, the NESDA survey asks for new orders and not for order books as is requested by the harmonised question.

Vietnam (GSO)

The GSO survey covers 11 of the 13 harmonised core questions and only 1 of the GSO questions uses a format different from the harmonised format. The actual format of the GSO question (indicated in bold in Table 2) and the corresponding harmonised format for this question is as follows:

		GSO format	*Harmonised format*
1 Business future situation	Future change for 3-4 months ahead	(F3)	F6

Overview of inter-country comparability

The current situation, as noted above, concerning format of core questions would imply that inter-country comparisons could be possible between the following countries and surveys for the following harmonised core questions:

Harmonised question	Country/survey with harmonised format
1 Production, present tendency	China (NBS), India, Thailand (NESDB), Vietnam
2 Production, future tendency	China (NBS and SIC), India, Thailand (NESDB), Vietnam
3 Order books, total	Vietnam
4 Order books, exports	Vietnam
5 Stocks of finished goods	China (SIC), Korea, Vietnam
6 Selling prices	China (NBS and SIC), India, Indonesia, Korea, Singapore, Thailand (NESDB), Vietnam
7 Employment	China (NBS), India, Singapore, Vietnam
8 Limits to production	China (NBS and SIC), India, Indonesia, Singapore, Vietnam
9 Capacity utilisation	Vietnam
10 Business present situation	China (NBS and SIC), Korea, Thailand, Vietnam
11 Business future situation	Philippines, Singapore,
12 Financial situation	China (SIC),
13 Access to credit	China (SIC)

Inter-country comparisons are rather limited as noted above, only for 6 questions are inter-country comparisons possible between 4 or up to 7 countries depending on question. The question on selling prices is the most standard question (7 countries) followed by production questions and business situation. On the other end, the most non-standard questions relate to order books, capacity utilisation, financial situation and access to credit (1 country).

3. Business tendency surveys in Asia/pacific OECD member countries

The situation concerning coverage and format of harmonised core questions in OECD member countries in the Asia/Pacific region is presented here as a reference for other countries in the region (see Table 3). The current situation with regard to inter-country comparability is not better than between other countries in the region with regard to the harmonised core questions. However, a certain standardisation is apparent between subsets of countries, but with a format of questions different from the harmonised format. In the case of Australia and New Zealand inter-country comparability is possible for 8 of the harmonised core questions of which 5 questions use the harmonised format. The surveys for Japan and Korea show a common format for 5 questions, but only 3 of them use a format in line with the harmonised format.

Inter-country comparability for selected harmonised core questions is illustrated in the charts below. Production expectations for Australia and New Zealand are shown in Chart 1 and current business situations are shown for Japan and Korea in Chart 2.

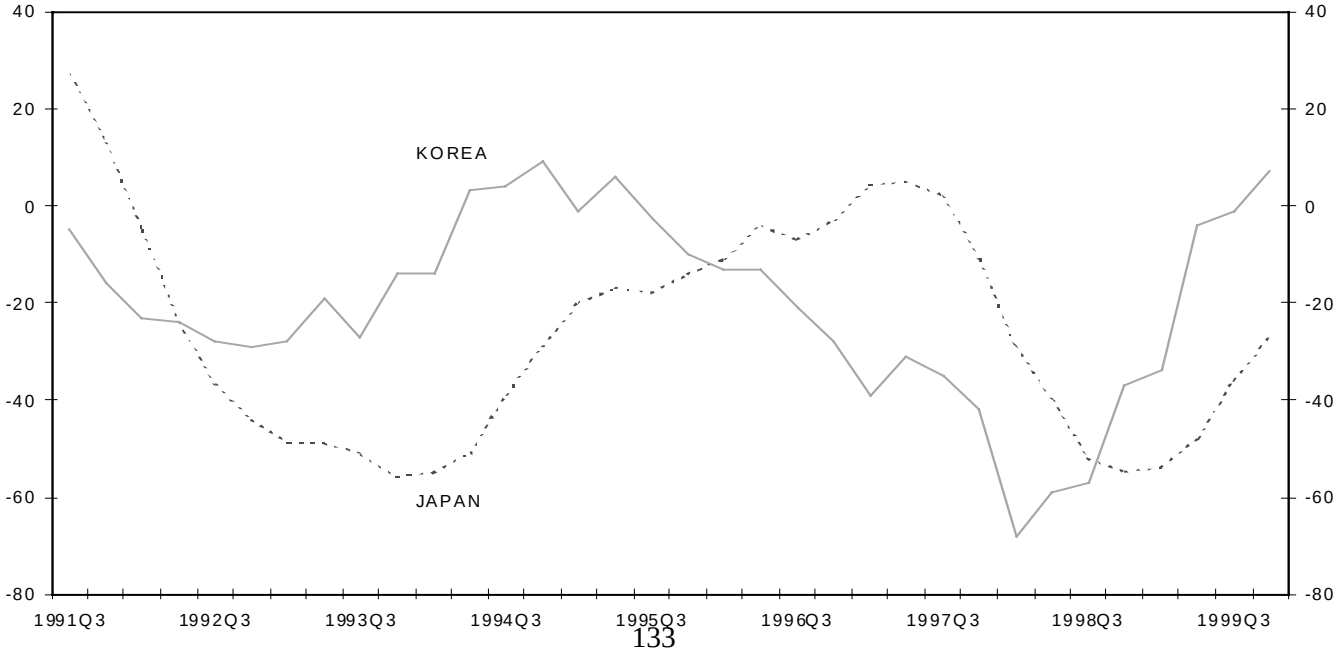
Table 5.

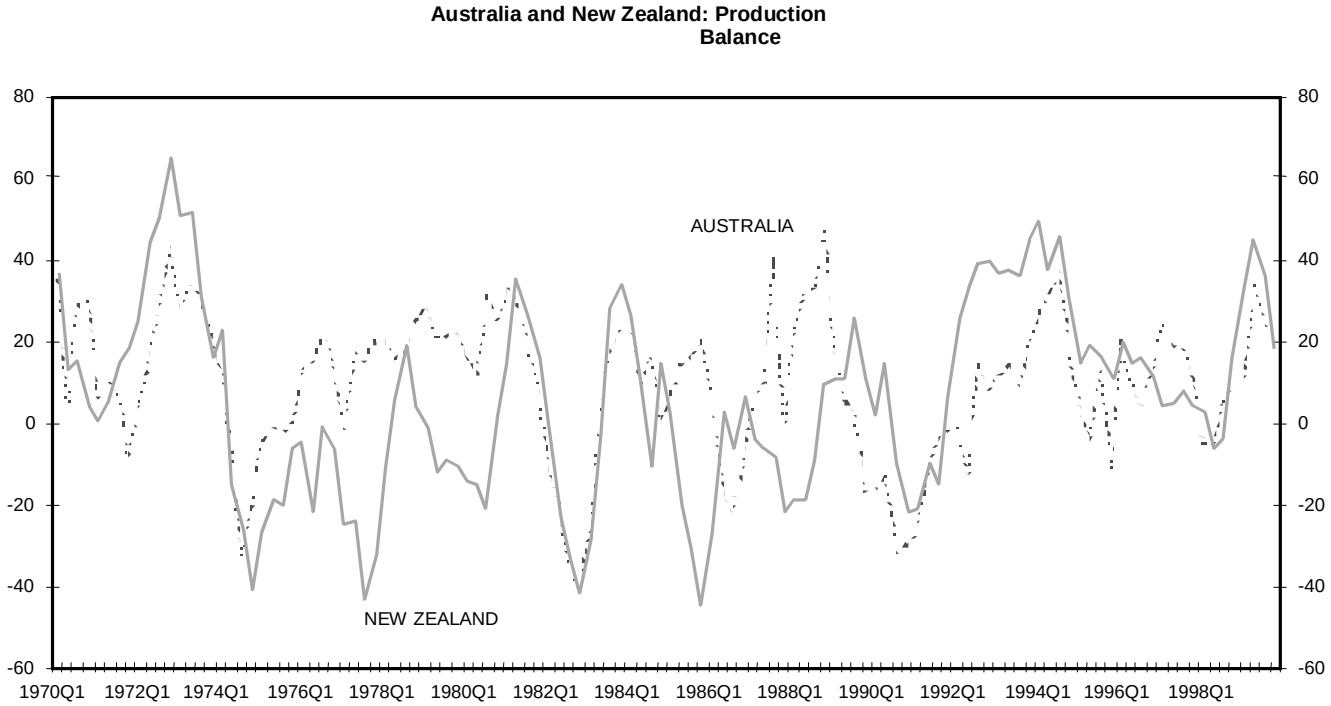
Business surveys in industry in Asia/Pacific OECD Member countries
Format of questions in individual countries corresponding to harmonised questions

	Format of question	**Australia**	**Japan**	**Korea**	**New Zealand**
		Westpac	**Bank**	**Bank**	**NZIER**
Survey frequency		Quarterly	Quarterly	Quarterly	Quarterly
Harmonised questions					
Production	T3/T1	T3		**T12**	T3
Production	F3	F3		**F12**	F3
Order books, total	L	**T3***		**T12***	**T3***
Order books, exports	L	**T3****			**T3****
Stocks of finished goods	L	**T3**	L	L	L
Selling prices	F3	F3	F3	F3	F3
Employment	F3	F3	**FL**	**FL**	F3
Limits to production	N	N			N
Capacity utilisation	R	**L**			
Business situation	L		L	L	
Business situation	F6	**F6*****	**FL**	**FL**	**F6*****
Financial situation	L	L	L		
Access to credit	L				

T1 = Past/ present change compared to 1 month ago
T3 = Past/present change compared to 3-4 months ago
T6 = past/present change compared to 6 months ago
T12 = Past/present change compared to 12 months ago
F3 = Future change for 3-4 months ahead
F6 = Future change for 6 months ahead
F12 = Future change for 12 months ahead
L = Present level
FL = Future level
R = Present rate
N = Nominal list of alternatives
na = Not available
* New orders
** Export deliveries or sales
*** Business situation in country

Japan and Korea: Current Business Situation
Balance





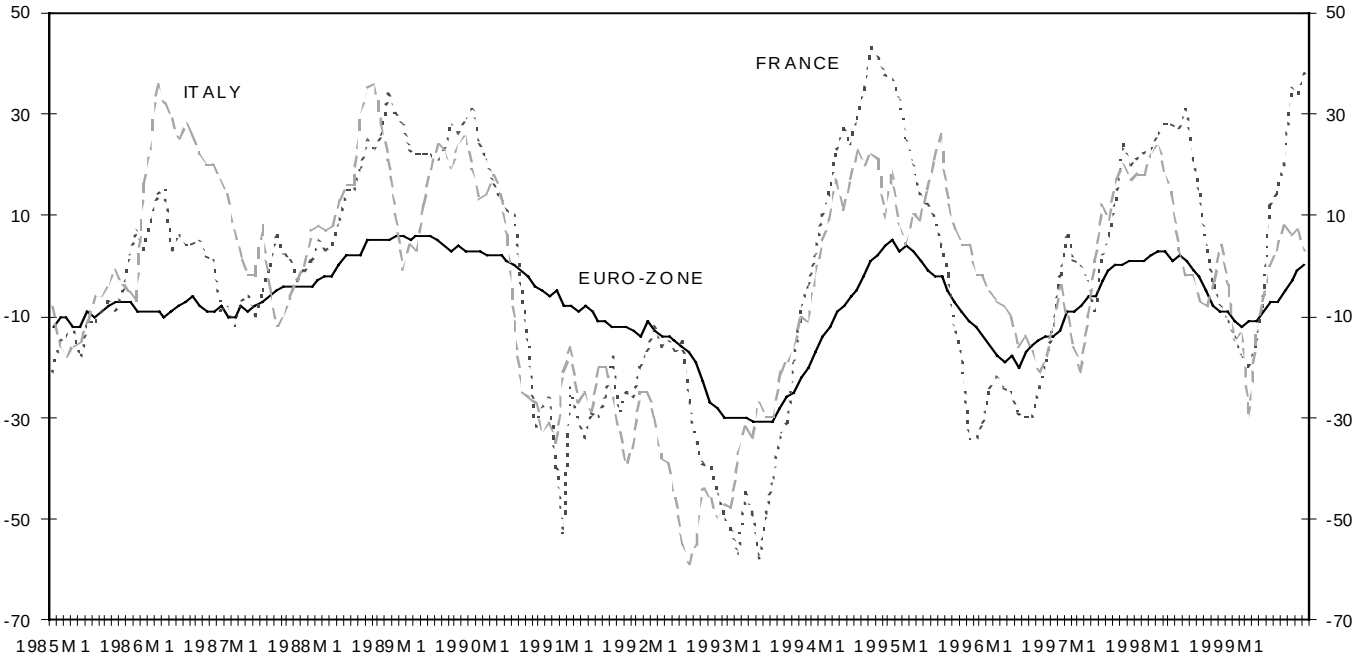
4. Harmonised Business Tendency Surveys in Europe

Inter-country comparability for selected harmonised core questions is illustrated in the charts below for selected countries in Europe. *Industrial confidence indicators* for France, Italy and the Euro-zone are presented in the first chart which shows a rather synchronised cyclical development between the countries and the region. The second chart presents industrial confidence indicators for the Czech Republic, Poland and the Euro-zone and shows a quite different timing relationship between the countries and the region in particular over the early part of the time period covered.

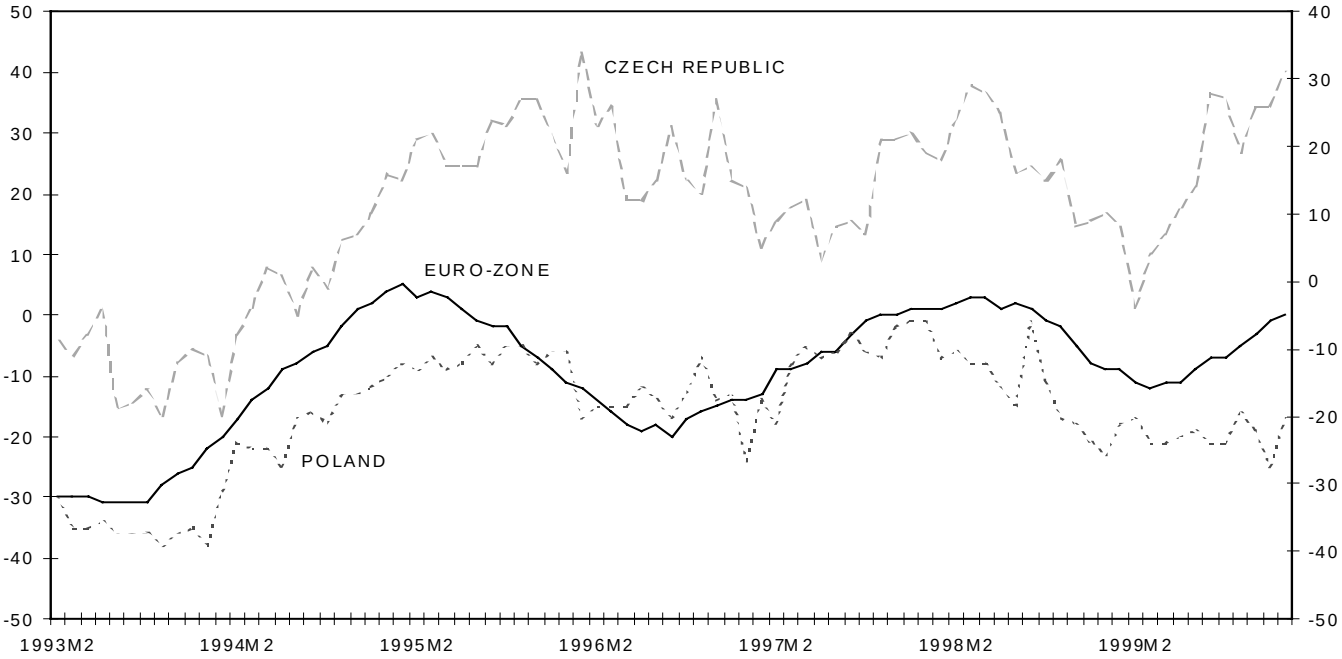
Capacity utilisation in the Euro-zone (EU) and selected transition countries in Central and Eastern Europe shows major differences between countries and the region. The Euro-zone shows a rate of utilisation of about 80 per cent over the investigated time period while the rate is below 40 per cent in Ukraine and below 50 per cent in Russia during most of the period. Bulgaria and Lithuania show rates in the range 50-60 per cent during most of the period investigated.

The development of transition in Central and Eastern Europe as monitored by business tendency surveys are presented in the following charts in this section. The impact of foreign competition due to *tradeliberalisation* is shown by the percentage of manufacturing firms citing competitive imports as a limit to production. The absence of a developed *legal framework* is shown by the percentage of companies citing unclear economic laws as a problem. Problems in raising *bank loans* is illustrated by the percentage of companies citing insufficient credit guarantees as a limit to production. Many enterprises have been constrained by both *demand and supply problems* and in most countries both problems continued to be seen by enterprises as limits to production throughout the investigated period 1992-1997. The functioning of the *banking system* as perceived by entrepreneurs in the retail and construction sectors is shown by the share of firms citing access to bank credit as a limit to production.

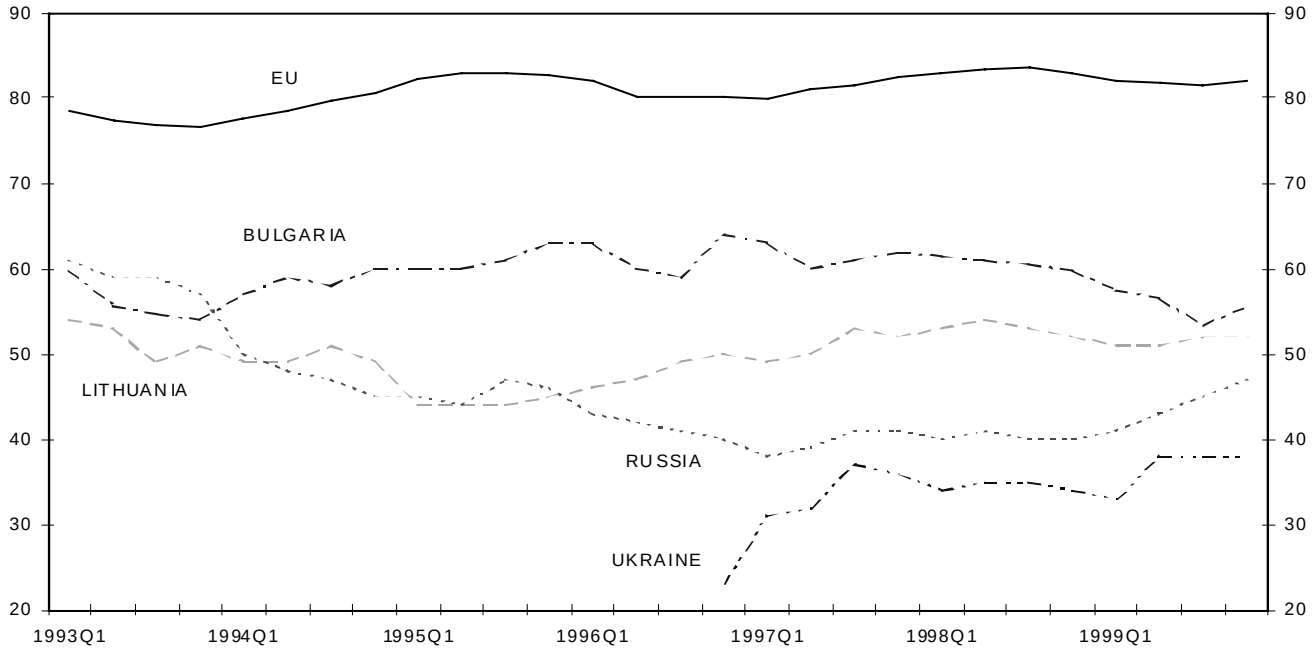
Industrial Confidence Indicators



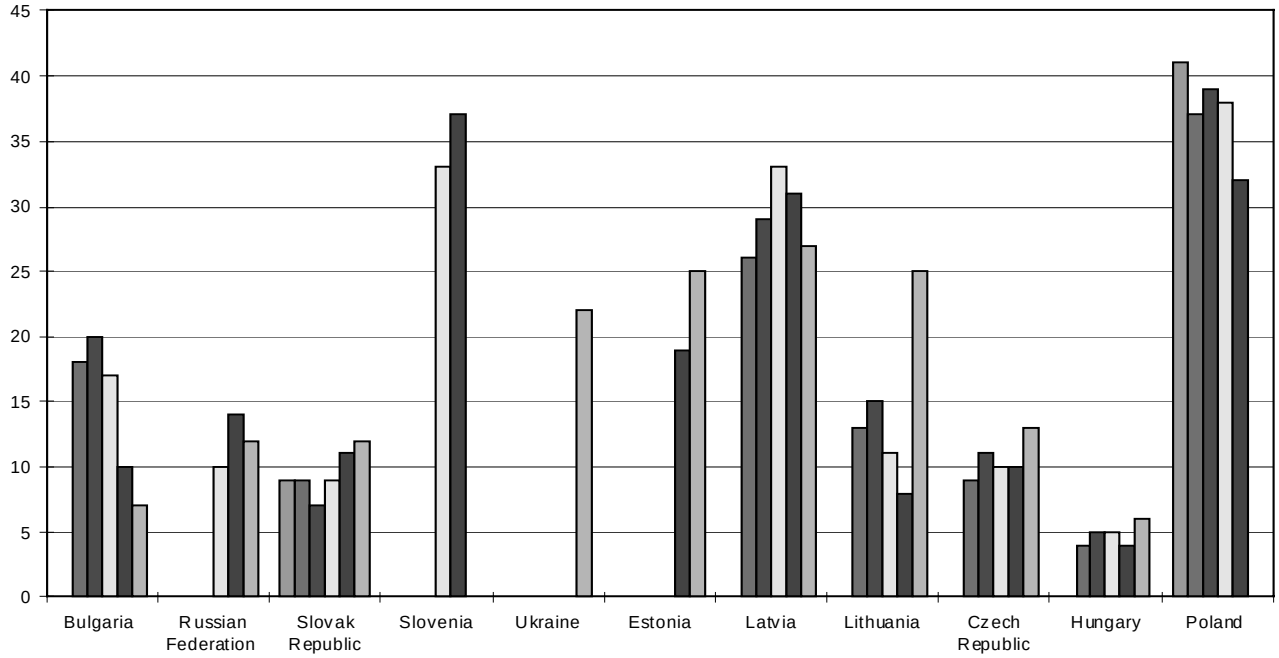
Industrial Confidence Indicators



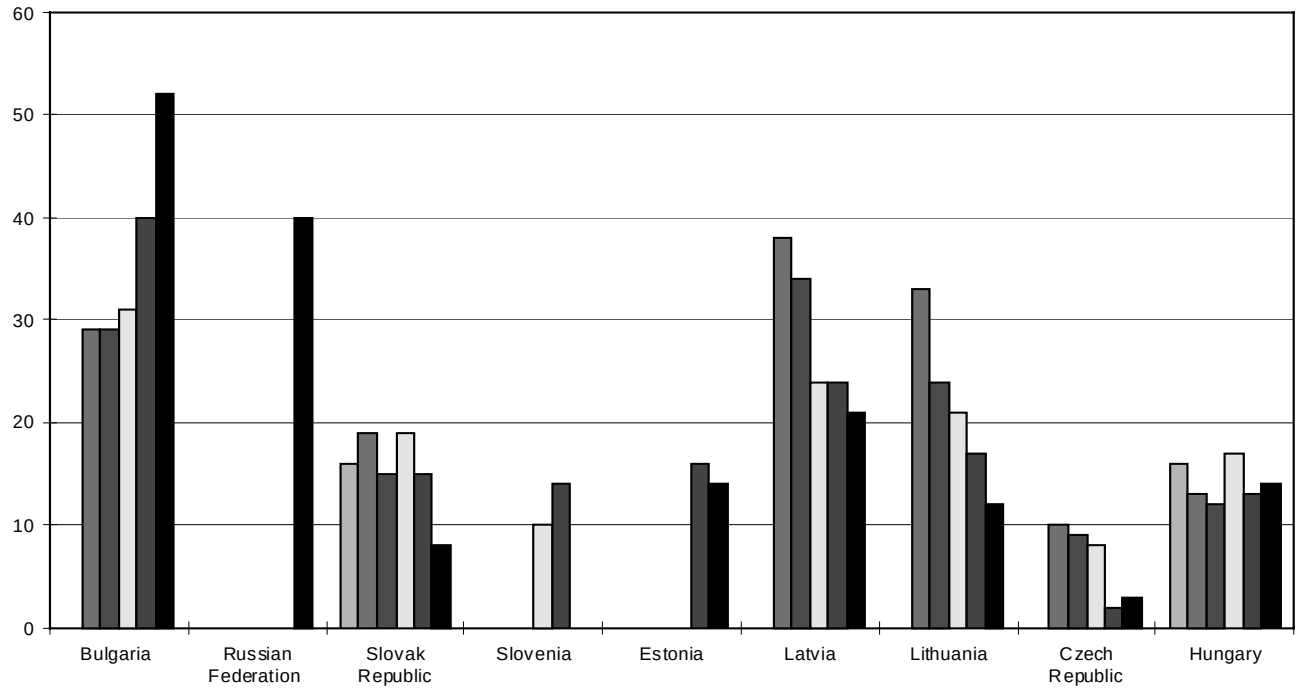
Capacity Utilisation in European Union and Central and Eastern Europe
Per cent



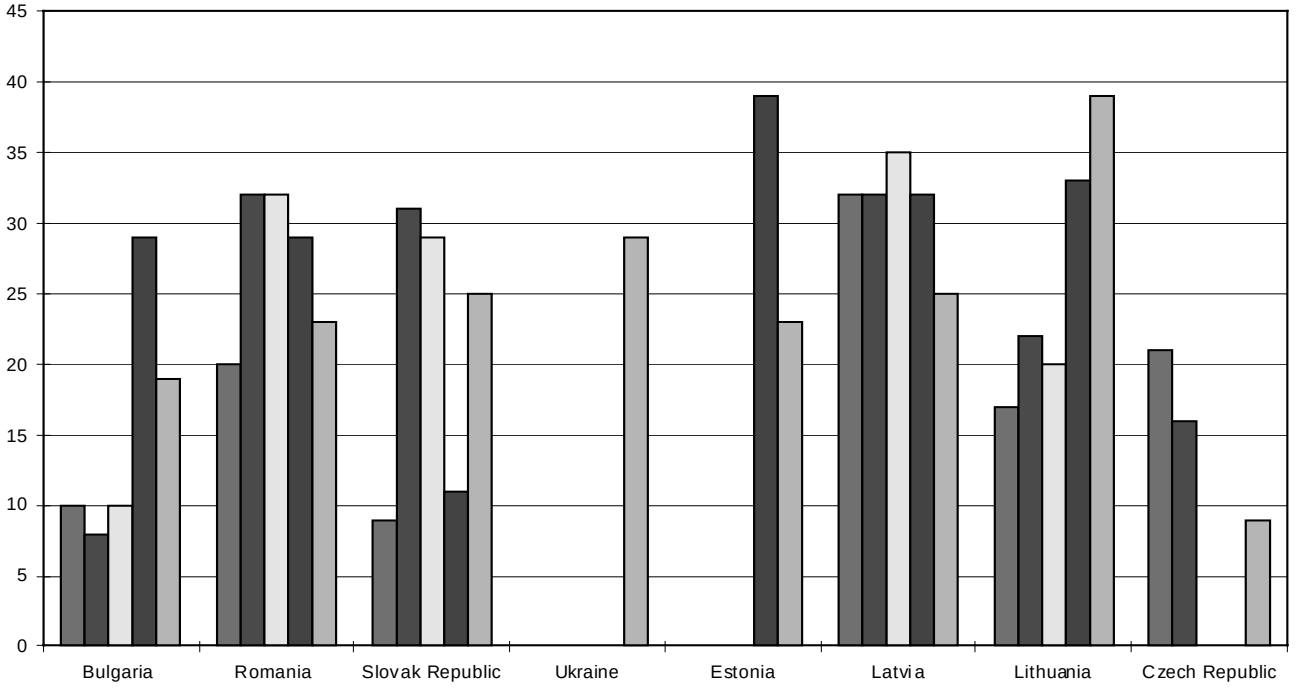
Foreign competition 1992-1997



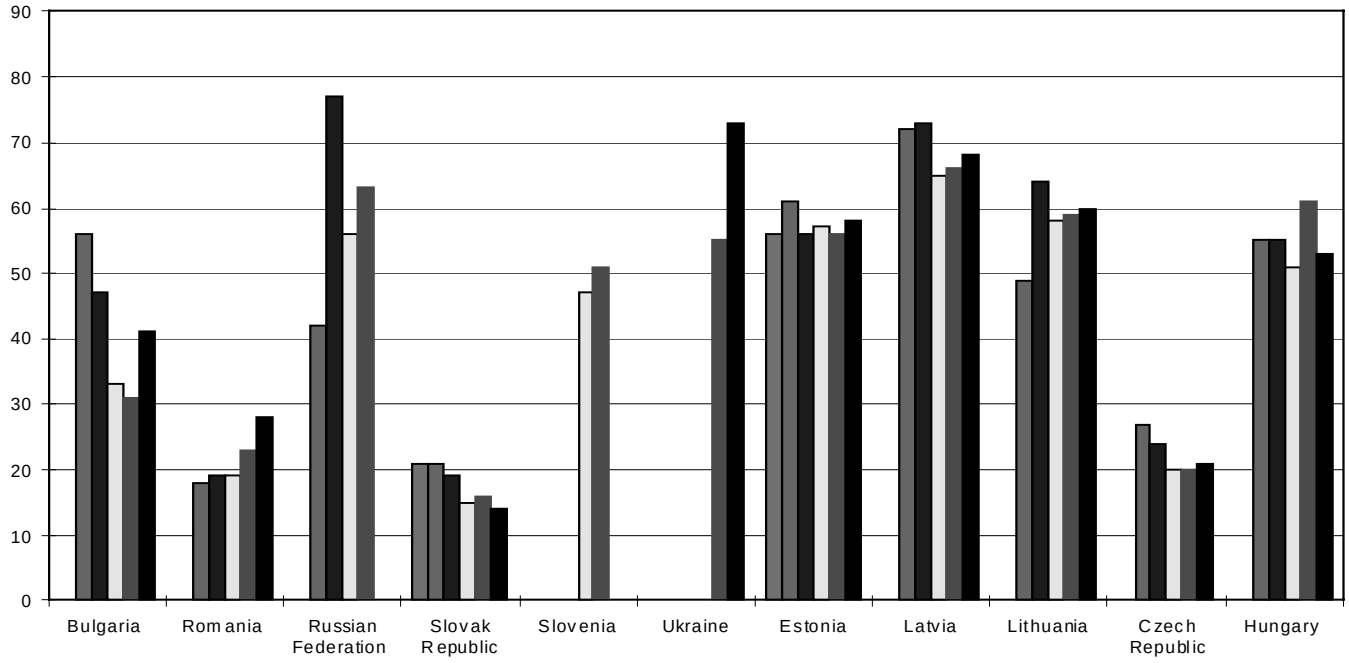
Uclear economic laws 1992-1997



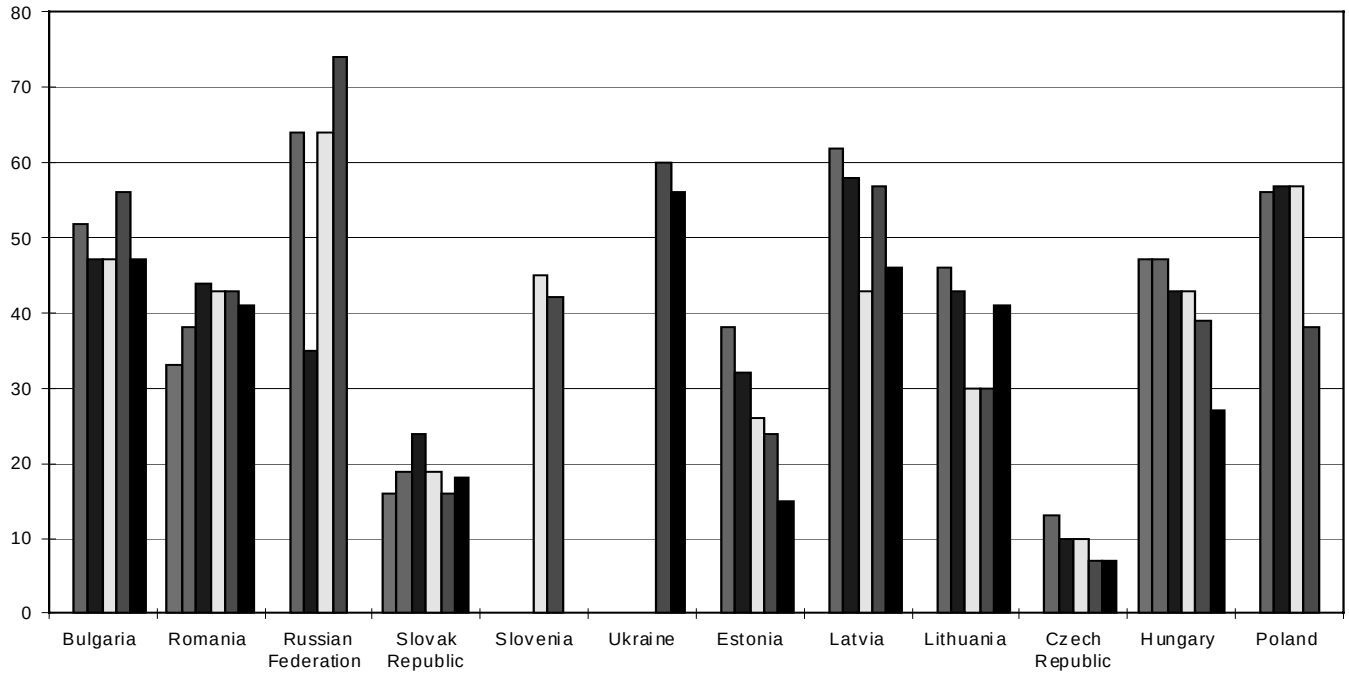
Insufficient credite guarantees 1993-1997



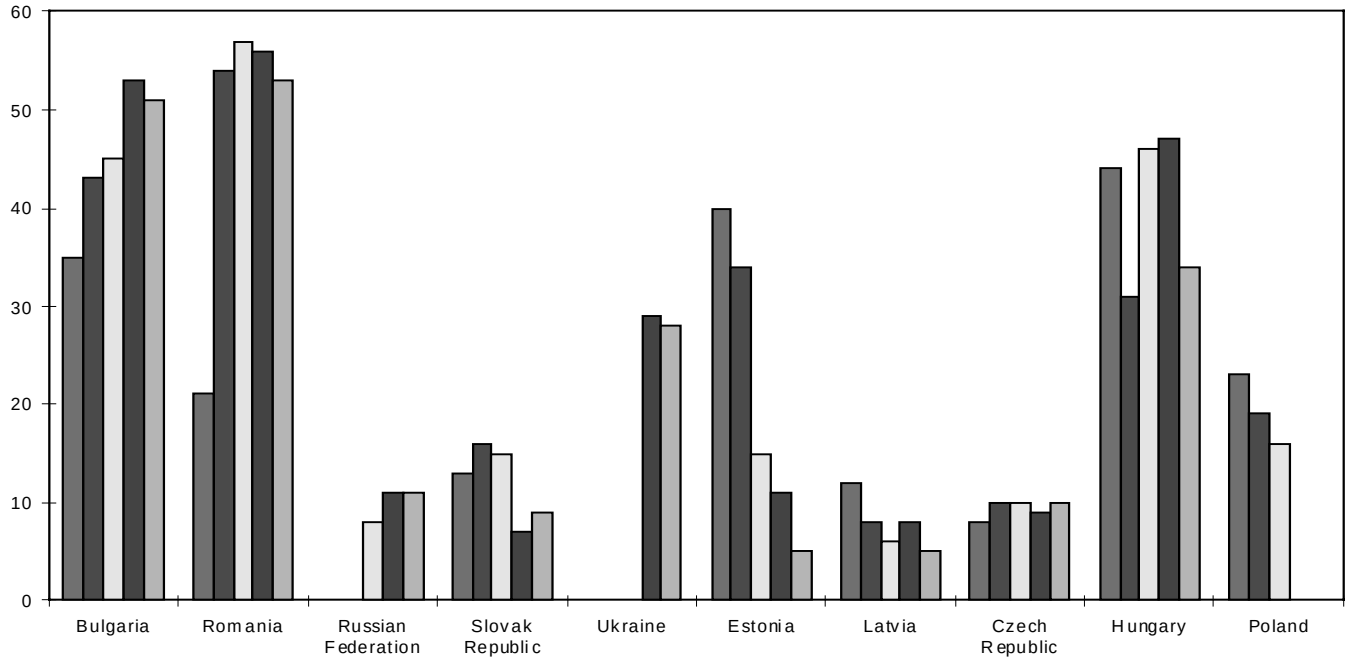
Demand constrains 1992-1997



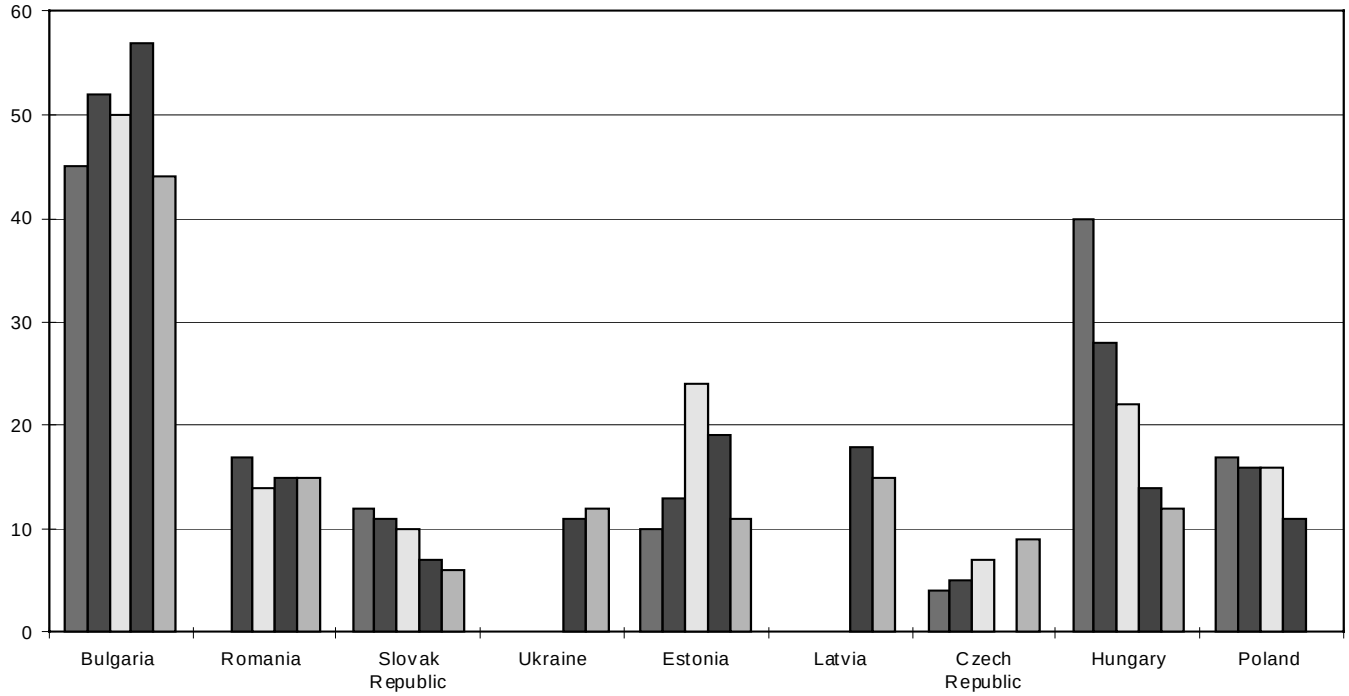
Supply constrains 1992-1997



Access to bank credit by construction firms



Access to bank credit by retailers



BIBLIOGRAPHY

OECD, "Development of Business and Consumer Surveys in Central and Eastern Europe – Summary of Workshops 1991-1996", OECD/GD(97)84 *General Distribution*; 1997;

OECD, "Business Tendency Surveys in Transition Economies – Methodological Review and Recommendations for Harmonisation", OECD/GD(97)59 *General Distribution*; 1997;

OECD, "Business Tendency Surveys – Proceedings of First joint OECD-ADB Workshop, Manila November 1999", CCNM/STD (2000)3 *Unclassified*; 2000;

OECD, "Transition at a Glance", CCNM/STD (2000)1 *Unclassified*; 2000

STARTING WITH BUSINESS TENDENCY SURVEYS IN A MARKET ECONOMY

George van Gastel – National Bank of Belgium

Caveat

The following text is meant to be a guideline for discussion and exchanges of experiences between the participants on the practice of BTS and not as an all-embracing manuel for business surveys.

1. The first two steps

1.1 Defining the users need

Before starting with preparing the survey, reflection about the users' need is indispensable. Neglecting this important stage has a negative influence on the acceptance of all the potential users. Some important users are : the government, universities, "foreign institutes" (e.g. the European Commission, OECD, etc.) and, in the National Bank of Belgium, the Research Department plays a crucial role in the discussion about which information to collect. The mentioned users are mainly interested in macroeconomic information. The list of users is however not complete. A very important user is missing, namely the entreprise itself and its representatives, the Business Organisations. Their need is more microeconomic oriented. From the beginning, we should be aware that both needs ought to be satisfied. Putting it provocatively, I can state that the success of business surveys is function of the degree to which the microeconomic needs are satisfied.

1.2 Defining the classification

Directly a question which is linked to the users' need arises, namely which classification will be applicable. The first possible option is to use a harmonised activity code like NACE. The advantage is that the standardisation eases the comparability. However the other side of the coin is that this kind of classification is not directly in line with the enterprises' interests.

The second option is to use a product code. There are also harmonised product codes available which are used for different purposes (CPA, Prodcom, CN). Nevertheless, comparability is less straightforward than when one works with activity codes. On the other hand enterprises prefer this kind of information because it is more tailor-made.Although a product code corresponds mostly to the company's statistical needs, some warnings or possible problems have to be mentioned. One important remark to consider is the response burden.

Working with a product classification implies that participants fill in a questionnaire per product. To avoid that an enterpreneur has to fill in a huge number of questionnaires, he should only be invited to participate for his most important product(s). Another problem that can occur by using detailed product classifications is the life cycle of a product. When you collect information for e.g. black/white

TV-sets, it is obvious that this series can hardly be continued. Assuring the representativiness of the sample is also more complicated when a product classification is applied. Indeed, for some specific product only few producers exist and the results won't be worth a thing if not practically all agree to participate.

Also the weights for aggregation can be an important impediment. Statistical information that can be used for weighting, like value added, doesn't always exist on a product level. Although a great effort already has been made to develop classifications that can be mutually transposed, the problem of m-n relationships between the different systems can't be avoided. A decision to use product classifications implies that the transposing tables are already established.

As shown further in the text, a quick dissemination of the results is very important. It is obvious that the dissemination of a large number of different result tables, which is the case for a product classification, is very time consuming.

The last problem to be mentioned is that of the analysis. As a statistical office can't hire specialists for X-thousands of products, the comment of the result tables won't be very clarifying for the participants. The list of problems and warnings is not exhaustive, but the conclusion is already straightforward : a product classification is very useful when you can afford it. A detailed and thorough study before starting, is not only advisable, but necessary.

Some of the problems mentioned, and some which are not (like the demand for brand information by the participants), can be avoided by using a "derivative" product classification. In the National Bank we are using a classification that could be considered as a subset of the CPA classification but that we are trying to transform to a more market oriented approach. Examples: participants can be asked to fill in questionnaires for the product "spinning of cotton". To avoid the end of the life cycle of this product (pure cotton is practically no longer used), the classification can be changed into "cotton type spinning", even when there is no cotton at all, but the process of spinning is the same, the participant can answer. To give additional information, a distinction between markets can be made : e.g. cotton destinated for consumer goods, agriculture etc.

2. Preparing the survey

2.1 Statistical units

According to the chosen classification and the purpose of the survey, decisions are to be made about the statistical units. The EU gives some recommendations in that field. To avoid misunderstandings, it should be emphasised that a clear distinction must be made between business tendency surveys and business surveys. The latter intend to collect statistical, quantitative, information; BTS is on the contrary more qualitatively oriented. In the case of business tendency surveys a choice can be made between "enterprises" and "local units". For business surveys (BS) the use of "kind of activity unit" or "local kind of activity unit" seems to be more recommended. In Belgium we are applying the local unit option because of the necessity of regional information.

2.2 The panel

2.2.1 The choice

The choice of a sample or panel is well described in theory. In practice many statisticians are confronted with imperfect business registers. This imperfect character is the result of, on the one hand, the initial design or option, and on the other hand the lack of permanent updating of the database. This leads to the problem of a kind of undercoverage. As most of the business registers are based on the enterprise and classified according to an activity classification (NACE), this problem will be more accentuated by using surveys on a product and local unit basis. Other information will be needed to improve the sample frame. How this additional information should be collected depends on the national situation. As an example the Belgian case can be described.

Until a new business register is created by the National Institute of Statistics, according the European regulation, the most up to date register is the Balance Sheet Office of the National Bank of Belgium. As said before, this register gives no information about the local units and is based on the NACE-classification. Additional information is asked from the business organisations and the Chambers of Commerce. Because of the fact that "young" enterprises or sectors (like the services sector) don't want to belong to any organisation, the Bank also uses the network of it's local agencies to gather more data.

The search of improving the sample frame can cause another problem, a kind of 'overcoverage'. Some business organisations will e.g. insist that all members will be invited to participate, or, when an important member is selected for the sample, his direct competitors will ask to be in too. Taking a random sample is in such case not obvious at all.

2.2.2 Panel versus statistical sample

Organising business tendency surveys are not one shot surveys, but are repeated on a monthly or quarterly basis. The time dimension influences the sampling and estimation method. Two options are possible : the first one is to draw a new sample on each occasion (the statistical sample) and the second one is to retain the same sample over time (the panel). The first option is in my opinion for BTS merely theoretical. As long as perfect business registers don't exist you can't even think of this possibility. What's more, a changing sample is even not recommended in the case of BTS in which most of the questions have a qualitative character and the subjective impression of the respondent plays an important role.

The theory about panel surveys distinguishes a variety of panel surveys : repeated panel survey, rotating panel survey, overlapping, split panel survey etc. Between practice and theory however the problems of time and cost appear. In the starting period of a BTS the creation of a panel of enterprises that agree to participate on a regular basis is very frustrating because the aim of representativity seems to be more difficult to reach than could be the case in an ad hoc sample. Moreover the representativiness is sometimes hard to quantify especially when you are working on a product and regional basis. The theoretical recommendation that the target population must be defined through time makes a man or woman even more desperate, especially when the target population is not "stable" at all.

On the basis of the experience of the Bank in the "quartair" sector (services like informatics, marketing bureaus, we can state that during a relatively long period (2 years) representativiness is like

a goal you'll never reach. And even after this difficult period, the search for representativity of the panel resembles a Sisyphean task. The motto must be " lupus non curat numerum (sc ovium)" Start without worrying to much. (The Bank now also organises consumer surveys to complete the analysis of the business cycles. Here a statistical sample is used. Some important problems can be mentioned if it is in the field of interest of the participants of the workshop)

2.2.3 The convincing strategy

A very important step in the set up of surveys is the convincing strategy. Due to the nature of the questions and the necessity of a quick reply, the aim must be that the entrepreneur himself or at least someone high in hierarchy who has an overall view on the company, will always answer.

In Belgium we address an introductory letter directly to the enterpreneur, and that is normally also signed by the business organisation, in which we emphasise that business surveys are a service that can be offered to the company. We don't beg for his participation, but we explain that he is a user of information and by participating he can get data which he will never find elsewhere.

The motto that the entrepreneur is not only a respondent but in the first place a user is not an idle word. Customers should determine the production. This is also the case in statistics. In Belgium we try to involve the companies, via, on preference, their business organisations, in the questionnaire design. This leads sometimes to additional questions or surveys in return for their co-operation. In the convincing strategy two things must be stressed : the first one is that the return of results will be very quick, and the second one is that there is an absolute guarantee of confidentiality.

These two items are not only important for the entrepreneur but also for his collaborators who are interested in the results too. Moreover you should try to detect additional correspondent(s) in the company. The advantage of this is that you have somebody that can fill in the questionnaire when the entrepreneur is absent, and on the other hand you are creating a kind of lobby that can be useful the day when the head of the entreprise in not so keen on answering anymore.

2.2.4 Data transfer mode

The ideal data transfer mode depends on the possibilities of a country and on the sectors. The traditional sectors are in Belgium questioned by mail. Late answers are collected by phone and fax. The young sectors don't like mail surveys, here we use the phone, fax or, not systematically, e-mail mode. Until now we haven't noticed a significant difference in answer behaviour between these modes.

Other possibilities are : voice recognition, touch-tone, etc.. On the basis of experience, respondents are annoyed after a short time by the touch-tone mode and voice recognition is not error free. The e-mail solution is in the case of BTS not a great success. The main problem is that we are focussing the answers of the head of the enterprise and not of one of his collaborators.

2.2.5 Reminder strategy

From the start on of the survey it must be pointed out when and how the reminder phase starts. To have a good result, contact persons other than the entrepreneur can help. (see supra) When it is decided that e.g. the reminder will be by phone and fax it is important to keep in mind that some

entrepreneurs are almost allergic for fax messages or they don't want to be called or e-mailed on that matter. Therefor it is important also to keep information on the "sensibilities" of the participants in the database. Neglecting these sensibilities two times will surely lead to a refusal to collaborate further.

2.2.6 Timing

Not only the reminder strategy must be planned in advance, the timing of the whole survey, including the dissemination should be pointed out before starting. It is strongly recommended to keep more or less the same timing every month. Exceptions can be accepted in the case of holidays or special events like the new year's inventory. This regularity will benefit the response rate. This is the reason why monthly surveys are sometimes better accepted than quarterly ones although the frequency can be an element of response burden (cfr. infra)

2.2.7 The questionnaire

Content :

In the harmonised scheme three types of questions occur: questions on the evolution (ex post), assessment questions and, finally, previsions. The time horizon for the previsions is 3 months although we know from experience that the enterpreneur has only a reliable view on the future for 1 or, at most, 2 months.

2.2.8 Response burden

When we try to satisfy the statistical needs of an economist even a questionnaire of 100 pages would hardly be too short. The probability of finding a respondent in such case is very low, even zero. Although everybody knows that the reponse burden is function of the number of questions and questionnaires this knowledge isn't applied in practice. For a business tendency survey one page questionnaire should be aimed.

Also the layout and certainly the terminology is often neglected. People want to see nice and beautiful things, this is also true for questionnaires. As already mentioned the frequency and the timing influences the response burden too. We can however not say that quarterly surveys are always a lesser burden than monthly ones. In Belgium we had the experience with the survey in the services sector (cfr. my other contribution). In the beginning it was a quarterly survey and it was a really hard job to obtain answers and to convince the respondents of continuing to participate. After two years we changed the frequency to a monthly one and most of our problems were solved. Of course this isn't always valid. When you ask every month for information of a variable that hardly changes, then a monthly survey won't be accepted.

2.2.9 Confidentiality

As already mentioned participants want an absolute guarantee of confidentiality. They even don't want to take the risk that in case of a mail problem (or other transfer mode) somebody else can have a look at their answers. For this reason a questionnaire with a tear off address can be used like we used to do some years ago in Belgium and Germany (see example). In the upper part the address is printed, in the lower part, just above the questions the codes of the participant and the product is printed. By

doing so there is no risk for an address with the wrong code, such as is possible by using self adhesive labels, and by tearing off the address part the answers are anonymous for those who don't know the codification.

This design of the questionnaire has however a disadvantage too, namely space limitations. To obtain the advantage of error free mailing without losing space on your questionnaire you can use printing of a separate address sheet and questionnaire with bar codes for control on the mailing station. This solution is of course more expensive than the one mentioned first.

When e-mail or internet is used, some protocol's can be used. The problem however is that the participant has to install that software and must be able to use it. All our e-mail communication is until now not fully secured.

2.2.10 Use of coloured paper

When the questionnaires are sent back, a first sorting is necessary, certainly when it is a product based survey. This first sorting can be facilitated by using coloured paper. A warning is necessary when one has automatic mail handling in mind. In such case only pastel colours can be used.

2.2.11 Pretesting

Pretesting is necessary to be sure that the questions are understood and to know the subjective reactions on the lay out of the questionnaire. Although it is very important to use the language of the respondents you should be cautious in changing the terminology. It happens that suggestions for changes are only useful for a certain region or for managers with a certain education.

3. Data collection

3.1 Mailing

As already mentioned we prefer a direct printing of address and identification codes of respondent and product. An up to date database is a necessity. This is of course obvious for anybody, but in practice it is not always possible to interrupt or to modify a batch print job. (an interruption of automatic fax mailings can have the same problems in the case of last minute changes)

3.2 Sorting

To gain time with the data entry a first sorting of the questionnaires is necessary. As mentioned before the use of coloured paper can be very handy here.

3.3 Pre-examination of answers

The experience of the National Bank is that a full automatisation of controls is not always the most effective one. A manual pre-examination of the questionnaire saves on the one hand a lot of time in the data entry, and on the other hand the responsible employee feels him or herself more involved. By using the so called 14 columns method (see example) the employee knows in one view which

participant is missing, whether it is an important one and how his response behaviour was the last 14 months by copying the answer of one important question.

3.4 Data entry modes

In the case of EDI, the topic of data entry mode is redundant. But when the survey is paperbased a choice must be made on how the answers will be captured in the computer system. The high tech alternatives like sanning or OCR can't fulfil the expectations. Experiments in het National Institute of Statistics were rather negative.

Besides this "new" technology two other options are possible. The first is 'heads-up' data entry. Here the computer gives a feed-back immediately and the data are, normally, directly put in the database system. The second alternative is 'heads-down' data entry. In this option the data are typed in at high speed, by well trained people, and without feedback from the (host) computer. After data entry the tape with data is read into the database system.

As the answers are not coming in all together we prefer that the responsible employee puts directly the answers into the computer in a heads-up data entry system. For the Belgian case, this is also the cheapest solution.

4. Data editing

In our definition, data entry is more than the examination of data for the purpose of error detection. The purpose is to have an error-free data file and to reach this goal not only validations but sometimes manipulations are necessary.

In the Bank's computer system we can make a difference between the data editing in the heads-up data entry part and the data editing after the input of the individual answers. In the heads-up data entry phase most of the validations have the character of warnings and not of interdictions. The reason for this is the gain of time. As the responsible employee himself enters the data he or she knows that there might be a incoherence and that this needs further investigation. Until eventual correction the data can stay in the database. Of course there is a track of all the given warnings destinated to the head of division. It is worthwhile to mention that the number of real incoherences are very limited and even when there are, most of the time there is an acceptable explanation for them. The validation that have the character of interdictions mainly concern rules to avoid typing errors. Due to reasons of performance, the on line validations are restricted to control checks on the inputted questionnaire for tendency questions. For "continuous" answers (e.g. percentage of capacity utilisation) some simple validations can be done also with the answers of the survey of t-1. In addition to the validations some derivations are done on line. An example of this is a very simple technique to avoid seasonal influence on the micro-economic level.

Question A

- In relation to the preceding month, demand has
  - risen
  - not changed
  - fallen

Question B

- During this month of the year, demand usually
  - rises
  - remains unchanged
  - falls

Question C

(Compare only the trends that are going in the same direction)

- The rise or fall mentioned in A is
- more pronounced
- of the same magnitude
- less pronounced
- than the usual rise or fall (mentioned in B)

The respondent answers question A B and C. The answer on a 'fictive' question D is derived automatically by verifying the tendency of C. In a CIRET-paper the Bank has shown that the effect of micro-economic seasonal adjustment is even better than using macro-economic techniques. Of course we can't apply this technique for all the questions.

The more complex validations like coherence over time and the study of non response hasn't an heads up character. The item non response is an important problem for all statisticians. In the case of business tendency (panel) surveys explicit non response is not a major problem when the panel is established. On average the non response rate is about 4 %. The non response meant here is no answer for the whole questionnaire. Item non response seldom occurs. Another type of non response can occur in BTS namely implicit non response. This means that an "unchanged" situation can be answered even when in reality a considerable change for the variable occurred. The difficulty is that it is almost impossible to know when an answer "unchanged" corresponds to reality. The only thing we know is that participants who are answering during a long period unchanged don't have any contribution to the indicators that measure the economic movement because for this purpose the balance is taken.

To reduce the number of unrealistic "unchanged" answer we try to develop neutral techniques. As we can't verify whether the answers correspond to reality we want to give the participants information that confronts them with their answer behaviour and the behaviour of the sector.

Experiments have been done with curves based on an exponential distribution function and curves that show the individual answers over time. This item is of course only relevant when the surveys already exist for several years. This topic will therefore be discussed in depth when the surveys are established. Non response handling in the start phase of a panel survey can, in my opinion best be treated in a "classical" way. (e.g. Horvitz-Thompson)

5. Data imputation

From my point of view, data imputation covers the same field as data editing. The derivation to avoid seasonal influence is also a way of imputing data. Also copying the answers of the last months in case of non response is an example. This method of dealing with non response (only for one missing month) is a very simple and effective way to treat non response in continuous repeating surveys.

6. Data aggregation

6.1 Weighting

The weights used for data aggregation are the participants' turn over for each product (employment in case of construction). Yearly this information is asked, and a distinction must be made for the export and internal market.

The aggregation to the sectorial level is based on the value added. The problem that can occur when a product classification is used, is that the value added can't be found and estimates have to be done.

6.2 Composite index

To facilitate the interpretation of the results, a composite index can be calculated. A very useful composite index is the sentiment indicator of the EC. It makes international comparisons very easy. However, sometimes there is a need to have a specific index only for internal use (e.g. due to historical reasons). In Belgium we calculate so called synthetic curves. On request, a quick overview of the methodology can be given.

6.3 Experiences with non weighted results

The graphs show that the effect of weights is limited as long as you stay on an aggregate level and when the sample is well distributed. The distribution is in my opinion even more important than the sample size. This example is of course only valid for the aggregation weights.

7. Results, interpretation and analysis

A slide with 'reading rules' will be presented

8. Dissemination

The optimal dissemination mode depends on the situation of the country. In Belgium we use the electronic and the paper mode. We have to admit that participants prefer to have their results on paper. It is indeed no secret that the head of a firm isn't most of the time a informatics edict.
The mode of dissemination determines also the organisation of the work and the team.

BUSINESS SURVEYS IN THE SERVICES SECTOR : THE BELGIAN EXPERIENCE

George van Gastel – National Bank of Belgium

1. Introduction

Within and outside the European Union, the harmonised business surveys in industry, construction and trade are well known and have been widely used for more than 30 years. As far as the services sector is concerned this tradition and expertise is rather new. Within the EU only France has been publishing some business cycle information since 1988.

The economists of the National Bank of Belgium wanted and needed more information about the services sector because since the eighties our economy was rapidly changing from an industrial to a services economy. When in 1989 the European Commission announced that the harmonisation project ought to be extended to the services sector, the Bank decided to start immediately.

The initiative of the Commission was however not welcomed by all the member states because all the institutes knew the complexity of the services sector. The sector is indeed made up of a huge number of heterogeneous branches with not always clearly defined activities. Besides that, the sectors contain a lot of small and medium sized enterprises, which are not organised in business organisations. The last mentioned fact is important because - in Belgium anyhow - the sampling procedure and the testing of the questionnaire normally is done with the collaboration of those business organisations.

2. Setting up the survey in the services sector in Belgium: a historical overview

Already in the middle of the eighties, the Bank investigated the possibility of organising surveys in the services sector because the economic importance could no longer be neglected. Neglecting isn't the exact word in case of the Bank because during the seventies a survey in the transport sector was organised but this survey was taken over by the IWT (Institute of Road Transport) because another Directorate general of the European Commission had taken the initiative to organise the same kind of research.

In 1989 the preparatory work for the new survey was started i.e. the design of a questionnaire based on the same principles as the surveys in the other sectors (secret of individual answers, short and comprehensible questionnaire, questions regarding recent past and near future. The design was inspired by the French example and on the first propositions of the European Commission. Finally the

questionnaire consisted of 20 questions, which was more than the usual. Also the frequency differed from the other surveys: quarterly instead of monthly.

In the next step a representative sample was composed. It was also decided to start with the services to enterprises because in Belgium this kind of activities seemed (seems) to be more cyclically sensitive. In collaboration with the Belgian Federation of Enterprises some pilot projects had been set up at the end of 1989. In the second quarter of 1990 the real survey started in the branches "Financial leasing", "Temporary work agencies", "Conveyance of passengers" and "Haulage". In spite of the hard work and energy spent, the results and the response rate were depressing. When in 1993 the response rate collapsed, the survey was completely revised. The causes of the failure were the length of the questionnaire and the frequency.

3. The current survey in the services sector

The failure of the first attempt was no reason to give up the project. A new strategy was worked out with the following main accents:

- the questionnaire had to be simplified
- a monthly frequency
- no close collaboration with the business organisations but with the network of bank-agencies

Thanks to this approach, a new survey in the services sector could been organised from May 1994

3.1 The questionnaire

When the new strategy was developed, a consensus was achieved on the proposal of a harmonised questionnaire and therefor this was used as the basis. As 'usual' the survey is composed of three series of questions on which a qualitative answer is expected.

The first part contains three questions with respect to the evolution of the volume of activity (sales), the workers employed, and the sales prices.

The second part contains assessment-questions on the actual level of activity (or turnover) and the competition on the internal and external market.

In the last part the head of enterprise is asked to give his expectations about the evolution activity (or turnover), employment, prices and also on the total demand on the market of his enterprise.

Each quarter some additional questions are asked about the people employed and the share of export. These questions are asked for weighting purposes. The weighting procedure is indeed somewhat different from the 'normal' surveys.

Although the questionnaire is completely in line with the harmonised proposal of the Commission, we have to admit that the Commission is less demanding. The proposal contains only five questions with respect to:

- the evolution of demand
- the evolution of employment
- the assessment of the enterprise climate
- the expected evolution of demand
- the expected evolution of employment

Member states (or others) which start to set up surveys in the services sector are recommended to follow the harmonised proposal. If they want to add some additional questions, they should take care that the number is limited.

3.2 The sectors examined

Until now the survey is limited to services to enterprise only but the number of sectors has already increased compared with the first attempt. An overview follows:

Section	Division	subdivision included in the survey
a. Transport, Storage and Communication		
	60 Road transport	60.21 conveyance of passengers
		60.24 haulage and movers
	61 Water transport	*none*
	62 Air transport	*none*
	63 Supporting act. of transport	all
		except 63.21 (haulage support)
		63.3 (tour operators)
	64 Post and Communications	

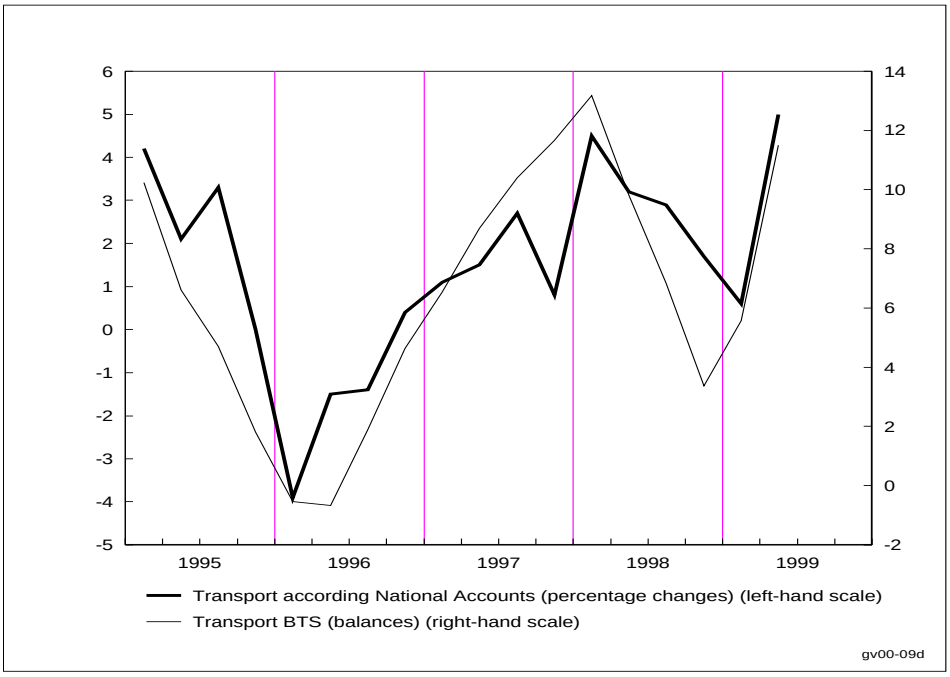
b. Property, renting and services to enterprises

70 Renting of property	all
71 Renting without personnel	71.1 (road transport)
	71.21 (machines and equipment)
	71.3
72 IT	all
73 Research and development	73.10 (scientific R andD)
74 Other services	all

About 37 activities (= products) are surveyed now. Even though no surveys are organised in the divisions "Water transport" and "Air transport" due to the problem of internationalisation, the survey in the transport support activities minimalises the loss of information. (Graph 1). It also has to be said that the selected 37 activities are covering 85% of the total turnover in the sector of services to enterprises. This explains why the evolution of the turnover based on the VAT-statistics is comparable with the evolution of the turnover measured in the surveys. (Graph 2).

Graph1

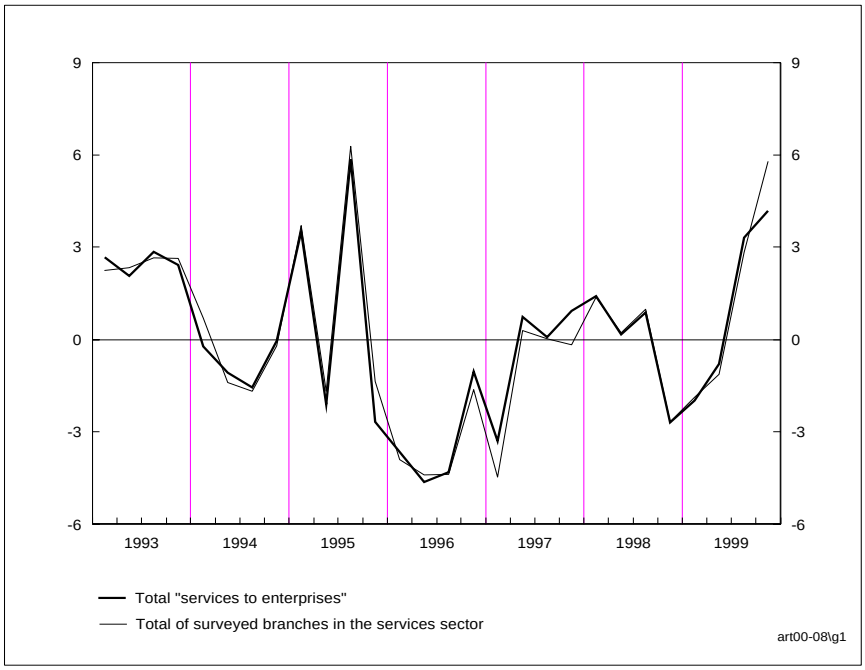
COMPARISON BETWEEN BTS-INFORMATION AND NATIONAL ACCOUNTS FOR THE TRANSPORT SECTOR



Graph 2

CYCLICAL PROFILE OF THE TURNOVER IN THE SECTOR "SERVICES TO ENTERPRISES"

(deviation from the trend)



Source: NSI, NBB.

The good quality of the information of the survey is important as the importance of the services sector is continuously growing. In Belgium, the relative part in fixed prices of the value added of the sector "Services to enterprises" is about 27% of GDP.

As the National Bank is now organising surveys in industry, commerce, construction and services, about 64 % of the total economic activity is covered. The activities not included are:

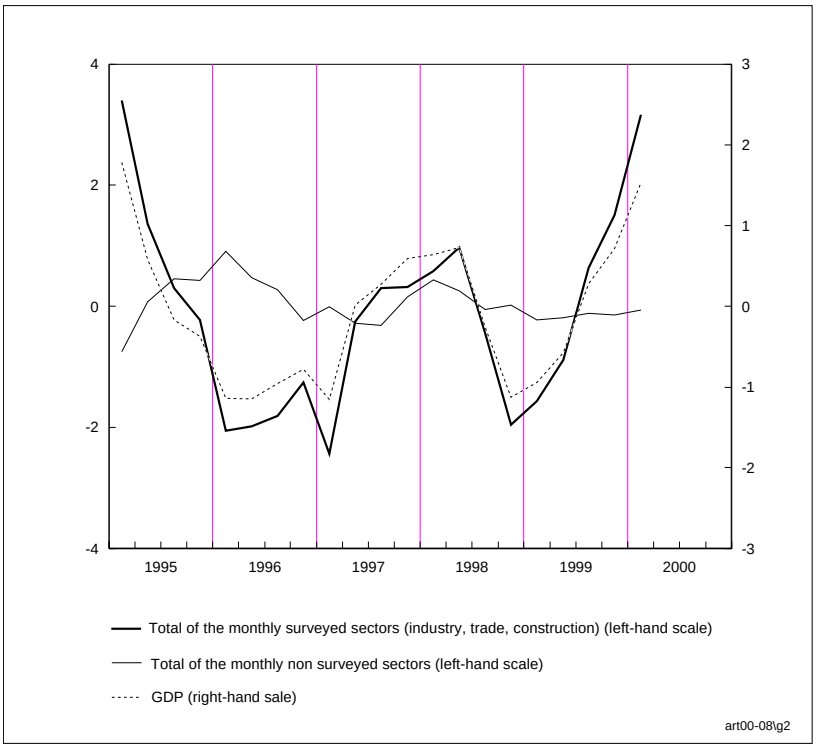
- Agriculture: 2% of GDP
- Financial institutes: 7% of GDP
- Hotel and catering: 2% of GDP
- Public services: 20% of GDP
- Other services: 6% of GDP

In the graph is shown that the sectors which are not included in the survey are less cyclically sensitive (graph 3).

Graph 3

CYCLICAL PROFILE PER SECTOR

(deviation of the trend of the value added in fixed prices)



Source: NSI, NBB.

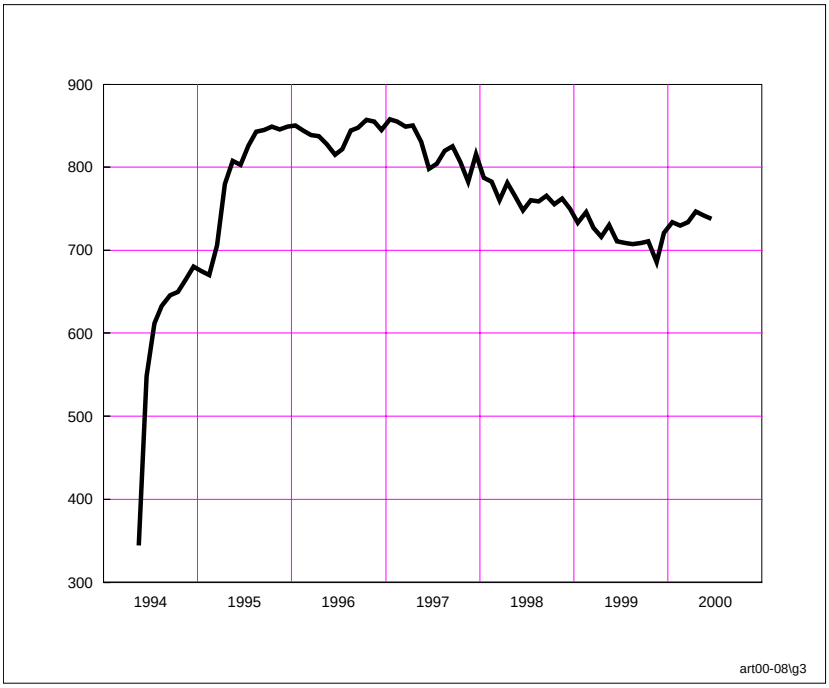
3.3 The sample

The selection procedure of the panel was initially comparable with the "normal" surveys except that the business organisations are playing a less important role. The follow up of the panel is however different.

In case of the normal surveys the 'death rate' is very low as participation is on a voluntary basis. A regular redrawing is sufficient to catch the new created enterprises. In the services sector the 'death rate' of the enterprises is rather high: there are more bankruptcies, mergers or change of activities (graph 4). Above that, the lack of well organised business federations, and the individualistic behaviour of young and ambitious businessmen implies that the process to convince them to participate is very hard and time consuming. Setting up business surveys in the services sector involves a permanent job on the sampling side. Luckily the Bank works on a product(activity)-basis so that some specific information of the sector can be used to persuade them.

Graph 4

NUMBER OF PARTICIPANTS IN THE SERVICES SURVEY



Source: NBB.

As far as the representativity is concerned, a confrontation with the observations of the Balance Sheet Office and the statistical information about employment can give some clarification although one must be very cautious because the same enterprise can be catalogued differently.

The total sample of the services sector represents approximately around 4.1% of the total number of the deposited balance sheets, and about 14% of total employment in the sector. This means that the 'bigger' (i.e. medium sized) firms are more represented than the smaller ones. Although the Bank is used to having higher representativity figures, the statistical methodologists are considering this as sufficient enough to go on.

3.4 A composite index for the services sector

Like in the other sectors, the statistical customers are interested in a simple indicator that gives an overview of the cyclical evolution at a single glance. As we are working on a product(activity)-basis a first aggregation has to be done. The reasons are:

- classification differences that can cause interpretation problems in case of comparisons on product level.
- representativity on product level is not always possible
- statistical information on product level doesn't always exist.

The 37 products are aggregated in 4 branches:

- transport and related activities (Nace 60 and 63)
- renting and leasing without personnel (Nace 71)
- informatics (Nace 72)
- other services (Nace 73, 74 and 90)

An overall indicator for the services sector is also calculated based on the branches. The above mentioned branches are satisfying the user (internal and external) needs.

3.5 The calculation of the composite indicator

In the composite indicator of the Bank not all the questions are taken into account. A selection was made based on correlation analysis. The selected questions are:

- the recent evolution of the activity(or turnover)
- the recent evolution of employment
- the assessment of activity
- previsions of activity or turnover
- previsions of employment
- previsions of market demand

The composite indicator is the arithmic mean of the balances of the above mentioned questions. Like in the other sectors the composite indicator is smoothed by the calculation of a moving weighted median.

3.6 The difference with the other surveys: unweighted results for the 37 product-level

Although the calculation of the composite indicator for the services sector is comparable with the method used in the other surveyed sectors, a main point of difference has to be mentioned: the aggregation on the product level is unweighted whereas normally the turnover or the people employed (construction) is used. The reason why the individual answers are not weighted is inspired by two reasons:

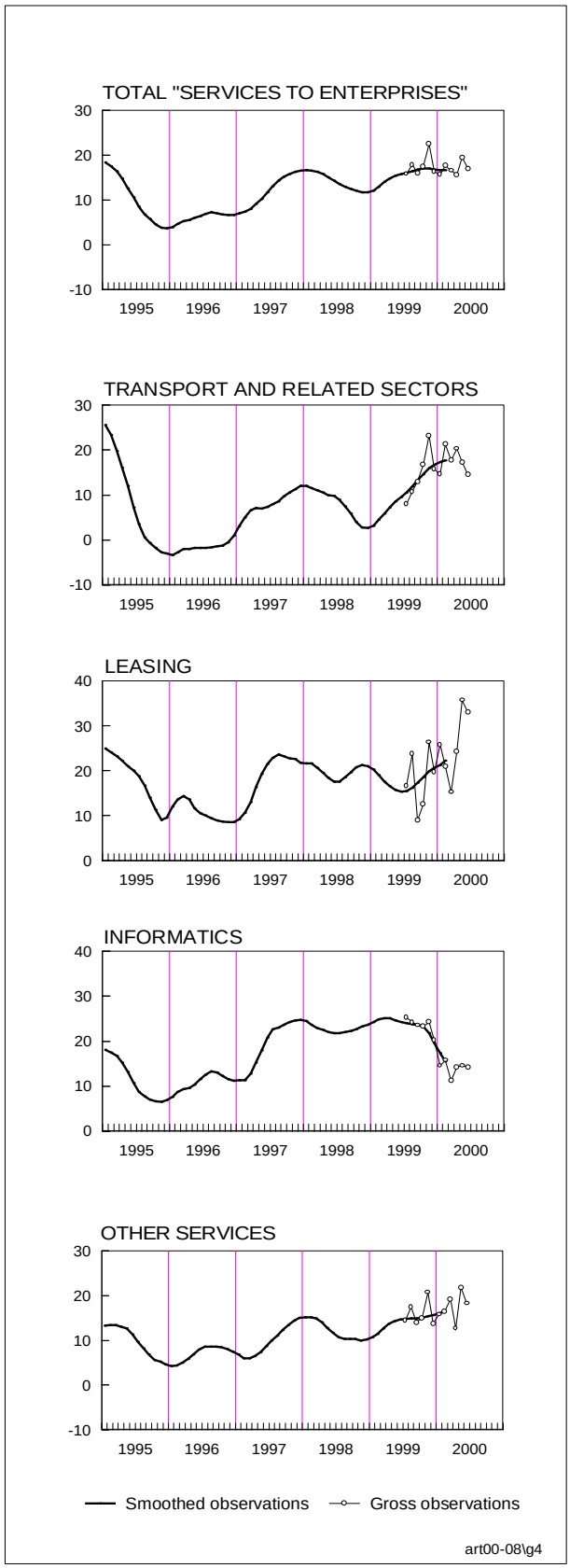
- it is a rather new survey with a very high rotating panel. Above that the structure and importance of the enterprises is changing very fast.
- in an analytical comparison with statistical sources, the unweighted method showed the best fit.

The aggregation weights of the 37 products into the four branches are based on the relative importance in the field of employment of that activity. The aggregation weights of the four branches are based on the average turnover in the period 1996-1999. They are respectively 25% for "Transport and related activities", 5% for "Leasing", 26% for "Informatics" and, finally, 44% for "Other services to enterprises".

Graph 5

SYNTHETIC CURVES OF THE SECTOR "SERVICES TO ENTERPRISES"

(seasonally adjusted data)



Source: NBB.

4. An overview of the results

4.1 The evolution of the synthetic curves

In graph 5 an overview is given of the evolution of the business climate in the four main branches as well as the overall synthetic curve for the services sector. As explained, the last is the weighted average of the four branches.

In general the curve indicates that the business climate deteriorated in the course of 1995. Not until the autumn of 1997 a comparable level of 1995 was reached. In 1999 the slop op the curve was upwards again but at the beginning of 2000 a slight drop was seen.

Behind the overall synthetic curve for the services sector some important differences between the branches can be noticed:

- the troughs are not coinciding. In "Transport and related activities", "Informatics" and "Other services" a trough was registered round about the turn of the year 1995-1996, while the recovery in "Leasing" only started at the end of 1996.
- after the recovery in 1997, the evolution of the business climate diverged. "Transport" and "Other services" were slightly deteriorating, while "Leasing" and "Informatics were consolidating.
- in the course of last year a recovery was seen in the branches "Transport" and "Other services". In "Informatics" - due to the work for the Euro and Y2K - a slackening of the activity was noticed. The sector of "Leasing" was steady.
- during the first months of 2000, the optimism of the participants in the branches "Transport" and "Other services" were stabilising at a high level. The climate for "Leasing" was substantially improving while the indicator for "Informatics" was decreasing.

4.2 A comparison between the synthetic curves and the statistics

Indicators based on qualitative surveys are only useful if they give relevant information. To prove this a confrontation with other statistical - quantitative - series is necessary. Therefore the synthetic curve for the services sector had been compared with the deviation from the trend of the turnover and the value added in both the services sector and the global Belgian economy.

A graphical analysis shows us that the fit of the synthetic curve of the services sector is fairly good and is even better for the total economy (graph 6). A simple correlation analysis[11] gave the following results:

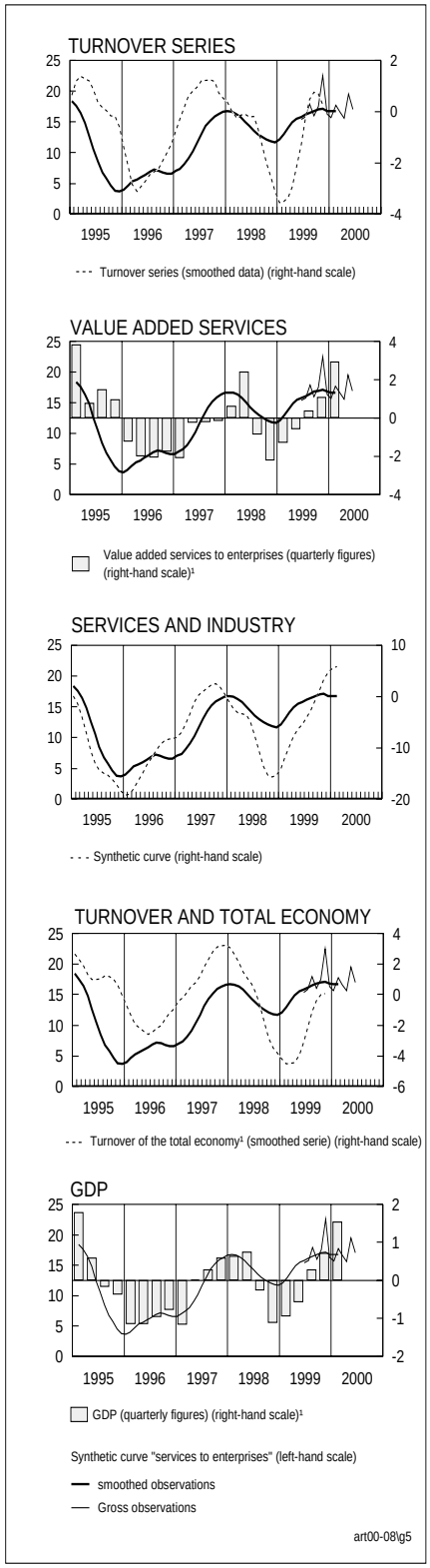
- compared with the services sector, measured by turnover and value added, the coefficients are respectively 0.50 and 0.39.
- there is a very good fit between the synthetic curve of the services sector and the synthetic curve of industry; the correlation coefficient is 0.71.
- compared with the total activity (measured by total turnover and GDP) the correlation coefficients are higher than compared with the activity in the services sector alone; the coefficients are respectively 0.34 and 0.71.

[11] The correlation was calculated on a monthly based series in case of the turnover, quarterly in case of the value added and GDP

Graph 6

SYNTHETIC CURVE "SERVICES TO ENTERPRISES" AND REFERENCE SERIES

(seasonally adjusted data)



Sources: NAI, NSI,NBB.

1 Deviation from the trend.

The coefficients should be seen with the following threshold values in mind: 0.29 in the case of monthly data; 0.47 in the case of quarterly data. The conclusion is that the surveys in the services sector really give relevant information.

The fact that the fit between the synthetic curve of the services sector and the turnover and value added in the sector isn't higher, doesn't mean that the information of the participant isn't reliable enough. Although the quality of the statistical series for the services sector is improving thanks to changes in methodology and institutional reforms, the ultimate quality goal is however not reached.

An analysis in a broader, European, context is unfortunately not yet possible because the series of the Commission are too short. The only lead we have is the survey results of France. In the study of the European Commission "A users' manuel to the joint harmonised EU programme of business and consumer surveys"[12] a comparison is made between the confidence indicator of the services sector and the GDP-growth in France. For the period 1988-1996 the correlation was 0.54, which is significant lower than the result we have now in Belgium (0.71). Although the reference period isn't the same, the difference is significant enough to encourage further investigation.

The Bank also examined if and how the results of the services sector could be integrated in the overall synthetic curve. Technically such integration is possible but it was decided not yet to do so because:

- the survey is rather "young" and in the next future some additional activities will be included
- the analysis is not finished yet. Longer series and comparison with other countries is needed.
- one of the purposes of a composite indicator is to indicate turning points as soon as possible. As the services to enterprises are depending on the cyclical evolution of industry, we have to be cautious that the predictive character of the overall curve remains at least the same.
- the correlation between the overall synthetic curve without the services is slightly better than an overall curve with the services sector.

This topic will be analysed more thoroughly in the future.

[12] European Economy, 1997, nr. 6, p 68-71

BRIEF DESCRIPTION OF BUSINESS SURVEYS, METHDOLOGICAL AND PRACTICAL PROBLEMS

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SUMMARY

Part I

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Part II

Harmonisation of business surveys in industry

BRIEF DESCRIPTION OF BUSINESS SURVEYS, METHODOLOGICAL ANd PRACTICAL PROBLEMS

1. Reasons for conducting tendency surveys

1.1 *How it started*

It is more than 30 years since the first business survey started in EUROPE, first in Germany at the ifo Institute and soon after in France. Today business surveys are carried out in more than 40 countries. Why have the business tendency surveys developed with such great success throughout the world? The answer mainly is: The business survey technique is an instrument to use the entrepreneurial knowledge of conditions and facts in companies to understand what is happening in the economy and to use these data for short term forecasting. It is especially the capacity of forecasting turning points in the economy – not so much the level of activity - which can explain the spreading of this technique to other countries on a world wide scale.

1.2 *Business Tendency Surveys provide important short-term economic indicators*

There are some fundamental requirements which must be fulfilled before an economic indicator should be used in short term economic analysis and forecasting.

a) Sound statistical basis

b) The indicator should be significant according to economic theory. If this is not the case an indicator will be the target of similar criticism to those expressed by KOOPMANS in the extensive analysis of economic indicators carried out by the NATIONAL BUREAU OF ECONOMIC RESEARCH (NBER): Measurement without theory. For practical reasons it has to be stressed that the questions posed in the questionnaire should not only be relevant from a theoretical point of view but also from the view of the management in the companies, otherwise it will be extremely difficult to motivate managers to participate in the survey.

c) Speed

The data should be available with little delay, otherwise they are only of interest for economic history but not for the analysis of the present economic situation and for forecasting. It is also very important that the data of the economic indicator should not be revised to a significant extent in later periods. This is the case in some countries where preliminary data are released very quickly but later on are revised up to 3 times, to such an extent that sometimes no similarity with the first released data is left. There are indications from the USA and some European countries that about 30-40% of forecasting errors are due to revisions of the originally published data, especially revisions of the index of production and of incoming orders.

d) No strong seasonal distortions

The ideal economic indicator should not have much seasonal influence but should be fairly smooth. Otherwise it is very difficult to predict turning points and to provide useful information for the companies for their short term planning[13].

[13] The MCD-statistics (Months of Cyclical Dominance) gives some indication about the smoothness of a time series. It tells you how long you have to wait on average before you can be sure that a change of the time series under consideration is not only caused by random factors. Or more precisely: The MCD-statistics can be defined as the shortest period for moving averages which have to be applied in

To what extent are those requirements fulfilled by indicators based on business surveys?

Ad a)
It can be shown that a relatively smaller sample is sufficient to gain meaningful results of changes in time series if an ordinal scale is used instead of a metric scale (for more details see paragraph 2.2 in this report). This is obvious because the necessary sample size depends in the first place on the variance of the different variables. As is well known from statistical theory the variance of changes in variables based on panel data is as a rule significantly smaller than in the case of data derived from independent ad-hoc-surveys. Intuitively the explanation for this is the fact that the rate of change of the variable under inspection depends both of the "inner" variance (i.e. in the sample) and of the "inter" variance (i.e. between the 2 surveys). In the case of a panel the "inter" variance is negligible whereas in 2 independent surveys this component of total variance can be very significant.

Ad b)
It is meanwhile widely accepted amongst economists that a theory of economic behaviour which does not take into account expectations, judgements, plans and other attitudinal variables can hardly reflect reality adequately. According to experience it is not correct to assume a fixed relationship between a stimulus (e.g. investment grants by the government to stimulate investment) and actual behaviour. In addition, so called intervening variables –i.e. variables that reflect the subjective perception of the relevant environment – have to be taken into account.

The main philosophy of the business survey can be summarised in this way. Before the so called hard economic data such as production, sales and investment figures settle into the traditional quantitative statistics, the entrepreneurs form judgements and expectations which lead to plans.

Only after these plans have been implemented do any statements of facts arise that can be collected by the traditional quantitative statistics. If it is possible to record the events which lead to such decisions then it ought to be possible to obtain data which register a change in the cyclical tends earlier than customary indicators.

Ad c)
The business trend survey results are usually available 2-3 weeks after the period under consideration is over. The reason for that is mainly: The questionnaires are easy to answer because the questions put are largely of a qualitative nature and the sample size can be kept relatively small for the above mentioned reasons.

Ad d)
According to all experience, indicators based on judgements and expectations are relatively smooth because they contain seasonal and erratic disturbances to a lesser degree than quantitative statistics. For this reason the business trend survey results are especially well suited to identify turning points of the business cycle. The above mentioned MCD statistics is in the case of quantitative indicators – based on business surveys – usually significantly smaller than in the case of quantitative indicators.

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order to be sure that the influence of the systematic component (trend cycle) of the time series exceeds that of the random (irregular) component. So if the MCD-statistics is e.g. 6 months a moving 6 months average should be applied which means that 3 months are lost at the end of the time series. If the average lead of the original time series is 8 months, the effective lead would be in this case 5 months. The MCD-statistics of most indicators based on monthly business survey results are as a rule between 3 and 6 months.

2. Methodological questions

2.1 *Scale*

In statistical theory we distinguish basically between

nominal scales
ordinal scales
metric scales

Whilst the traditional statistics are focussed on metric data, business tendency surveys use ordinal scales primarily. There is an immense literature on optimal scaling in the case of ordinally scaled questions (e.g.: Should number of response-alternatives be even or uneven, that means should there be an anchor-point or not? Is it better to put questions in form of semantic-differentials[14] or in form of 3 or 5 points verbal scales). The literature and empirical research do not give clear cut answers with respect to an optimal scale. For that reason a pragmatic approach is justified. According to experience in many countries a 3 point-scale gives good results for most of the questions posed in business trend surveys.

A 3-point scale is more flexible than it looks at first glance because combinations of answers are possible (e.g. to tick "up" and "no change" if there has been only a slight upwards-tendency; in this case the weight of the company is divided between 2 response-possibilities).

Example:

	Tendency	Weight of Company: 2	
	up	x	1
Volume of production:	about the same	x	1
	Down		

2.2 Sampling procedure

The proposed construction and composition of the "business survey panel" can be characterised as a modified type of a stratified sample. The stratification criteria are subsectors at the 3-digit ISIC level and size classes (number of persons employed). The term "modified type of stratified sample" refers to the fact that a strict random procedure for the selection of the establishments/companies within each strata seems not possible and not even advisable. There are some reasons for a deviation from the ideal of a pure probability sampling:

Practical reasons: Even if in some countries the companies selected could be forced by law to participate in the business survey, it does not seem advisable to insist strictly on the participation of such companies which are not willing to co-operate. Otherwise the quality of the answers and also the speed of the survey would suffer. The companies included in the survey should be convinced that the data they provide are not

[14] Example for a semantic differential

Business situation

	1	2	3	4	5	6	7	
very good	☐	☐	☐	☐	☐	☐	☐	very bad

only an important input for macro-economic purposes (policy making), but also for information which can be used by the companies more directly (market research data). Finally, companies included in the business survey, should fulfil some basic requirements with regard to book-keeping and short term planning. For these more practical reasons a purposive selection is recommended and the composition of the panel will therefore at the end resemble more a quota-sample than a strict random sample.

Methodological reasons: According to statistical theory the size of a representative sample depends in the first place on the variance of the respective data in the total population and only to a much lesser degree on the number of elements within the population. As has been pointed out that changes of panel-results from one survey to the other have as a rule a smaller variance than results derived from completely independent surveys. In addition, most of the business survey data are measured on an ordinal scale, i.e. not on a metric one. As can be shown the variance of ordinally scaled data is as a rule significantly lower than that of metrically scaled data.

2.3 Weighting and Data Processing

The so called "weighting" of the individual information furnished by the companies has – in the context of business surveys – 2 functions

a) Correction of biases in the structure of the sample

b) First step towards the quantification of qualitative data.

Ad a)

Whenever data-collection is based on a survey (i.e. sample of the total population) and not on a census (total population) weighting is an integral part of the estimation process – regardless of whether data collected are of a quantitative or qualitative nature. In case (a) weighting serves the purpose of adjusting for over- or under-representation in the sample in relation to the target universe (e.g. employment). If e.g. in the sample employment size – class I (small companies with less than 50 employees) amounts to 10% of total employment in the sample whereas this share is 20% in the total population that the results of size class I should be multiplied by factor 2.

Ad b)

In the case of quantitative data the above mentioned weighting (correction for biases in the sample) is sufficient. This is not the case with qualitative data. The information "production will increase" has to be treated in a different way when it refers to a big company as when it refers to a small one. Otherwise we will not get reliable data for the aggregate. A strong case can be made for applying the principle: The individual responses should be weighted according to the size of the responding firm (e.g. value added).

According to the remarks on the design of the business survey panel (e.g. big companies are purposively over-represented, see 2.2) the first weighting-step (a) would result in "blowing up" results of small companies (weighting factors for small companies would be much bigger than 1). The second weighting step (b) would work in the other direction: Here the weight of the bigger companies would be increased, the one of the small companies reduced. As has been shown in many countries, the 2 effects (weighting a and b) cancel out to a large extent within a branch: for that reason 2-step weighted results and unweighted results differ usually only to a small extent on the branch level. For that reason the conclusion could be drawn that weighting within a branch is not necessary. An empirical evidence has shown, however, that in

many cases a simple adding of the individual responses within a branch tends to underestimate somewhat the importance of the bigger companies (compared with results based on weighted data according to step a and b). The following compromise is proposed: For small companies (e.g. less than 50 persons in industry and construction and less than 10 persons employed in trade) company survey results should be weighted with "1", for medium size companies (e.g. between 50 and 199 persons employed in industry and construction and 10 to 50 persons in trade) the weighting factor should be "2" and for the remaining bigger companies this factor should be "3".[15] These weights should be applied to all questions contained in the business survey questionnaire. Nevertheless separate calculations for the 3 size classes – in addition to the results for the total sector – is recommended.

When there are Pro's and Contra's for weighting the individual response on the branch level, there is no question that the branch-results should to be aggregated applying proper weights. The best weights for this purpose are value-added data for the individual branches. This second weighting step should be applied to all business survey data. In the case of the special investment questions a different procedure is advisable (see 2.3.2).

2.3.1 *Remarks on the weighting of the investment questions*

In the case of the quantitative investment-figures, a different estimation process is necessary. Calculations of the investment intensity (investment outlays divided by persons employed) and of the investment quota (investment outlays divided by total gross output) should be calculated separately for the 3 size classes within each branch. The investment intensity and investment quota figures for each of the 3 size classes within a branch are then weighted according to the percentage share of employment, respectively and gross output to get investment-results for the total branch. Usually the 2 separately calculated results for the total branch do not differ very much and the mean value of the 2 calculations can be taken as the final result for total investment in the branch.

Questions on the effect of investment on total capacity and the purpose of investment (rationalisation, enlargement, replacement) should be treated within a branch in the same way as the other business survey questions (i.e. applying weight factors 2.3.1). With regard to the other investment questions the investment figures of the preceding year – calculated for the branches on the basis of the first quarter investment survey – should be used.

3. Some practical points in organising business surveys

3.1 *Close co-operation with federations*

In Germany but as well in many other countries it seems advisable for the surveys institute to stay in close contact with the federations which usually are very co-operative in designing the sample and to convince companies of the advantages to participate in business surveys. Good results have been gained in Germany

[15] Even if this weighting procedure should give the larger companies a somewhat bigger weight than it should be according to the structure of the universe the argument can be put forward, that usually the quality of information is somewhat higher in larger companies than in smaller ones. For that reason a possible slight bias in the business survey towards the larger companies is justified. The 3 size classes are no dogma. It depends on the structure of the total population which number of classes and which brackets are the most appropriate one in the individual case. However, according to all experience not more than 5 classes should be recommended.

with the strategy to discuss once per year the composition of the sample as well as the weighting points within a specific branch with representative of the federation concerned.

3.2 Seminars

In the initial phase of implementing business surveys it is strongly recommended to organise quarterly seminars at different places and to invite participating companies in the region. At these seminars conclusions from the survey results – both for the macro-economy as well as for individual branches – should be discussed. At these occasions also the use of these data for market research should be an important topic.

3.3 Follow-up with telephone and fax

In spite of well designed mailings and accompanying seminars it will be necessary to have enough personal and technical resources to phone up companies not having replied in time and – if possible – to send faxes to remind companies to return the completed questionnaires. Of course it is much easier to improve the response rate, if the companies taking part in the business survey, receive well designed flash results of the survey (e.g. business mirror).

3.4 Institutional aspects in selecting the institute in charge of business surveys

It has to be acknowledged that the reputation of Statistical Offices in companies is often not the best, particularly in Eastern Europe. For that reason it seems advisable that the Statistical Office in the country either subcontracts another organisation to conduct business surveys not only capable to handle those surveys from a methodological but also practical point of view. An alternative would be to found a new institute in which the Statistical Office – together with other institutions, like e.g. universities, Chambers of Commerce – would be one of several partners.

4. Remarks on some regular and special questions in the business tendency survey

Assessment of present business situation:

According to research in countries with a long experience with business surveys the answers to this question reflect mainly the present state of the profit – and demand – situation. This rather general question has the advantage that all relevant factors are weighted according to the importance the manager attributes to them at the moment. Even if a macro-economist may have some doubts with regard to the subjective moment in the weighting factors intuitively applied by the manager, they are relevant for the decision-making process in the companies – and only this counts.

Production development

As has been proved in many countries these data can be used to construct a proxy for the production index. Usually the time series of the net-balances of this question correspond best to the growth rates (i.e. the percentage change compared with the same period in the preceding year). The reason for this is the

fact that entrepreneurs in order to eliminate seasonal factors usually make comparisons with the relevant data of the corresponding period in the previous year.

Stocks of finished products and of important raw materials

In all countries the collection of data on stocks is one of the most difficult tasks of the official statistics. The problems lie especially in the different methods which are used in the companies to measure stocks (e.g. Fifo – or Life method). At the moment there is no agreement world-wide on an optimal way to collect data on stocks. One feasible way is to ask the companies to measure their stocks in weeks of production (separately for finished goods and raw materials).

For the business cycle analysis the traditional judgmental questions on stocks are as a rule still of greater importance than the proposed quantitative proxies. Especially for National Accounts the type of quantitative data on stocks (measured in weeks of production) should be of special interest, however.

Expected tendency of price development

This question refers only to the direction of the price-development. Nevertheless, the frequency of the answers gives as a rule also an idea of the intensity of price changes. In some countries it proved to be superior to ask directly for the intensity (i.e. not only the direction) of changes in price.

Expectations for next 3 months

average selling prices	at a faster rate	☐
will increase (compared withprevious quarter)	about the same rate	☐
	at a lower rate	☐

Business expectations for the next 6 months:

This question has a complementary function to the question on the present business situation. It proved to be very useful to combine the results of these 2 questions in the form of the so called "business climate" that is the geometric mean of the 2 net balances[16], i.e.:

$$\sqrt{(\text{Balance1}+100)\text{x}(\text{Balance2}+100)}$$

[16]Net balance is defined as the weighted percentage of firms giving the positive answer (e.g. business situation is good, output has increased) less the weighted percentage giving the negative answer (e.g. business situation is bad, output has increased).

Balance 1 refers to evaluation of the present business situation, balance 2 to the expectations concerning the future trend of business situation in the next 6 months.

The reason for adding 100 is to avoid imaginary results; after having calculated the geometric mean the amount of 100 is subtracted again. The business climate is regarded in Germany and other countries as one of the most reliable leading indicators. A combination of the business climate in industry, construction and the service sector – weighted according to the value added of these 3 sectors – results usually in a good leading indicator for total GNP. (This conclusions holds true although some authors propose to use the 2 time series as separate indicators and to put main emphasis on the minus-answers in the case of business expectations and not on the balance.)[17]

[17] See e.g. H. Entorf and M. Kavalakis. "Using Data of the ifo Business Survey for Analysing Economic Activity and for Forecasting the Business Cycle", Discussion Paper No. 462-91, UCL; Louvain-la-Neuve, Universität Mannheim, November 1991.

UTILISATION OF THE TANKAN[18]

Satoshi Saito – Bank of Japan

1. Introduction

On the release day of each statistic, the Research and Statistics Department (RSD) of the Bank of Japan, releases only figures. It dose not add any policy judgements or interpretations regarding the statistics released[19]. The bank believes that interpretation of statistics and judgements on the financial and economic situation should be presented to the public through *The Monthly Report of Recent Economic and Financial Developments (Monthly Report*) and press conferences by the Governor based on decisions determined at the Monetary Policy Meetings[20] of the Policy Board. Thus, according to this policy, the analysis of the TANKAN is done by the Economic Research Division (ERD) in RSD, which is a different section from the statistics compilation section, the Economic Statistics Division. ERD is in charge of economic analysis for framing policy recommendations and makes a draft of the *Monthly Report.*

The TANKAN is used for grasping the current economic situations, especially that of the private sector. The strong point of the TANKAN is timeliness; the result shows the current economic situation, not that of three months ago. It dose not have all the information about Japan's economy, nor is it a component statistic of the GDP. Thus ERD uses the TANKAN as one of the important statistics for economic analysis. ERD mainly uses the TANKAN to confirm their outlook for the economy that is made from various other statistics and information got by our interviews to main enterprises[21].

[18] TANKAN is the abbreviation of "**TAN**KI KEIZAI **KAN**SOKU CHOUSA". With regard to the outline of the TANKAN, purpose, frequency, contents, please refer to 'TANKAN- Short-term Economic Survey of Enterprises in Japan –', the country paper in the first workshop in Manila in 1999.

[19] With regard to general policy concerning statistics of the RSD, please refer to 'Enhancement of Statistics Provided by the Research and Statistics Department' on our Web site(http// www. boj.or.jp/en /) .

[20] The Monetary Policy Meeting is held twice a month in principle, and the schedule of the MPM is announced at the end of March, June, September, and December for the six months following of announcement.

[21] The TANKAN results and data are also used for other ad-hoc research concerning the corporate sector.

2. Real economy

General view of economy/corporate sector

Business Conditions D.I.

First, we can get a general view of the current situation in the corporate sector by the ***Business Conditions D.I.,*** calculated as "Favourable" minus "Unfavourable". This D.I. is the most important indicator of the TANKAN.

In general, the D.I. is considered to be a good indicator of Japan's economy as a whole, and in fact the change of the D.I. is almost the same as that of the economy (Figure 1). More specifically, this D.I. shows the general sentiment in the corporate sector, which is one strong factor in the economy. Thus, the change of D.I. is very similar to that of the economy as a whole. However, it sometimes shows little movement, especially in the recent situation in Japan when the corporate sector is recovering but private consumption is still weak. (For Example- September 2000 survey Figure 2)

First of all, we check the D.I. in four main categories, a) large enterprises in the manufacturing sector, b) large enterprises in the non-manufacturing sector, c) small enterprises in the manufacturing sector, d) small enterprises in the non-manufacturing sector.

We can see that the D.I. increased in all four categories, that change in the large manufacturing is bigger than the others, the DI of only that category is positive and others are negative, etc. These figures show that sentiment in the corporate sector continues to recover. In retail, however, only large manufacturing, in particular Processed metals, Industrial machinery, and Electrical machinery, shows bigger changes and is in a "favourable" situation. The other three show increases not as large and are still in an "unfavourable" situation, especially small non-manufacturing included Construction, Wholesaling, Retailing, is severer.

From these facts we can confirm the following view of Japan's economy. Japan's economy is recovering gradually, but some industries have recovered quickly but others have not. IT industries, included in the large manufacturing sector, are in a favourable situation, but industries related to the private consumption are still severe.

Sales and profit

Sales and *Profit* are the important indicators for monitoring the situation in the corporate sector. Of course, the more sales/profit increase, the better the situation, but that is too simple. In particular, in the recent situation in which many corporations are making efforts to restructure, a decrease in the sales/profit is not always bad. To check this, we use the profit- to- sales ratio as well (Figure 3) . It shows very similar movement to the Business Conditions D.I..

Sales and profit are also keys for business fixed investment. In recent years, many enterprises have tended to invest in equipment by using only their cash flow. In this situation, profit is key to business fixed investment. In addition, we can get information about which industries and what size companies are

leading the economy (for example, IT- related large enterprises) or which are problems for economic recovery.

Business fixed investment

Business fixed investment is an important component of GDP; It is 15% of GDP in Japan. To check business fixed investment, we mainly use *Production capacity D.I.* and *Fixed investment.*

The *Production capacity D.I.*, calculated as "Excessive capacity" minus "Insufficient capacity", shows how private firms feel about their production capacity (Figure 4). When this D.I. indicates a large excess, we can not expect an increase in business fixed investment. The D.I. is used for identifying the turning point in business investment, yielding conclusions such as "As for the future environment for business fixed investment, strong perceptions of excess equipment will persist for the time being (*Monthly report, April 1999*)", and "As for the outlook of business fixed investment, it is difficult to project any immediate abatement of the perceptions of excess equipment, and firms are expected to continue corporate restructuring (*Monthly report, October 1999*)".

Fixed investment is used to confirm the level of business fixed investment as well as changes in this level[22]. In addition, this fixed investment figure is used to estimate business fixed investment in GDP. Fixed investment figures have certain tendencies: For example, small enterprises' plans at the beginning of the fiscal year (in the March survey) is usually about –20%, and large manufacturing enterprises' plans normally increase from March to December and then decrease slightly. These tendencies have to be taken into account when using the fixed investment figures in TANKAN (Figure 5).

Employment conditions

Employment conditions are also an important factor in the national economy as well as GDP. To monitor this, we use various labour statistics such as "Unemployment rate" , "Ratio of job offers to applicants", etc. The TANKAN provides firms' perceptions of excess/insufficient employment by the *Employment conditions D.I.*, calculated as "Excessive" minus "Insufficient". It is used to determine the outlook for employment conditions, as in, "As for the outlook, compensation of employees is projected to rise reflecting the growth in production activities, but the rate of increase is expected to be moderate as firms' stance toward restricting personnel expenses remains unchanged and firms' perceptions of excess employment persist, although they have eased slightly *(Monthly Report October 2000)*" (Figure 6) .

3. Price

For the Bank of Japan, stabilisation of prices is the most important mission. To monitor prices, we, of course, uses price indexes. The TANKAN indicators related to prices provides background information.

[22] We monitor fixed investment plans. In general, such plans are made at the beginning of the business year, and revised according to business conditions.

The *Supply and demand conditions D.I.*, calculated as "Excessive demand" minus "Excess supply", is a good indicator for monitoring upward/downward pressure on prices (Figure 7). The "*Change in output prices D.I.*" and the "*Change in input prices D.I.*", calculated as "Rise" minus "Fall", are used to monitor the effect of price changes on the corporate sector. For example, when oil prices rise rapidly, the input price D.I. rises at first. If many enterprises raise the price of their products, the output D.I. also rises after one quarter or more. In this case, we have to start to watch the price index closely. However, enterprises do not always raise their prices. They can not/ do not raise prices in situations where supply and demand conditions are very easy or the competition is severe, etc. In this case, the output price D.I. dose not rise. It means that the corporate sector is trying to absorb the rise in oil prices by decreasing profits. We have to watch for changes in fixed investment plans.

4. Financial activity

A. General financial condition

To check the general financial condition of private firms, we mainly use the *Financial position D.I.*, calculated as "Easy" minus "Tight". This shows the general cash position of private firms, taking into account the level of cash and cash equivalents, the lending attitude of financial institutions, and payment and repayment terms. However, as this D.I. is for grasping general conditions, we can obtain only limited information from this (Figure 8).

Financial behaviour

By using financial data such as the *Liquidity ratio* and *Borrowing from financial institutions*, we can monitor the financial behaviour of firms. Several recent surveys showed that some firms are trying to reduce debts using their on-hand liquidity. Our experience, however, shows that more accurate financial data for monitoring markets can be collected from financial institutions more easily and more quickly. In many cases, the financial data in the TANKAN are used to support or confirm other information or statistics.

Bank lending

The TANKAN cannot show bank lending directly because the survey group excludes financial institutions. This is because the central bank has many more effective tools that can be used to monitor bank lending directly. However, the TANKAN can be used to check the activity of banks from the perspective of non-financial firms. This check is important at times of financial system turbulence because in such situations the information from financial institutions can be distorted, and we have to confirm the effect of monetary policy on the private sector.

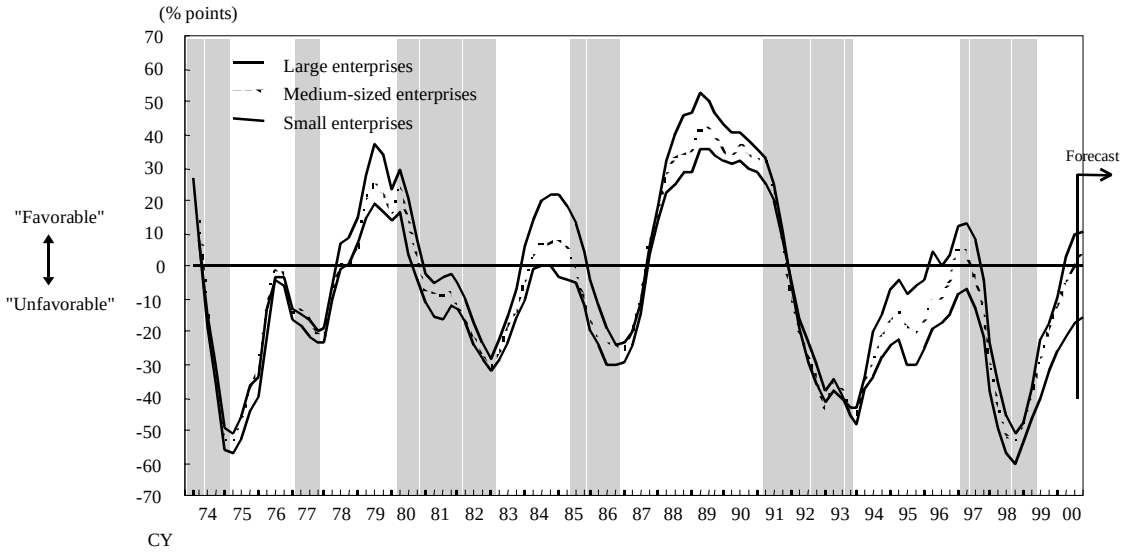
To monitor bank lending and the effects of monetary policy on private firms, we mainly use *Lending attitude of financial institutions D.I.*, calculated as "Accommodative" minus "Severe". It shows an increase (decrease) when interest rates rise (fall) under normal conditions. If it shows abnormal developments, we focus on the supply side because this implies that there may be problem with the

financial intermediary function of financial institutions. For example, in the March 1998 survey, the D.I. decreases while interest rates declined. This showed that many banks adopted an extremely cautious lending stance just after the financial crisis at the end of 1997. Under such circumstances, when the financial intermediary function is weak, it is important to confirm how monetary easing affects non-financial firms based on direct information from non-financial firms (Figure 8).

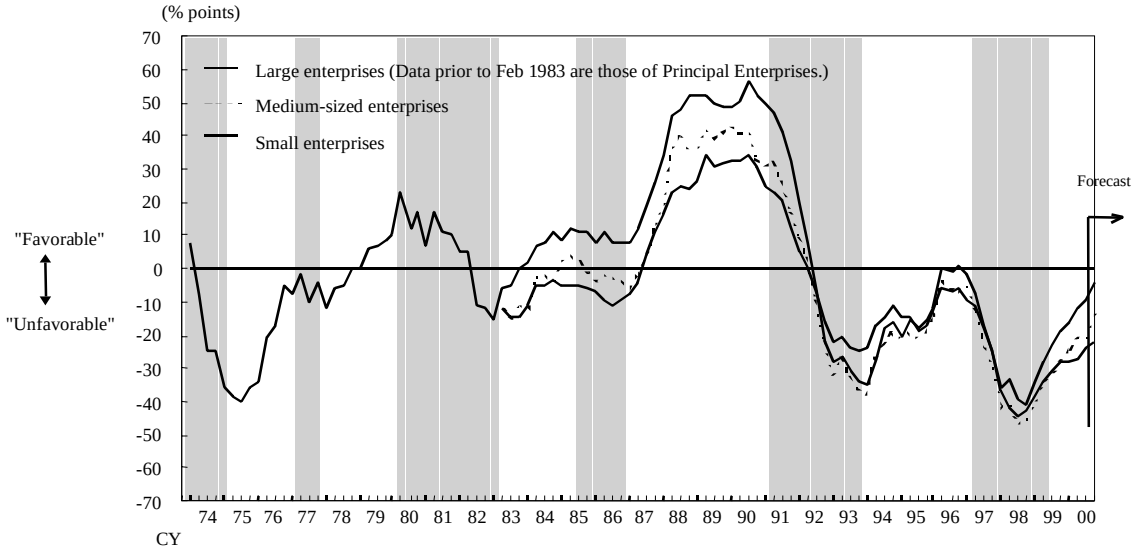
Figure 1

Business Conditions D.I.

(1) Manufacturing



(2) Nonmanufacturing



Note: Shaded areas indicate periods of recession (according to the Economic Planning

Figure 2

1. Business Conditions

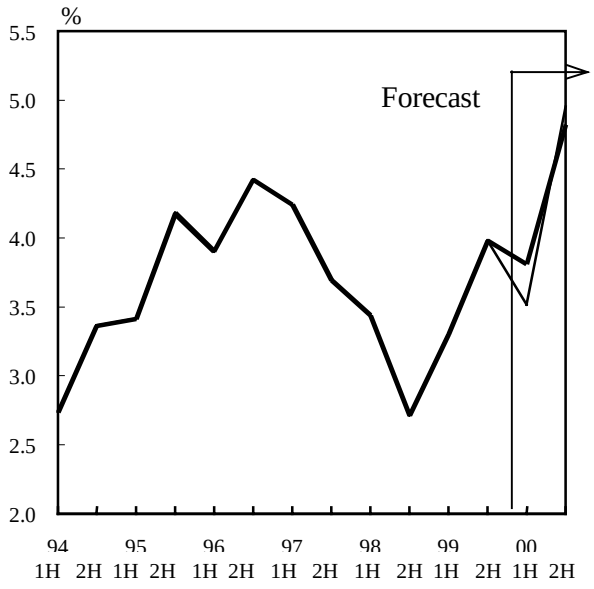
(% point)

	Large enterprises						Small enterprises					
	June 2000 survey		Sept 2000 survey				June 2000 survey		Sept 2000 survey			
	Actual result	Forecast	ctual result	Changes in revision	Forecast	Changes	Actual result	Forecast	ctual result	Changes in revision	Forecast	Changes
Manufacturing	3	6	10	7	11	1	-21	-18	-17	4	-15	2
Textiles	-26	-13	-30	-4	-23	7	-50	-54	-55	-5	-56	-1
Lumber & wood products	-10	-20	-20	-10	-10	10	-46	-37	-39	7	-34	5
Pulp & paper	20	40	33	13	46	13	-12	-20	-14	-2	-14	0
Chemicals	7	11	8	1	11	3	1	4	3	2	7	4
Petroleum & coal products	-50	-50	-57	-7	-43	14	0	-14	0	0	0	0
Ceramics, stone & clay	-8	-22	4	12	0	-4	-33	-30	-30	3	-27	3
Iron & steel	-18	-11	-11	7	-7	4	-39	-23	-17	22	-6	11
Nonferrous metals	-4	-5	10	14	30	20	-3	0	-2	1	3	5
Food & beverages	11	19	9	-2	11	2	-17	-12	-21	-4	-15	6
Processed metals	-14	0	8	22	10	2	-25	-20	-20	5	-15	5
Industrial machinery	-6	5	12	18	9	-3	-19	-15	-6	13	-3	3
Electrical machinery	27	29	41	14	37	-4	0	2	8	8	5	-3
Shipbuilding & heavy machinery	-30	-30	-30	0	-30	0	-34	-45	-46	-12	-45	1
Motor vehicles	4	-9	14	10	9	-5	-3	-12	-3	0	-14	-11
Precision machinery	-15	-8	-8	7	-3	5	5	11	3	-2	8	5
Basic materials	-6	-2	-1	5	4	5	-30	-28	-27	3	-24	3
Processing	6	9	15	9	15	0	-15	-13	-11	4	-9	2
Nonmanufacturing	-12	-7	-9	3	-4	5	-27	-24	-24	3	-22	2
Construction	-27	-28	-24	3	-22	2	-26	-30	-26	0	-28	-2
Real estate	17	33	42	25	33	-9	-10	-12	-4	6	-10	-6
Wholesaling	2	12	5	3	9	4	-26	-22	-28	-2	-21	7
Retailing	-18	-7	-20	-2	-7	13	-44	-39	-44	0	-35	9
Transportation	-24	-18	-12	12	-12	0	-30	-27	-23	7	-22	1
Communications	17	25	18	1	27	9	37	38	37	0	38	1
Electric & gas utilities	6	12	12	6	0	-12	0	0	-4	-4	0	4
Services	1	3	2	1	4	2	-22	-18	-18	4	-17	1
Leasing	0	-11	11	11	11	0	-34	-21	-21	13	-10	11
All industries	-4	1	2	6	4	2	-24	-22	-22	2	-18	4

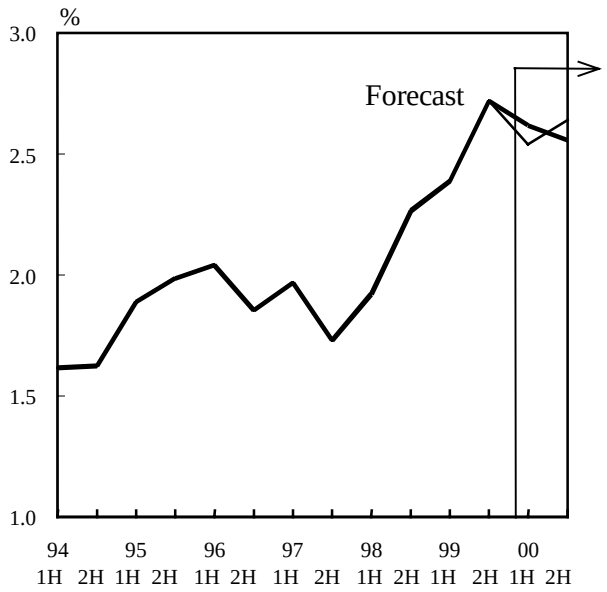
Ratio of Recurring Profit to Sales in the *Tankan* (September 2000)

(1) Large Enterprises

Manufacturing

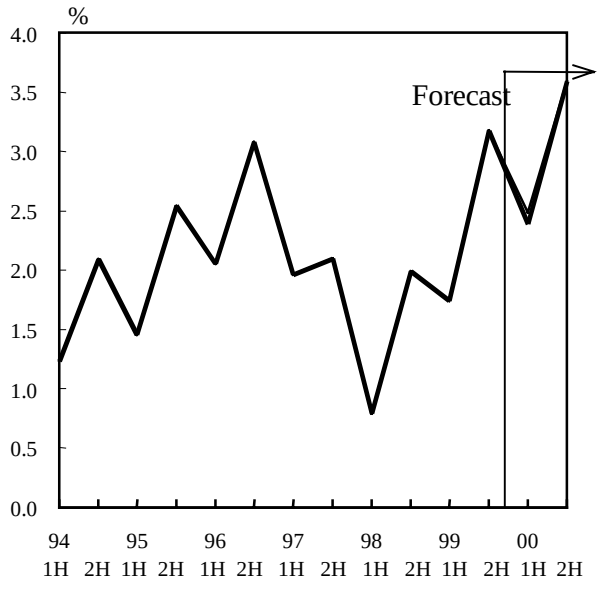


Nonmanufacturing

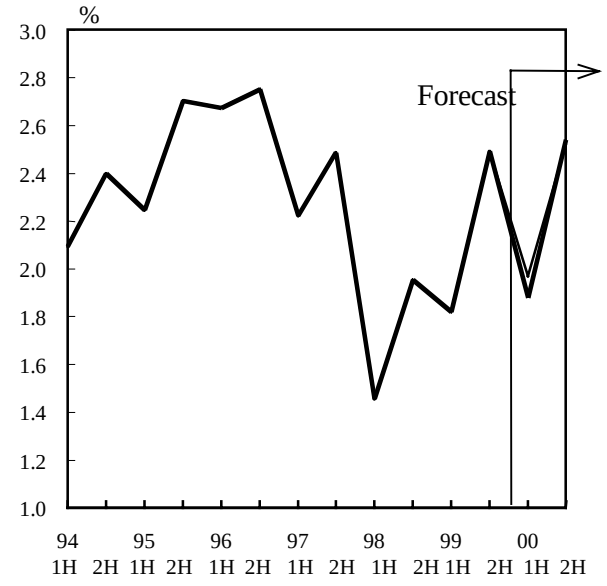


(2) Small Enterprises

Manufacturing



Nonmanufacturing

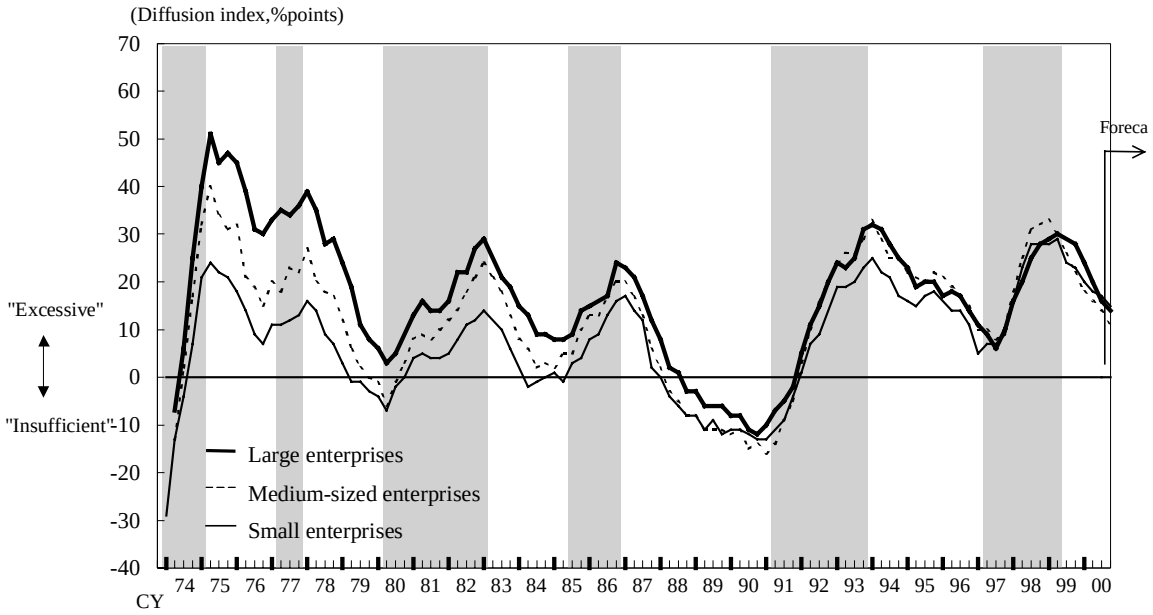


Notes: 1. The thin solid line shows the figures as of the June 2000

2. Large enterprises: 1,000 employees or
Small enterprises: 50-299 employees (Manufacturing), 20-99 employees
49 employees (Retailing, services, and leasing), 50-299 employees (Other industries)

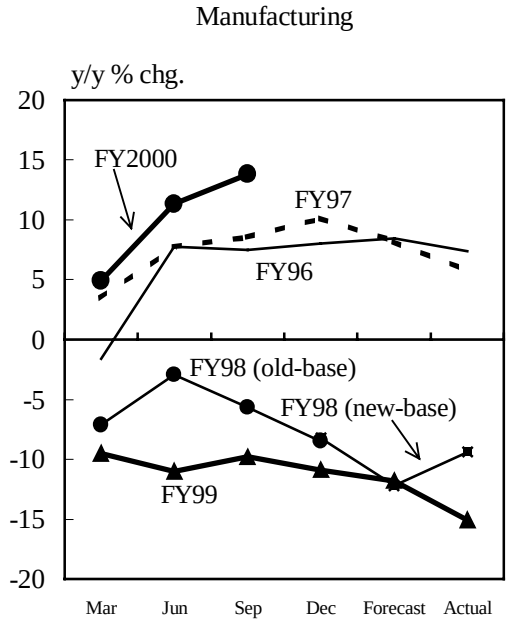
Figure 4

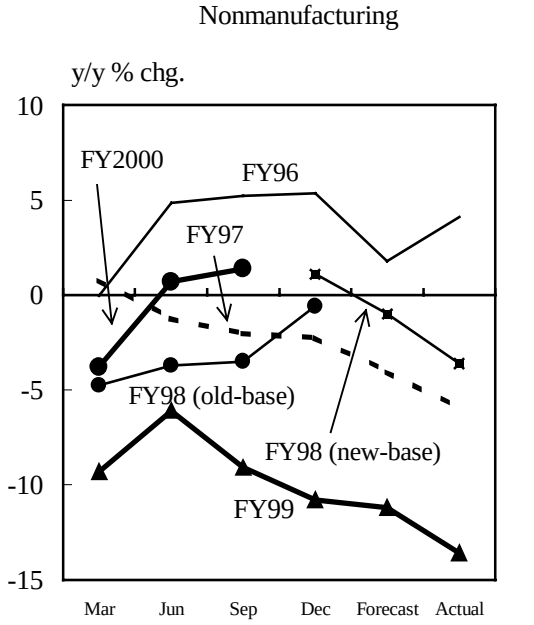
Production Capacity (Manufacturing)



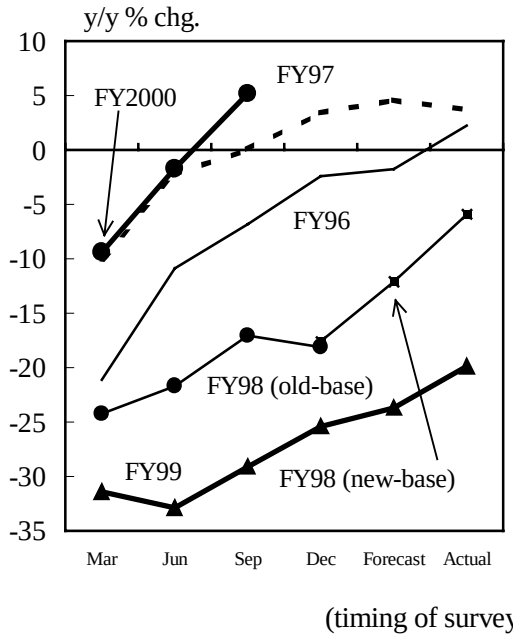
Business Fixed Investment Plans as Surveyed in the *Tankan* (September 2000)

(1) Large Enterprises





(2) Small Enterprises



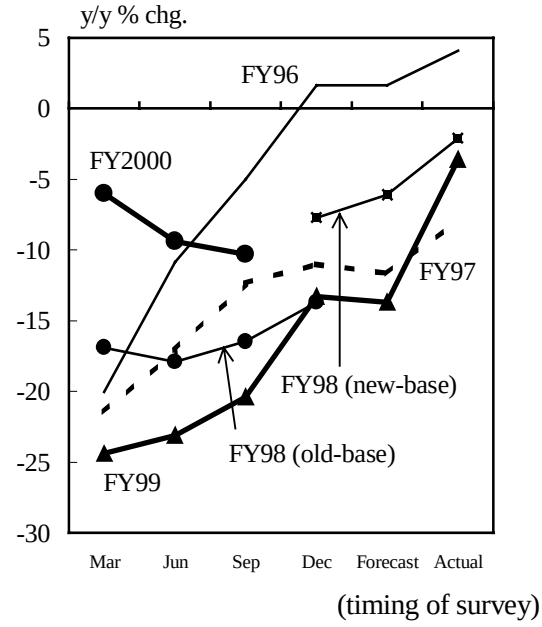
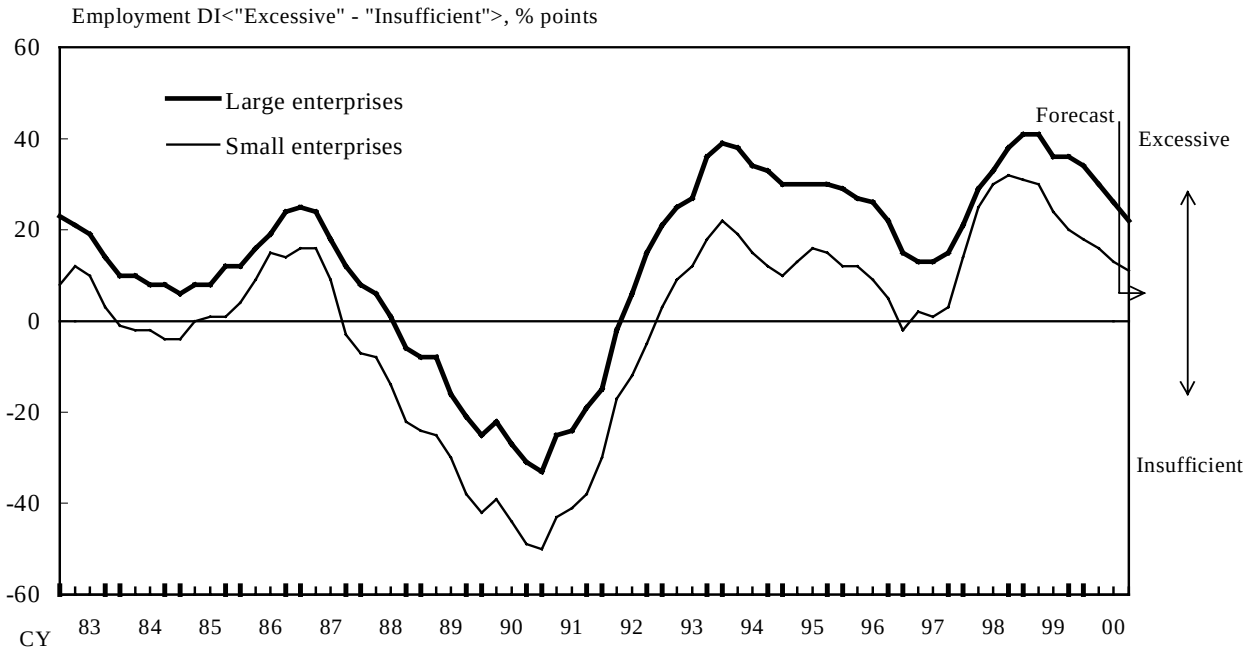


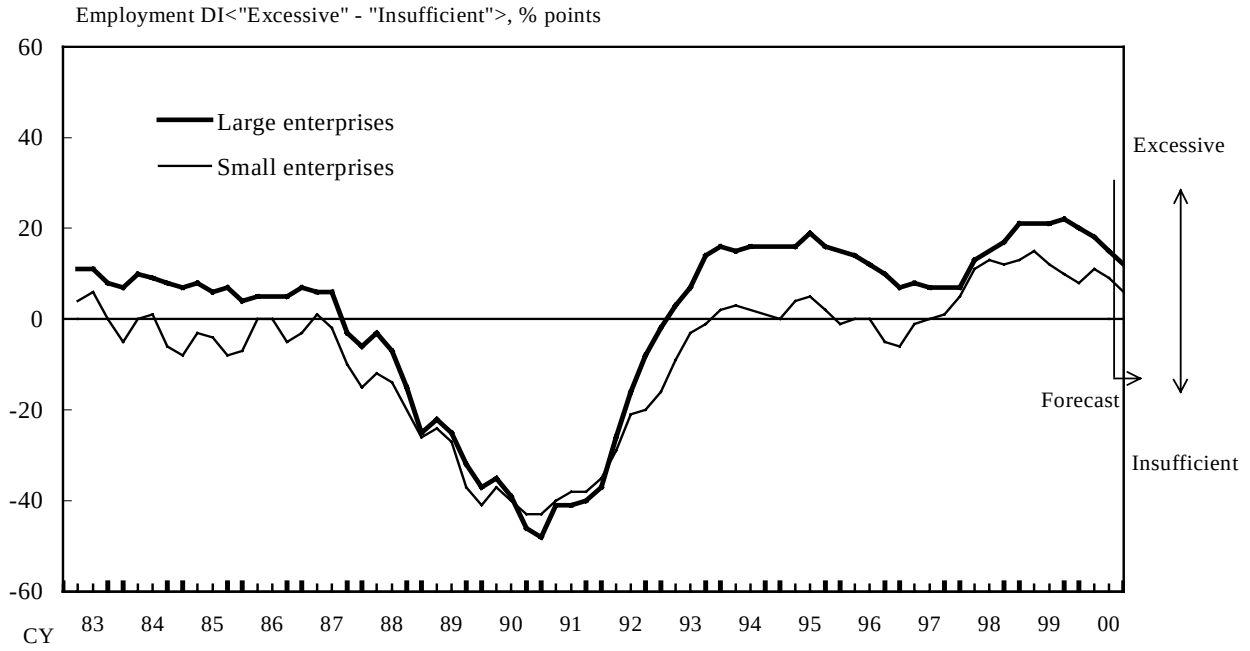
Figure 6

Employment Conditions in the *Tankan* (September 2000)

(1) Manufacturing



(2) Nonmanufacturing

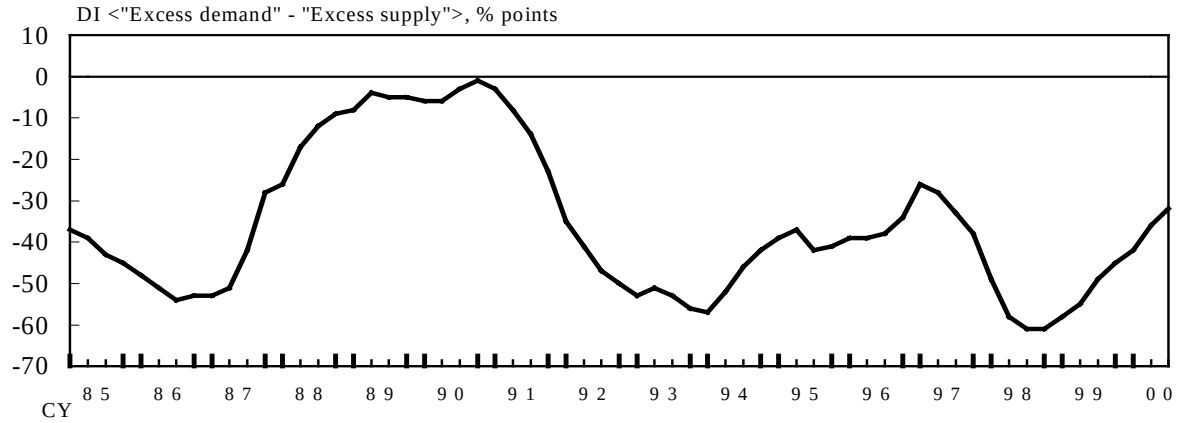


Note: Figures before December 1998 are based on the pre-revision *Tankan* , and those of March 1999 are based on the post-revision *Tankan* .

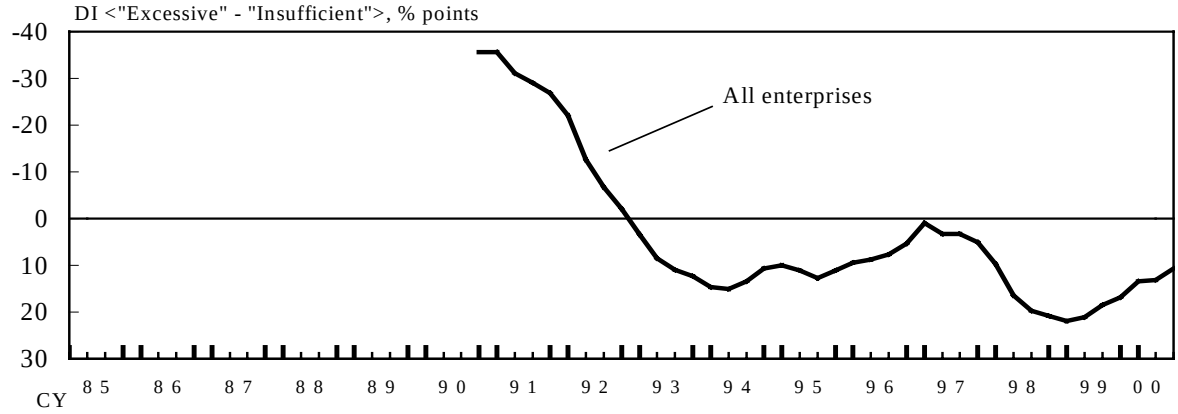
Figure 7

Factors Contributing to the Change in Prices[1]

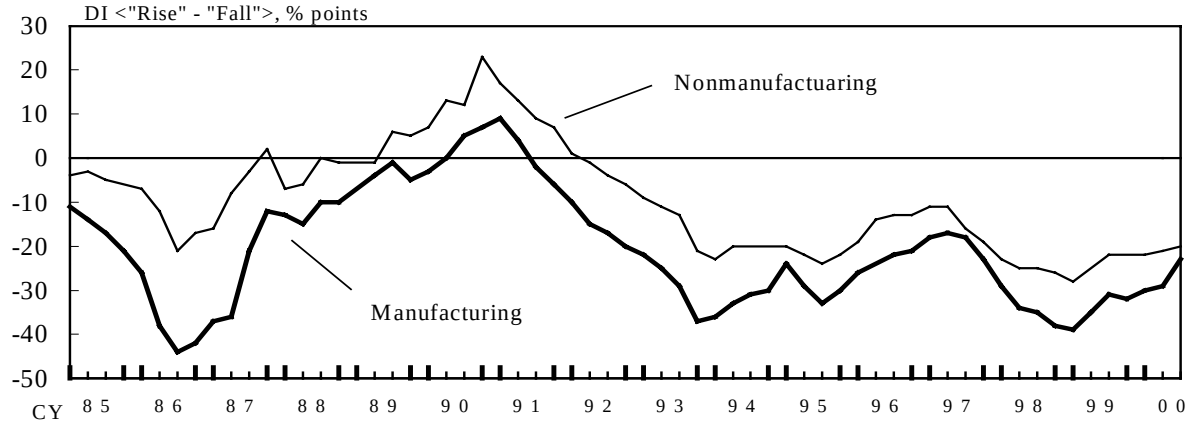
(1) Supply and Demand Conditions for Products (All Enterprises, Manufacturing)



(2) Utilization of Capital and Labor[2]



(3) Change in Output Prices (All Enterprises)



Notes: 1. Figures before December 1998 are based on the pre-revision *Tankan* , and those of March 1999 are based on the post-revision *Tankan* .

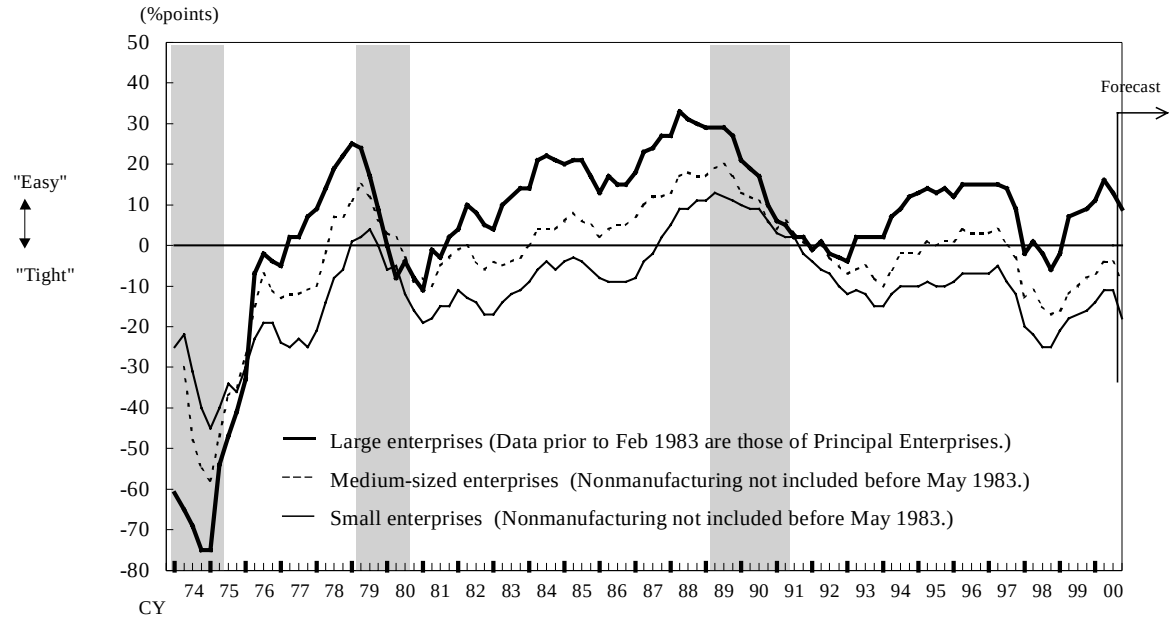
2. Figures are calculated by adding Production Capacity DI and Employment DI which are weighted by the relative share of capital and labor based on 1975-98 average.
Production Capacity DI and Employment DI are calculated as "Excessive"minus "Insufficient".

Sources: Economic Planning Agency, "National Income Statistics";
Bank of Japan, "*Tankan* Short-Term Economic Survey of Enterprises in Japan."

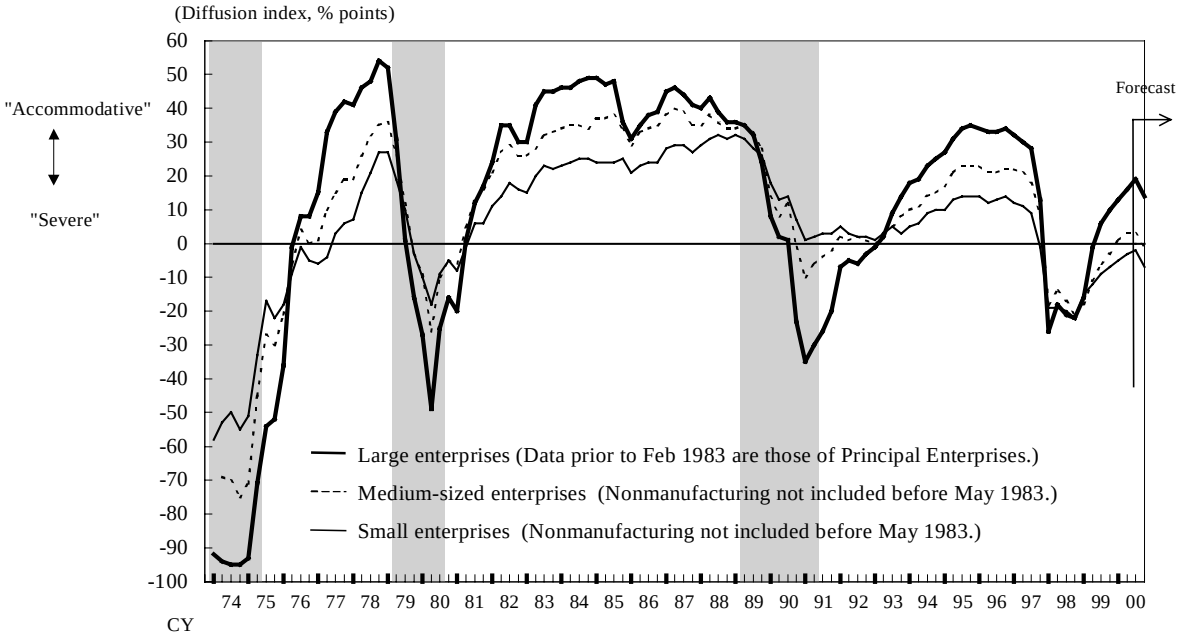
Figure 8

Corporate Finance (All industries)

(1) Financial Position



(2) Lending Attitude of Financial Institutions



Note: Shaded areas indicate periods in which the official discount rate had been raised.

Appendix 1

103rd Short-Term Economic Survey of All Enterprises in Japan

(December 1999 Survey)

IMAGE

1. Judgement

Survey Item	(1) Business conditions		(2) Supply and demand conditions for products		(3) Supply and demand conditions for products overseas		(4) Inventory level of finished goods and merchandise		(5) Wholesalers' inventory level		(6) Production capacity		(7) Employment conditions		(8) Financial position		(9) Lending attitude of financial institutions		(10) Change in interest rate		(11) Change in output prices		(12) Change in input prices	
Judgement	1.Favorable 2.Not so favorable 3.Unfavorable		1.Excess demand 2.Almost balanced 3.Excess supply		1.Excess demand 2.Almost balanced 3.Excess supply		1.Excessive or somewhat excessive 2.Adequate 3.Insufficient or somewhat insufficient				1.Excessive 2.Adequate 3.Insufficient		1.Excessive 2.Adequate 3.Insufficient		1.Easy 2.Not so tight 3.Tight		1.Accommodative 2.Not so severe 3.Severe		1.Rise 2.Unchanged 3.Fall		1.Rise 2.Unchanged 3.Fall		1.Rise 2.Unchanged 3.Fall	
	Current	Forecast	Current	Forecast	Current	Forecast	Current	Forecast	Current	Forecast	Current	Forecast	Current	Forecast	Current	Forecast	Current	Forecast	Current	Forecast	Current	Forecast	Current	Forecast

2. Quarterly data

(million yen)

Survey Item \ Period	June 1999 (Actual results)	Sept 1999 (Actual results)
Borrowing from financial institutions	29	
Commercial paper	0	
Corporate bonds	0	
Capital and additional paid-in capital	202	
Cash and deposits	24	
Securities (listed as liquid assets)	437	
Securities listed as fixed assets	7	

(persons)

Number of employees	87	
Part-time workers	6	

Descriptor of prevailing conditions

Survey Items	Judgement	
(1) Interest-bearing debt outstanding	1.Increase 2.Unchanged 3.Decrease	
(2) Level of liquidity	1.Rise 2.Unchanged 3.Fall	
(3) Number of employees	1.Increase 2.Unchanged 3.Decrease	

3. Annual projections

(million yen)

Survey Item \ Period	FY1998 (Actual results) 1H FY1998	FY1998 (Actual results) 2H FY1998	FY1999 1H FY1999 (Actual results)	FY1999 2H FY1999 (Forecast)
Sales	3,168	3,123	3,125	3,294
Domestic sales	——	——	——	——
Exports	30	33	30	30
Exchange rates for exports (Yen per dollar)	120	122	127	127
Material costs	2,376	2,342	2,200	2,280
Personnel expenses	215	195	210	190
Depreciation expenses	26	33	33	33
Operating profits	42	1	(280)	(205)
Financial income	11	1	10	3
Financial expenses	1	1	2	2
Current profits	53	(300)	17	(200)
Fixed investments	3,000	3,200	3,300	3,400

Overseas Activities

(million yen)

Survey Item \ Period	FY 1997 (Actual results)	FY 1998 (Actual results)	FY 1999 (Forecast)
Overseas production	924	1,050	1,100
Overseas investments	0	0	0

4.Employment of new graduates

(persons)

Survey Item \ Period	FY 1999 (Actual results)	FY 2000 (Forecast)
New graduates		

Appendix 2

Contents of survey

Judgement survey

For the following items, responding enterprises are asked to choose one alternative among three as the best descriptor of prevailing conditions, excluding seasonal factors at the time of the survey and three months hence.

Business conditions:

Judgement of general business conditions, primarily in light of the individual current profits.

[1) Favourable. 2) Not so favourable. 3) Unfavourable.]

Supply and Demand conditions for products:

Judgement of the supply and demand conditions for major products and services in the industry of the responding enterprise.

[1) Excess demand. 2) Almost balanced. 3) Excess supply.]

Supply and Demand conditions for products overseas:

Judgement of the overseas supply and demand conditions for major products and services in the industry of the responding enterprise.

[1) Excess demand. 2) Almost balanced. 3) Excess supply.]

Inventory level of finished goods and merchandise:

Judgement of the excessiveness, adequacy, or shortage of the inventory level of finished goods and merchandise compared with the sales of the responding enterprise. Intentional increase or decrease due to any technical factors should be excluded.

[1) Excessive or somewhat excessive. 2) Adequate. 3) Insufficient or somewhat insufficient.]

Wholesalers' inventory level

Judgement of the excessiveness, adequacy, or shortage of wholesalers' inventories levels for major finished goods and merchandise in the industry of the responding enterprise.

[1) Excessive or somewhat excessive. 2) Adequate. 3) Insufficient or somewhat insufficient.]

Production capacity:

Judgement of the excessiveness, adequacy, or shortage of production capacity, excluding a shortage caused by temporary conditions such as the closure of a factory for repairs.

[1) Excessive capacity. 2) Adequate. 3) Insufficient capacity.]

Employment conditions:

Judgement of the excessiveness, adequacy, or shortage of the number of employees at the responding enterprise.

[1) Excessive employment. 2) Adequate. 3) Insufficient employment.]

Financial position:

Judgement of the general cash position of the responding enterprise, taking into account the level of cash and cash equivalent, lending attitude of financial institutions, and payment and repayment terms.

[1) Easy. 2) Not so tight. 3) Tight.]

Lending attitude of financial institutions:

Judgement of financial institutions' attitude towards lending as perceived by the responding enterprise.

[1) Accommodative. 2) Not so severe. 3) Severe.]

For the following items, the responding enterprises are asked to choose one alternative among three as the best descriptor of prevailing change, excluding seasonal factors from three months earlier and change in three months hence.

Change in interest rate on loans:

Judgement of the direction of change in the interest rates on the borrowings of the responding enterprise.

[1) Rise. 2) Unchanged. 3) Fall.]

Change in output prices:

Judgement of the direction of change in the selling prices of major products (yen-based prices for exports) and services provided by the responding enterprise.

[1) Rise. 2) Unchanged. 3) Fall.]

Change in input prices:

Judgement of the direction of change in the purchasing prices of main raw materials, processing fees for subcontractors, and/or the prices of main purchasing merchandise paid by the responding enterprise.

[1) Rise. 2) Unchanged. 3) Fall.]

Quantitative survey

Quarterly data

Responding enterprises are asked to provide the nominal yen amount of the following items at the end of the preceding quarter.

Borrowing from financial institutions:

Total balance of borrowings, overdrafts and bills discounted from financial institutions, including government financial institutions, agriculture, forestry and fisheries financial institutions, life and non-life insurance companies.

Commercial paper:

Issue balance of commercial paper.

Corporate bonds:

Outstanding balance of corporate straight, convertible, and warrant bonds.

Capital and additional paid-in capital

Cash and deposits:

Total balance of cash and cash equivalents, deposits, money trusts, and certificates of deposit.

Securities (listed as liquid assets):

Total balance of marketable securities.

Securities listed as fixed assets:

Total balance of securities investments excluding securities of affiliates.

Number of employees:

Total number of workers employed by the enterprise under one of the following labour contracts; 1) unspecified employment period, 2) specified employment period of one month or longer, 3) daily employment or specified employment period less than one month but more than eighteen days in each of the last two months. Workers affiliated with outside personnel supply services are not included.

Part-time workers:

Of the workers in the previous item, the total number of workers whose contracted daily or weekly labour hours are less than those of regular employees.

For the following items, responding enterprises are asked to choose one alternative among three [1) Increase. 2) Unchanged. 3) Decrease.] as the best descriptor of prevailing conditions, excluding seasonal factors for change three months hence.

Interest-bearing debt outstanding:

Total balance of borrowings, discounted bills, commercial paper, and corporate bonds.

Level of liquidity:

Total balance of cash, deposits and marketable securities.

Number of employees

Annual projections

For the following items, responding enterprises are asked to provide semi-annual and annual results and forecasts. Figures are based on Japanese financial statement preparation rules and represent the non-consolidated accounts of the responding enterprise.

a) Items in every survey

Sales:

Although there may be differences among enterprises in whether discounts on sales and returns are deducted from gross sales, responding enterprises are asked to report in a consistent manner.

Domestic sales:

Reported only by the wholesale industry.

Exports:

Except wholesale industries, both direct exports and exports via trading houses are included.

Exchange rates for exports (Yen per dollar):

For actual results, the average rate during the period, rounded to the nearest yen unit; for forecasts, the expected rate assumed in the individual export plans.

Current profits

Fixed investments:

The amount of tangible fixed assets newly listed during the term, prior to exclusion and depreciation, includes construction suspense accounts, but excludes amount transferred from construction suspense accounts to construction accounts. Note that this term includes new purchases of land.

b) Items in every survey (as for the March survey, forecasts of the next fiscal year are omitted).

Material costs:

Among manufacturing costs, the cost of raw materials, purchased parts, fuel, and processing fees for subcontractors.

Personnel expenses:

Total of executives' and workers' salaries and allowances, and other labour expenses such as welfare expenses as well as allocations to the reserves for retirement pay and bonuses.

Depreciation expenses:

Total depreciation expenses for fixed assets and deferred assets.

Operating profits

Financial income:

Total of interest and discounts received, interest on securities, and dividends received.

Financial expenses:

Total of interest and discounts paid, interest on corporate bonds, amortisation of bond premiums and bond issuing expenses.

c) Items surveyed twice a year in June and December (only annual figures surveyed)

In principle, these items cover business plans for the operations of consolidated affiliates, under the effective control standard, located in foreign countries. There may be some cases in which non-consolidated subsidiaries are also included.

Overseas production:

For manufacturing enterprises, total productions by foreign affiliates that are engaged in production activities. For non-manufacturing enterprises, total supply by overseas original equipment manufacturers with which there are no capital ties.

Overseas investments:

The amount of tangible fixed assets newly listed during the period by foreign affiliates, prior to exclusion and depreciation, includes construction suspense accounts, but excludes amount transferred from construction suspense accounts to construction accounts.

d) Item surveyed only in December

Employment of new graduates:

The number of new graduates the responding enterprise plans to employ in the next fiscal year as of the December survey and the number it employed during the current fiscal year.

OECD SYSTEM OF LEADING INDICATORS

Ronny Nilsson - OECD

1. Introduction

Short-term economic forecasting is very much dependent on timely information about the current state of the economy and the likely development in the short run. Economic indicators are available with short delays and some indicators also give advance information on near-term turning points in economic activity. Such indicators are known as leading indicators. An efficient way to use economic indicators for short-term economic forecasting is to construct a composite leading indicator based on a basket of economic indicators which are closely correlated with economic activity and lead the business cycle at turning points.

A composite leading indicator is superior to individual indicators because it represents a broad spectrum of the economy. Also, in different business cycles, some individual indicators may perform better than others. Using a composite indicator reduces some of the risk of tracking the economy with the wrong component or components. In addition, a composite indicator also reduces some of the measurement error normally associated with a given cyclical indicator.

The construction of a composite leading indicator offers the analyst a low-cost method of short-term economic forecasting. The initial creation of such a leading indicator can be time consuming but little maintenance is usually required. A composite leading indicator is often easier for users to understand than econometric models. A composite indicator can be broken down easily by its components while an econometric model is often complex. The indicator method offers the forecaster a better feel for the sources of the forecast and the user can interject personal knowledge and expertise to achieve an individualised forecast. The leading indicator approach also has limitations. Leading indicators do not offer the precision of an econometric model and are generally constructed to lead business cycle turning points and not to forecast growth rates or intracyclical movements in the economy. However, it should be emphasised that composite leading indicators complement, but cannot substitute quantitative or long-term forecasts based on econometric models.

The OECD has developed a system of “Composite Leading Indicators” which is designed to predict the cycles of total industrial production or gross domestic product with a lead of about six months.
At the OECD, official forecasts are derived from econometric models. However, the “Composite Leading Indicators” assist in the preparation, interpretation and revision of forecasts. This paper describes the methodology used for the indicator system, the kinds of economic indicators that are used as leading indicators and the way they in which they are combined to form “Composite Leading Indicators”.

2. Reference cycles

Cyclical indicator systems are constructed around a "reference series" or "reference chronology". The reference series is the economic variable whose cyclical movements it is intended to predict. This makes it possible to establish the timing classification of economic series as leading, coincident or lagging with respect to some pre-determined benchmark.

The OECD uses a single economic variable as the reference series around which the indicator systems are built. Ideally, Gross Domestic Product (GDP) would be used as the reference series, but for many countries there is often a substantial time lag in the publication of GDP estimates and in any case they are usually available only on an annual or quarterly basis.

Indices of industrial production however are available on a monthly basis for most countries and industrial production constitutes the more cyclical part of the aggregate economy. In addition, the cyclical profiles of industrial production and GDP have been found to be closely related, so that cyclical indicators identified against industrial production serve well as indicators for the GDP cycle. In the OECD system, the index of total industrial production is used as the main reference series. The cycles in GDP and industrial production for the United States, the Euro-zone and Japan are presented in Graph 1 to illustrate the close cyclical relationships between the two series.

The cycles presented in graph 1 refer to “growth cycles” which are measured as deviations from the long-term trend. A contraction phase signals a decline in the rate of growth but not necessarily an absolute decline. This is distinct from “classical” business cycles, which are defined as a succession of periods of absolute growth and decline. The trend method used by the OECD system is the “phase-average-trend” method (described in section 2 below).

Having identified the reference series the next step is to identify its past cyclical behaviour. The “reference chronology”, i.e. the historical cyclical pattern consists of the dates of the turning points in the reference series. The turning point dates for industrial production and GDP for the United States, the Euro-zone and Japan are set out in Table 1. The method of determining cyclical turning points used here is established by the National Bureau of Economic Research (NBER) in the United States, in which the selection of a turning point must meet the following criteria:

- The phase duration (from peak to trough or trough to peak) must be at least 5 months.
- The cycle duration (from either peak to peak or trough to trough) must be at least 15 months.
- In the case of a flat turning point zone or a double peak or trough in the turning point zone, the most recent value is selected as the turning point.
- Extreme values are ignored if their effect is brief and fully reversed.

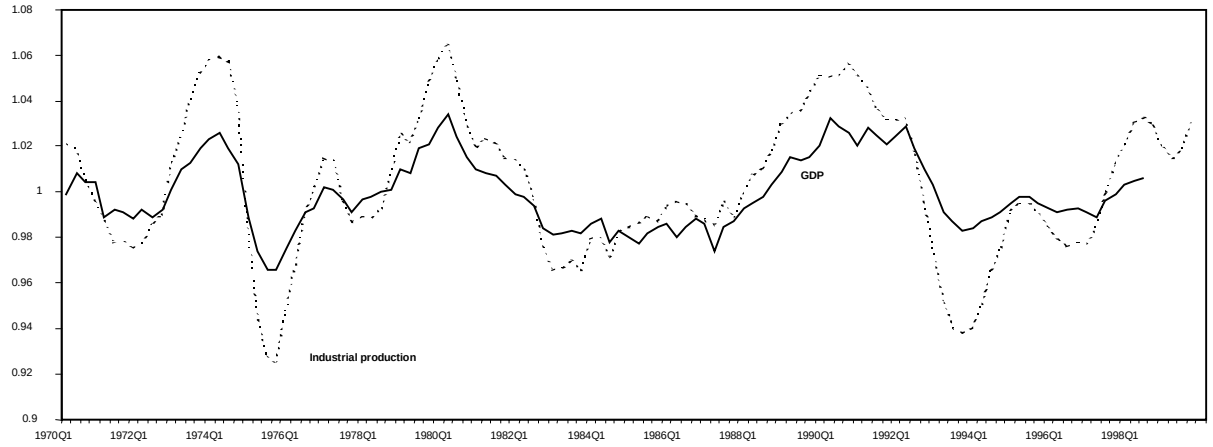
The above rules for determining turning points in a single series or a composite index series for establishing a reference chronology have been formalised and incorporated in a computerised routine (Bry and Boschan). The turning point dates shown in Table 1 have been identified by this routine which is part of the phase-average-trend computer program (described in Section 2 below). The results shown in Table 1 confirm the close relationships between GDP and industrial production and that in most cases turning points in industrial production are located in the same quarter as corresponding turning points in GDP.

Chart 1 **CYCLES IN GDP AND INDUSTRIAL PRODUCTION**

Percentage deviation from trend, seasonally adjusted

United States

Euro-zone



Japan

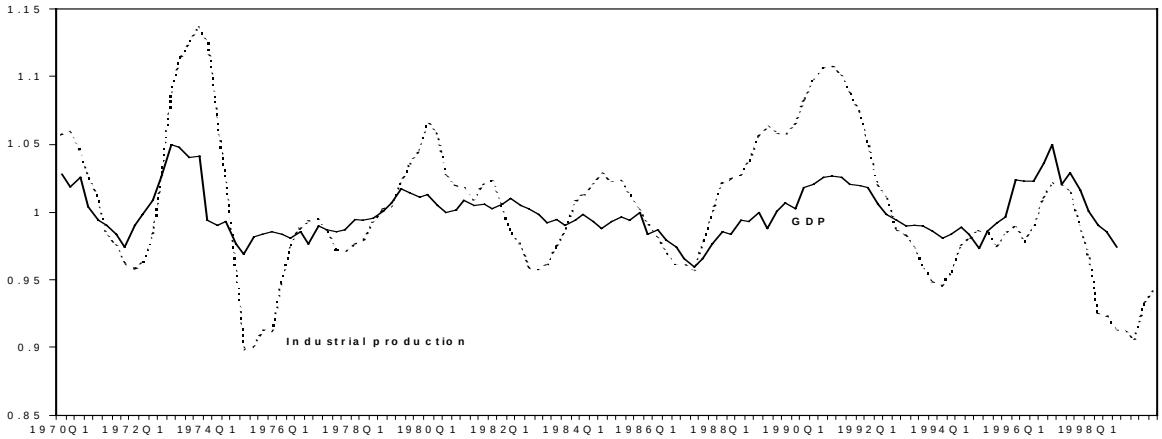


Table 1 Cyclical turning points in GDP and Industrial production

United States			**Euro-zone**			**Japan**		
Turning point dates			Turning point dates			Turning point dates		
GDP	Industrial production (**IP**)	IP Lead (-) Lag (+)	**GDP**	Industrial production (**IP**)	IP Lead (-) Lag (+)	**GDP**	Industrial production (**IP**)	IP Lead (-) Lag (+)
Peak/ Trough	Peak/ Trough	Quarters	Peak/ Trough	Peak/ Trough	Quarters	Peak/ Trough	Peak/ Trough	Quarters
						1/70	6/70	+1
4/70	11/70	0	4/71	1/72	-3	4/71	12/71	0
1/73	10/73	+3	1/73	9/73	+2	1/73	1/74	+4
1/75	3/75	0	3/75	7/75	0	1/75	3/75	0
			4/76	1/77	+1	4/75	1/77	+5
			3/77	2/78	+2	3/77	10/77	+1
4/78	5/79	+2	1/80	1/80	0	1/80	2/80	0
3/80	7/80	0					5/81	
3/81	7/81	0					10/81	
4/82	12/82	0	2/84	11/82	-5	1/83	12/82	-1
2/84	6/84	0				4/85	10/84	-4
1/87	9/86	-2				2/87	5/87	0
2/89	1/89	-1	3/90	8/90	0	1/91	10/90	-1
4/91	3/91	-3	3/93	6/93	-1	3/95	2/94	-4
						2/97	5/97	0
Median		0			0			0
Mean		-0.1			-0.4			0.1

3. Trend estimation

In common with most similar systems, the OECD cyclical indicator system uses the "growth cycle" or "deviation-from-trend" approach. This is necessary because essential cyclical similarities between series may be obscured by different long-term trends. Trend estimation is therefore a crucial step in detecting cyclical movements and identifying turning points.

The method of trend estimation adopted by the OECD is a modified version of the phase-average trend (PAT) method developed by the United States NBER. This method has been designed specifically to separate the long-term trends from medium-term cycles, with the latter defined according to the criteria programmed in the Bry-Boschan computer routine for selection of cyclical turning points.

The PAT of a series is estimated by first dividing the series into phases. These are defined as the number of months between successive turning points. The means of the observations in each phase are then calculated and these phase-averages are used to compute a three-term moving average. The values

obtained from the moving average are assigned to the mid-point of the three-phase period, known as a "triplet", to which they refer. The trend is then obtained by computing the slope between the mid-point of successive triplets. The trend is extrapolated from the last available triplet to the end of the series by a least-squares log-linear regression starting from the mid-point of the last triplet.

The growth cycle program based on the PAT method is designed to:

- select turning points (peaks and troughs) in raw (i.e. seasonally adjusted) data or in data adjusted for long-term trend;
- measure the long-term trend and its rate of change; and
- produce trend-adjusted data.

If trend adjustment is not desired the turning point routine can be used on raw data alone thus producing a chronology of turning points in "classical cycles". With the trend-adjustment option, the program produces a chronology of "growth cycles".

The main steps in the PAT method are as follows:

- first estimation and extrapolation of long-term trend (75 month moving average);
- calculation of deviations from moving average trend;
- correction for extreme values;
- identification of tentative turning points and determination of cyclical phases, i.e. expansions and contractions (Bry-Boschan routine);
- new estimation and extrapolation of long-term trend in original series by calculation and correction of moving averages over cyclical phases (PAT trend);
- calculation of deviations from PAT trend;
- identification of final turning points in original series (Bry-Boschan routine).

3.1 Identification of turning points

The estimation of peak and trough dates is a crucial step in the PAT procedure. First estimates are made using the Bry-Boschan routine, which begins by calculating a moving-average trend estimate for the identification of turning points. The routine then executes a series of tests on the deviations from this first trend estimate so as to eliminate extreme values and turning points that are judged to be too close together. The Bry-Boschan routine specifies a minimum duration of five months for a phase and fifteen months for a cycle.

These operations are applied to various smoothed curves in order to identify turning points, which coincide more and more closely with observable variation in the original series. Lastly, the turning points are sought in the original series within the five months on both sides of the turning points found at the preceding stage. The points thus identified are taken as the preliminary turning points.

The main problem with the Bry-Boschan routine is that it tends to select too many turning points, thereby giving a long-term trend, which is too variable. Relatively minor fluctuations may be selected by the

routine and given the same weight as more important cycles. The turning points finally chosen as input to the trend calculation are selected taking into account the relationship between the variables used in the OECD indicator system. That is, care is taken to select the cyclical turning points corresponding to the reference chronology so that the trend estimation for each variable is done in a manner consistent with that for the other indicators and for the reference series itself.

The same considerations apply in making the trend estimate for the reference series. Here the main consideration is consistency between the turning points selected for a given country and the turning points for the other twenty-one countries included in the OECD system.

3.2 Alternative methods

As noted above, "classical" business cycles are measured in the level of time series, while growth cycles are measured in the deviation-from-trend or ratio-to-trend series. However, economic growth is the main focus of most forecasters and cyclical movements in the growth rate are of key interest. The growth cycle is closely linked to fluctuations in the growth rate and is the most frequently used approach in cyclical analysis.

Trend estimation is, however, a crucial step in the growth cycle approach. A first set of detrending methods, which measure the trend directly and then removes it, covers the following commonly used methods:

- *Simple moving average methods*

Centred 75-month moving average, extended by projecting average rate of change smoothed by 5 month moving average;

Centred 60-month moving average, extended by regression lines;

- *Other filter methods*

33-term Henderson weighted moving average (HMA), extended by calculation of surrogate HMA, that approximates the properties of the desired moving average (shorter-term HMA is used for smoothing and estimation of trend-cycle component in seasonal adjustment programs based on moving average techniques such as X11, X11-ARIMA and X12-ARIMA);

Hodrick-Prescott (HP) filter, the HP filter is a simple and flexible tool for economic analysis and it is an optimal extractor of a trend which is stochastic but moves smoothly over time and is uncorrelated with the cycle. HP filter requires computation of the trend component Y * for t=1,2,3…of a seasonally adjusted series Y. T is estimated to minimise:

$$\sum_{t=1}^{T} (Yt - Y^*t)^2 + \lambda \sum_{t=2}^{T-1} [(Y^*t+1 - Y^*t) - (Y^*t - Y^*t-1)]^2$$

where λ is the weighting factor that controls how smooth the resulting trend is. A low value of λ will produce a trend that follows the seasonally adjusted series more closely, whereas a high value of λ will not

pick-up short-term fluctuations in the seasonally adjusted series. The arbitrary choice of λ is a main weakness of the method and in most applications the value of λ is set to 1600, the value originally chosen by Hodrick and Prescott for quarterly data.

A second set of detrending methods commonly used, which estimates the trend indirectly by transformation of the seasonally adjusted or original series, covers the following approaches:

- *First difference transformation*

Transformation of seasonally adjusted series by taking the period-to-period changes in the series i.e. month-to-month or quarter-to-quarter changes.

- *Seasonal difference transformation*

Transformation of original series by taking the changes over the same period of the previous year i.e. changes over the same month or quarter of the previous year.

The use of rate of change series is simple and does not require any trend estimation. However, turning points in rate of change series precede turning points in trend deviation series, but the lead is not stable over different cycles. In addition, rate of change series measured as period-to-period changes are in general more volatile than trend deviation series and this makes identification of turning points more difficult and less reliable than in trend deviation series.

The timing difference between turning points in level series, detrended series and rate of change series are illustrated in the following charts and tables. Turning points in the level series are used as a first benchmark. These turning points are shown in Chart 1 and compared with those obtained with detrending by the PAT method (ratio to trend series) in Table 2. The results show identical dating of turning points (TP) in the level series and the ratio to trend series, but with two more TP in the ratio to trend series (Chart 2). This is due to the fact that turning points in the level series include only absolute declines (recessions), while trend deviation series include slowdowns as well as absolute declines. This makes the difference between business and growth cycles.

However, the growth cycle is the more frequently used approach in cyclical analysis and TP in the ratio to trend series are used as the benchmark for comparisons with the two rates of change series. The first difference series i.e. rate of change over previous period is shown in Chart 3, which clearly illustrates the irregular behaviour of the series and the difficulty to identify turning points even after smoothing. TP in the ratio trend series and the first difference are compared in Table 2. The results show that the first difference series leads the ratio to trend series with an average lead at troughs of 6.8 months and at peaks of 11 months.

The seasonal difference series i.e. rate of change over the same period previous year is shown in Chart 4 and the TP in this series are compared with TP in the ratio to trend series in Table 2. The results show that the seasonal difference series leads the ratio to trend series with an average lead at troughs of 0.6 months and at peaks of 7.8 months.

These results confirm that turning points in rate of change series precede the turning points of the trend deviation series. However, the results also show that the lead of the rate of change series is not stable and that its turning points occur at different points in different cycles in comparison to the trend deviation series. In addition, the cyclical profile of the rate of change series differs more or less from that of the trend deviation series depending on to the shape and length of the growth cycle.

Chart 2

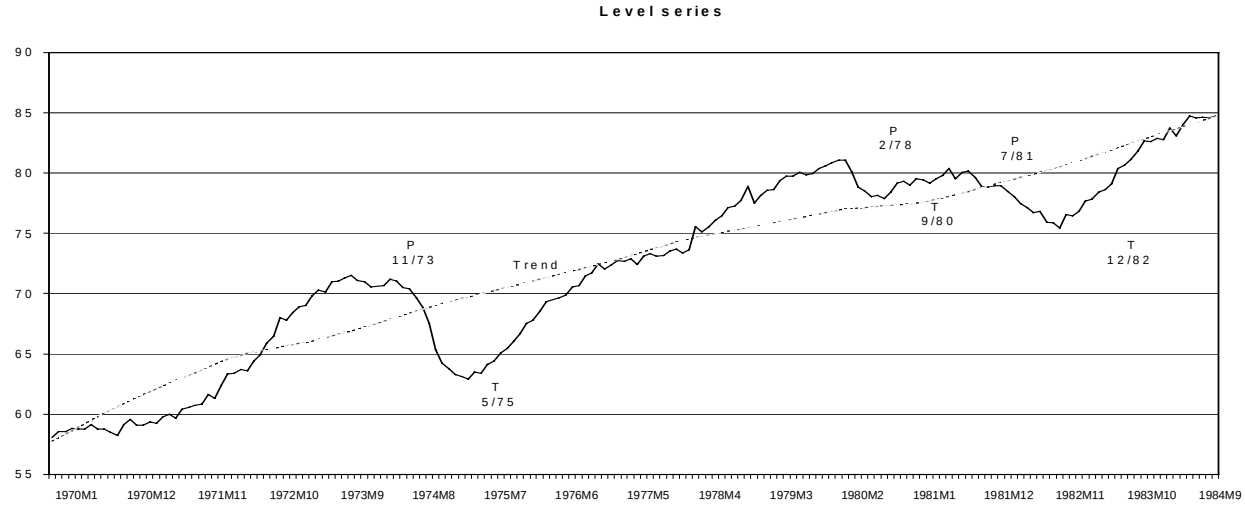


Chart 3

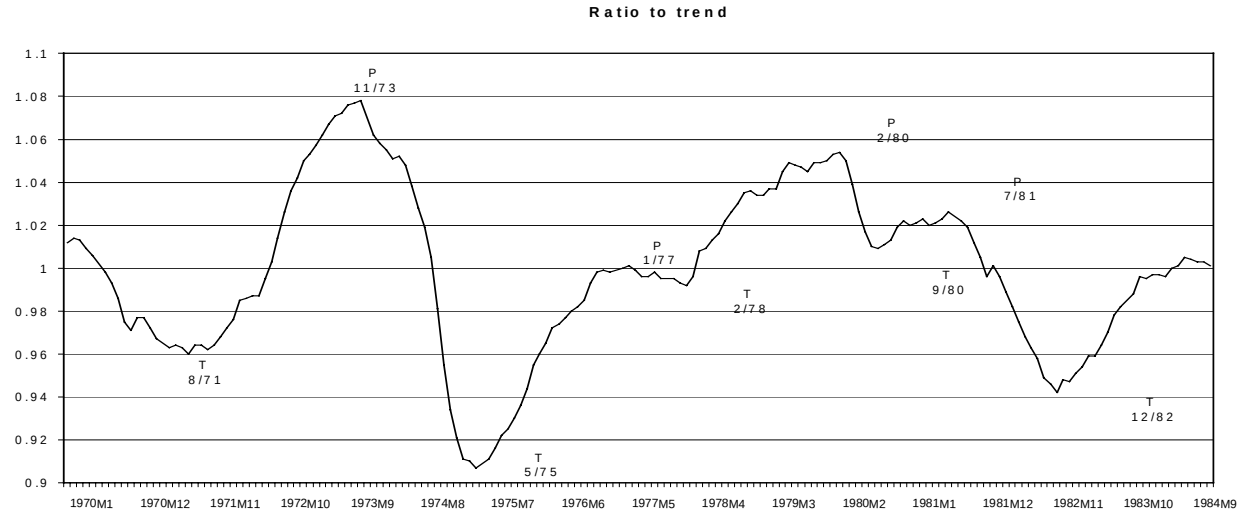


Chart 4

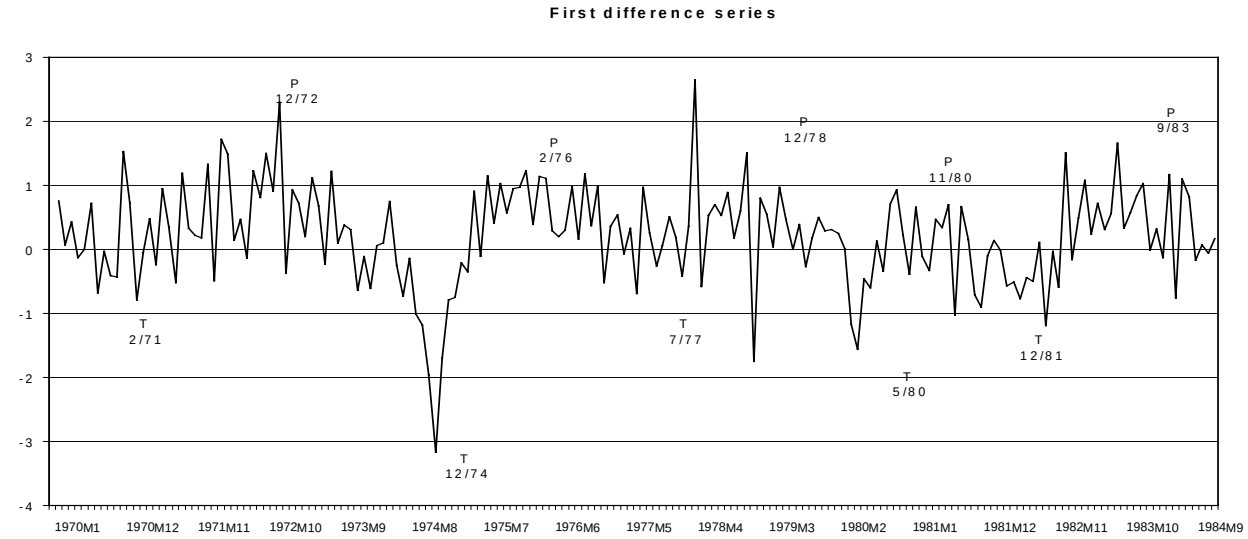


Chart 5

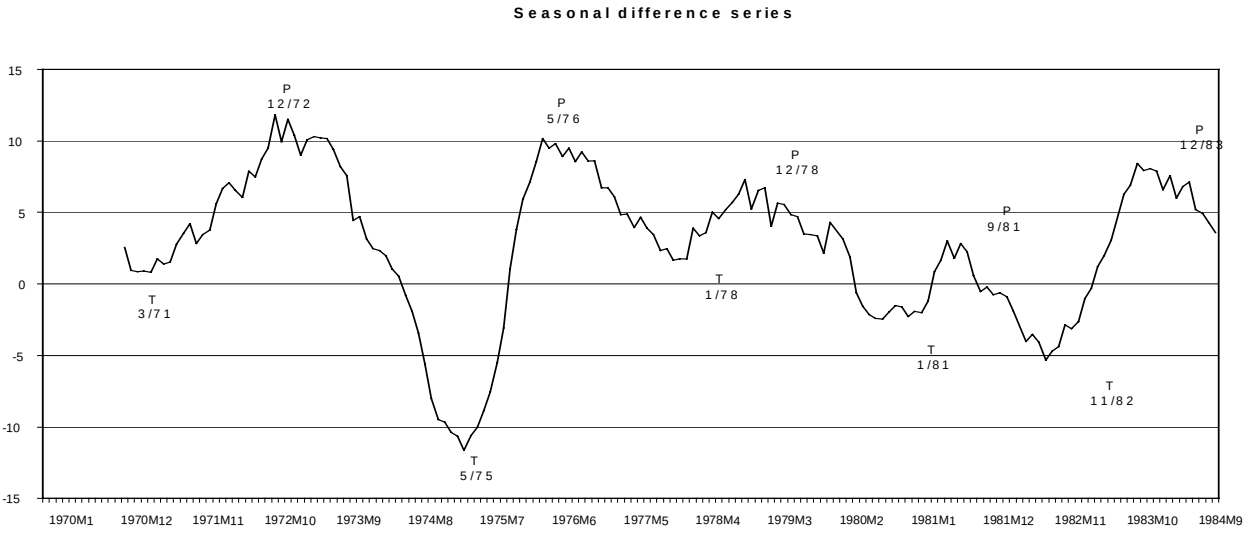


Table 2. Comparison of turning point dates in transformed series

Turning points (TP)	Level series	Ratio to trend series	First difference series	Seasonal difference series	Level series compared to ratio to trend series	Ratio to trend compared to first difference series	Ratio to trend compared to seasonal difference series
	TP dates	TP dates	TP dates	TP dates	Lead (-)/ lag(+)	Lead (-)/lag(+)	Lead (-)/lag (+)
Trough		8/71	2/71	3/71		+6	+5
Peak	11/73	11/73	12/72	12/72	0	+11	+11
Trough	5/75	5/75	12/74	5/75	0	+5	0
Peak		1/77	2/76	5/76		+11	+8
Trough		2/78	7/77	1/78		+7	+1
Peak	2/80	2/80	12/78	12/78	0	+14	+14
Trough	9/80	9/80	5/80	1/81	0	+4	-4
Peak	7/81	7/81	11/80	9/81	0	+8	-2
Trough	12/82	12/82	12/81	11/82	0	+12	+1
Peak			9/83	12/83			
Median					0	+8	+1
Mean					0	+8.7	+3.8

4. Cyclical indicators

4.1 Selection of indicators

Once the underlying cyclical behaviour of the reference series has been established the next step is to select indicators whose cyclical movements pre-date, coincide or follow those of the reference series. The selection of indicators requires some judgement and knowledge of data sources and conceptual issues. Issues to be considered for example could include determining whether an indicator should be considered as a leading or lagging indicator for the general economic cycle or if an indicator should conform positively or inversely to the business cycle. Furthermore, cyclical indicators, which perform well in one country, may not work well in another because of important differences in economic structure and statistical systems. Nevertheless, a useful starting point for selecting potential cyclical indicators is to investigate some of the concepts and methods used in existing cyclical indicator systems.

In the OECD system of leading indicators candidate series are evaluated using the following criteria:

Relevance:

economic significance -- there has to be an economic reason for the observed leading relationship before the series can be accepted as an indicator;

breadth of coverage -- series with a wide coverage, in terms of the representation of the economic activity concerned, are preferred to narrowly-defined series;

Cyclical behaviour:

length and consistency of the lead of the indicator over the reference cycle at turning points;

"cyclical conformity" between the indicator and the reference series -- if the cyclical profiles are highly correlated the indicator will provide a guide, not only to approaching turning points, but also to developments over the whole cycle;

absence of extra or missing cycles in comparison with the reference series;

smoothness, that is, how promptly a cyclical turn in the series can be distinguished from irregular movements;

Practical considerations:

frequency of publication -- monthly series are preferred to quarterly ones;
absence of excessive revisions;
timeliness of publication and easy accessibility for data collection and updating;
availability of a long time series of the data with no breaks.

The leading indicators in the OECD system are classified in Table 3 according to five types of economic rationale, which may be used as a guide for identification of potential leading indicators. The indicators are classified into the following categories:

early stage indicators;
rapidly responsive indicators;
expectation-sensitive indicators;
prime movers;
other indicators.

The first category contains indicators which measure an early stage of production, e.g. new orders, order books, construction approvals, etc. The second contains indicators, which respond rapidly to changes in economic activity such as average hours worked, profits and stocks. The third cover indicators, which measure expectations or are sensitive to expectations and includes stock prices, raw material prices and expectations based on business survey data concerning production or the general economic situation. The fourth contains measures relevant to monetary and fiscal policies and foreign economic developments such as money supply, terms of trade and indicators for foreign countries. The fifth category contains indicators of mixed types such as interest rates (stimulus to both consumption and investment), overtime and layoff rate and production in specific branches.

For the countries included in the OECD indicator system the total number of indicators are rather evenly split between the different categories. Early stage indicators, expectation-sensitive indicators and prime movers represent around 20 per cent each of the total number of indicators. Rapidly responsive indicators represent around 14 per cent, whilst other indicators represent about 28 per cent of the total. The classification of the indicators is however preliminary, and gives only a rough indication of the importance of the five categories. Several of the indicators listed could be placed in more than one category.

In three of the categories: early stage, rapidly responsive and expectation-sensitive indicators, business surveys provide most of the series used. These series concern new orders, level of order books and stocks and expectations about production. Two other frequently used series in these categories are construction approvals or starts, and stock prices.

The most important series used in the prime movers category is money supply. Two series related to foreign trade and foreign economic developments are also well represented in this category, namely, terms of trade and indicators for foreign countries.

Linkage via foreign trade is generally the most important means by which cyclical impulses can be transmitted between countries. Other factors such as foreign investment, capital movements and other financial flows, tourism, etc. are, however, also important. Leading indicator series are however difficult to find in these areas in most countries and as noted above the OECD system uses only foreign trade series as leading indicators.

Foreign trade development in one country is however dependent on economic activity in its trading partner countries and cyclical indicators in major trading partner countries may prove to be good leading indicators for the dependent country. Indicators of economic activity in foreign countries are also used in the OECD system as leading indicators in several countries. For example:

the composite leading indicator for the United States is used as a leading indicator for Canada;

a series on new orders in Germany and the OECD composite leading indicators for France, Germany, Italy and the United Kingdom are used as leading indicators for Austria;

the IFO business climate indicator for Germany is used as a leading indicator for the Netherlands.

Among the other indicators listed in Table 3, the most frequently used series are different types of interest rates. Series on production in specific branches and series related to retail sales or motor vehicles registration are also frequently used. Indicators such as retail sales, employment and capacity utilisation included here would, in principle, be classified as coincident indicators but they have proved to be leading indicators in some countries.

Series on production in specific branches may be good leading indicators in many countries. A first choice would include those industrial branches, which may logically be classified as affecting the early stages of production such as intermediate goods, chemicals or basic metals industries. Structural changes and export sensitivity may however make other branches a better choice. Production data disaggregated by export and domestic goods for domestic and export markets could be useful leading indicators in a country with a large export market.

Series referring to marginal employment adjustments such as overtime and lay-off rate and other labour market series such as vacancies and hours worked are not very well represented in the OECD system of leading indicators. These variables are still however worth a careful examination when searching for potential leading indicators in a country.

Interest rates and unit labour costs on the other hand are indicators representing the costs of doing business. Since a high level of costs may be associated with a slowdown in activity; these indicators are in

general classified as lagging indicators. However, a low level of business cost may itself stimulate an expansion and the inverted lagging indicator would be a leading indicator for a later peak in activity.

The economic rationale for the leading behaviour of cyclical indicators, as noted above, is in most cases well understood. However, many lagging indicators, in addition to interest rates and unit labour costs, may be considered as leading indicators in inverted form. Indicators of this type include stocks, loans and deposits and may be regarded as a constraint on expansion which, inverted, may be expected to lead the business cycle.

The next step in evaluating indicator series is to assess the cyclical behaviour of the series against the six criteria listed above under relevance and cyclical behaviour. This is the subject of the next section.

The practical considerations listed above also need to be considered if the indicators are to be used for current analysis of the business cycle.

Table 3. OECD leading Indicators classified by type of economic rationale 1960-1985

Indicator series by type of rational	Number of indicators	Percent of indicators in category
Early stage indicators		19
New orders, amounts	4	
New orders (BS)	11	
Order books (BS)	11	
Construction, approval/starts	9	
New company formation	1	
Vacancies	1	
Rapidly responsive indicators		14
Average hours worked	2	
Profits	2	
Stocks, amounts	8	
Stocks (BS)	13	
Production bottlenecks (BS)	2	
Expectation-sensitive indicators		19
Stock prices	12	
Raw material prices	2	
Selling prices (BS)	1	
Production (BS)	15	
Economic situation (BS)	6	
Prime movers		20
Money supply	17	
Deposit	2	
Exports	3	
Terms of trade	8	
Indicators for foreign countries	9	
Other indicators		28
Production in specific branches	5	
Retail sales	5	
Motor vehicle registration	5	
Layoffs/new hire/claims for unemployment benefits	3	
Price indices	4	
Unit labour costs	3	
Credit ratios	4	
Interest rates	14	
Foreign exchange holdings	2	
Foreign trade balance	1	
Capacity utilisation (BS)	2	
Employment (BS)	3	

1) Items marked (BS) are series derived from business surveys

4.2 Evaluation of indicators

The performance of cyclical indicators can be evaluated a number of ways. One is to examine the behaviour of the indicators in relation to the cyclical turning points of the reference series, i.e. peak-and-trough analysis. Forecasting turning points is one of the main objectives of the cyclical indicator technique because predicting the timing of cyclical turning points is one of the least reliable activities in economic forecasting.

For peak-and-trough analysis, statistics are assembled on each series' behaviour at cyclical turning points. This includes: the mean or median leads, the mean deviation from the median and the number of extra or missing cycles when compared with the reference series. Generally, these figures are not statistically significant in the usual sense due to the limited number of turning points available over the period investigated and because most series contain irregular movements and double or multiple peaks and troughs. The median, rather than the mean, is usually used in this kind of analysis because of the relatively small number of observations. However, peak-and-trough analysis involves a substantial amount of judgement, which may alter the measures significantly.

Cross-correlation analysis is used to complement the peak-and-trough analysis concerning the average lead of the indicator, and to give information about the extent to which the cyclical profiles of indicator and reference series resemble each other. This is important if the cyclical indicators are to give information about the likely rate and amplitude of movements in the reference series. Thus it is also useful to examine the "general fit" of the indicators in relation to the reference series at all stages of the cycle.

In testing the general fit, cross-correlation between lagged smoothed cyclical indicators and reference series is used. The number of months lag at which the correlation has the highest R^2 value is a guide to the average lead of the indicator over the reference series and the correlation coefficient shows the extent to which the cyclical profiles of composite indicators resemble each other. There are limitations to this method however. First, it is a measure only of the linear relationship between variables, and secondly, the presence of extreme values can affect the estimate of the cross-correlation coefficient. The second problem is, however, generally solved by using MCD-smoothed[23] series in the cross-correlation calculations.

The average lead of the cyclical indicator, as measured by the lag at which the closest correlation occurs, should not be too different from the median lag at all turning points if the composite indicator is to give reliable information both about approaching turning points as well as the evolution of the reference series.

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23. MCD (Months for Cyclical Dominance) is defined as the shortest span of months for which the I/C ratio is less than unity. I and C are the average month-to-month changes without regard to sign of the irregular and trend cycle component of the series, respectively. Although I remains approximately constant as the span of months increases, C should increase. Therefore, the I/C ratio, itself a measure of smoothness, should decline and eventually become less than unity.

In practice, there are some series for which the I/C ratio at first declines as the span of months increases, and then starts to increase again without ever having dropped as low 1. Hence, there is a convention that the maximum value of MCD should be six. For quarterly series there is an analogous measure, Quarters for Cyclical Dominance (QCD) which has a maximum value conventionally defined as 2.

The historical performance of the set of leading indicators and composite indicators for the United States and Germany used in the OECD system are set out in Tables 4 and 5, respectively to illustrate the analytical measures and statistics used in evaluating cyclical indicators. The statistics given refer to the de-trended (ratio-to-trend) leading indicator series and reference series (industrial production).

The tables contain the following information:

extra (x) or missing (m) cycles in the indicator series with respect to the reference series;

MCD or QCD moving average used to smooth the series, calculated on the ratio-to-trend series;

median lag at peaks and troughs and all turning points of the indicator series with respect to the reference series, lead being denoted by a negative sign and expressed in months;

mean deviation of the leads from the median at all turning points, expressed in months is given as a rough measure of the variability of the lead;

cross-correlation between the MCD smoothed indicator series against the MCD smoothed reference series, the lead at which the highest correlation occurs is given along with the correlation coefficient.

United States

The group of leading indicators for the United States (set out in Table 4a) contains a selection of fifteen quantitative indicators from many different subject areas (production, stocks and orders, construction, retail sales, prices, money and finance). However, only one indicator is derived from business survey data, i.e. companies reporting slower deliveries (vendor performance). The indicators are split into a shorter and a longer group, and a composite indicator is calculated for both groups. The longer-leading composite indicator includes several measures of financial conditions (money supply, treasury bill rate, share prices, sensitive prices) and construction commitments. The shorter-leading composite indicator is mainly composed of measures related to early stages in the production cycle such as new orders, stocks, deliveries, inventory to shipment ratio and net business formation.

A selection of indicators from both the shorter and longer group was used to calculate the published OECD composite indicator up to 1997. No alignment for different lead times was made in the aggregation.

All three composite indicators show longer average leads at peaks than troughs. The average lead is not too variable for the shorter and published composite indicator, but is relatively more variable for the longer composite indicator. The amplitudes of the reference series are well reproduced by the shorter and published indicators, but not as well captured by the longer leading indicator.

The cyclical performance of each component series was evaluated in 1997 and the result shows that the ability of financial series to anticipate business cycles has deteriorated since the early 1980s. Money supply, for example, no longer exhibits any cyclical pattern at all, this is certainly due to changes in economic policies in the 1980s. A series on consumer sentiment was included in the new composite

indicator replacing the business survey series, i.e. companies reporting slower deliveries (vendor performance) used in the old composite leading indicator. The performance of the new composite indicator and its components are set out in Table 4b. This indicator should be compared to the published total composite indicator presented in Table 4a.

Table 4a. Characteristics of OECD leading indicators for the United States 1960-1985

Indicator series	Extra or missing cycles	MCD	Median lag (+) at turning points (TP)			Mean deviation from median	Cross-correlation	
			Peak	Trough	All TP		lag (+)	coef.
Composite leading indicator, total (2-10)	1m	1	-9	3	-7	3.8	-6	.85
Composite leading indicator, long (1-6)	1m	1	-12	-6	-10	4.9	-9	.74
Composite leading indicator, short (7-15)	1m	1	-7	-1	-4	3.7	-2	.91
1. Change in liquid assets	1x	1	-6	-8	-7	5.9	-8	.39
2. Construction dwellings started	1m	3	-11	-2	-8	5.4	-8	.74
3. Change in crude material/sensitive prices	1m, 1x	6	-8	-7	-8	5.8	-8	.70
4. Money supply, M2 in 1975 prices	3m	1	-10	-4	-8	3.4	-9	.76
5. Treasury bill rate	1/2m, 1/2x	3	-20	-11	-14	5.1	-19	-.68
6. Share prices, industrials	2m, 1x	2	-8	-4	-5	2.5	-6	.46
7. New orders durable goods	1 m	3	-4	-1	-2	4.0	-1	.89
8. Change in business and consumption credit		4	-8	-2	-4	5.9	-3	.72
9. Net business formation	1m	3	-9	-1	-4	5.4	-3	.77
10. Initial claims for unemployment benefits		3	-4	-1	-2	3.0	-2	-.87
11. Inventory to shipment ratio	1x	2	-7	-1	-1	3.4	-2	-.81
12. Companies reporting slower deliveries (BS)	1m	2	-3	-6	-3	4.1	-3	.71
13. Sales, retail stores	1m, 1x	3	-6	-3	-5	4.1	-2	.81
14. Stocks of finished goods		1	-7	-2	-5	4.9	-8	-.41
15. Corporate profits after tax (quarterly)		1Q	-5	0	-2	3.9	-1	.82

1) Items marked (BS) are series derived from business or consumer surveys.

Table 4b. Characteristics of OECD leading indicators for the United States 1960-1997

	Extra (x) or missing (m) cycles	MCD	Median lag(+) at turning points			Mean deviation from median	Cross-correlation	
			Peak	Trough	All TP		lag (+)	coef.
Composite leading indicator		1	-8	-3	-6	4	-5	0.82
1. New orders, durable goods		3	-3	-1	-3	3	-1	0.78
2. Initial claims for unemployment benefice		3	-5	-2	-3	4	-2	0.80
3. Share prices, industrials	2x	2	-9	-5	-7	8	-7	0.52
4. Housing starts	1m	3	-11	-5	-8	6	-8	0.63
5. Change in crude materials prices, smoothed	1x	5	-6	-8	-7	7	-8	0.38
6. Contract and orders for plant and equipment		5	-3	-1	-3	5	0	0.66
7. Treasury bill rate	1/2m, 1/2x	3	-20	-13	-19	7	-19	-0.47
8. Consumer sentiment (BS)		1	-2	-5	-5	7	-5	0.48

1) items marked (BS) are series derived from business or consumer surveys

Germany

The group of leading indicators for Germany set out in Table 5a includes nine indicators of which four are series derived from business surveys (new orders, order books, stocks and business climate). Among the quantitative indicators, three are measures of financial conditions (money supply, yield of long term government bonds and share prices) and the other two reflect demand and costs in industry.

The average lead is longer at peaks than troughs for all leading indicators with exception of the series on money supply and share prices and the lead is longer, but more variable, for quantitative series in comparison to business survey series. The composite leading indicator, based on all nine indicators, shows a stable lead and the amplitudes of the reference series are well produced. This composite leading indicator was calculated and published up to 1997.

An evaluation of each component series was conducted in 1997 and the result shows, as in the case of the United States, that the ability of financial series to anticipate business cycles has deteriorated since the early 1980s. Money supply, for example, no longer exhibits any cyclical pattern, whereas cycles for yields on public-sector bonds are no longer in phase with the business cycle. The performance of the new composite and its components are set out in Table 5b. Four of the six component series in the new composite indicator are from business surveys, which confirm that such series remain accurate tools for anticipating business cycles.

Table 5a. Characteristics of OECD leading indicators for Germany 1960-1985

	Extra or missing cycles	MCD	Median lag(+) at turning points			Mean deviation from median	Cross-correlation	
			Peak	Trough	All TP		lag (+)	coef.
Composite leading indicator		1	-7	-5	-6	2.0	-8	.88
1. New orders, total	1x	3	-9	-3	-7	3.5	-3	.82
2. Order inflow/demand: tendency (BS)	2x	5	-8	-4	-7	3.9	-0	.73
3. Finished goods stocks: level (BS)	1x	1	-6	-3	-5	2.2	-4	-.83
4. Order books: level (BS)		1	-6	-2	-4	2.7	-3	.84
5. Business climate (BS)	1x	1	-6	-2	-5	2.3	-8	.71
6. Labour cost, mining and manufacturing	1x	4	-6	-5	-6	4.5	-9	-.68
7. Money supply, M1 (deflated by CPI)	1x	2	-9	-14	-9	4.0	-11	.73
8. Yield of long term government bonds	2m	1	-17	-13	-16	3.5	-18	-.90
9. Share prices, industrials		2	-7	-8	-7	3.6	-9	.46

1) items marked (BS) are series derived from business or consumer surveys

Table 5b. Characteristics of OECD leading indicators for Germany 1960-1997

	Extra or missing cycles	MCD	Median lag(+) at turning points			Mean deviation from median	Cross-correlation	
			Peak	Trough	All TP		lag (+)	coef.
Composite leading indicator		1	-6	-4	-5	2.0	-6	.80
1. New orders, total	1x	3	-8	-3	-5	3.5	-3	.90
2. Order inflow/demand: tendency (BS)	2x	5	-10	-5	-7	3.9	-9	.50
3. Finished goods stocks: level (BS)	1x	1	-5	-3	-4	2.2	-5	-.70
4. Order books: level (BS)		1	-5	-2	-3	2.7	-3	.84
5. Business climate (BS)	1x	1	-4	-3	-3	2.3	-7	.61
6. Share prices, industrials		2	-6	-5	-6	3.6	-9	.48

1) items marked (BS) are series derived from business or consumer surveys

5. Composite indicators

Once a set of cyclical indicators has been selected it useful to combine them into a single composite indicator. The same principles can be used to determine a single reference or coincident composite indicator and a leading or lagging composite indicator. This is done in order to reduce the risk of false signals, and to provide a cyclical indicator with better forecasting and tracking qualities than any of its individual components.

The reason why a group of indicators combined into a composite indicator should be more reliable over a period of time than any of its individual components is related to the nature and causes of business cycles. Each cycle has its unique characteristics as well as features in common with other cycles. But no single cause explains the cyclical fluctuation over a period of time in overall activity. The performance of individual indicators will then depend on the causes behind a specific cycle. Some indicators will perform better in one cycle and others in a different cycle. It is therefore necessary to have signals for the many possible causes of cyclical changes, i.e. to use all potential indicators as a group.

A number of steps are involved in combining individual indicators to obtain the composite indicator. These include periodicity, smoothing, normalisation, lagging, weighting, aggregation and amplitude adjustment and trend restoration.

Periodicity

The de-trended indicator series are all converted to a monthly basis. Most indicators used in the OECD system are in fact monthly series but it is sometimes necessary to accept quarterly data. These are converted to monthly frequency by linear interpolation.

Smoothing

It is necessary to ensure that all component series have equal “smoothness”. This is to ensure that month-to-month changes in the composite indicator are not unduly influenced by irregular movements in anyone indicator series. The OECD procedure is to use the "Months for Cyclical Dominance" (MCD) moving average. This procedure ensures approximately equal smoothness between series and also ensures that the month-to-month changes in each series are more likely to be due to cyclical than to irregular movements.

The data lost at the end of the series due to the moving average are restored with an extrapolation by regression over the end of the series.

Normalisation

The next step is to normalise the series so that their cyclical movements have the same amplitude. If this were not done series with particularly marked cyclical amplitude would have undue weight in the composite indicator. The method used to calculate normalised indices, for each component series, is first to subtract the mean and then to divide by the mean of the absolute values of the difference from the mean. The normalised series are then converted into index form by adding 100.

Lagging

Finally, it may sometimes be necessary to lead or lag particular indicators. In the OECD system this is done in only one case, where the indicators selected for a particular country fall into two distinct groups of "longer-leading" and "shorter-leading" indicators. Combining the two types of indicators gave unsatisfactory results because of the interference between the two cycles. The alignment was improved by lagging the longer-leading group of indicators.

Weighting

The indicator series having now been de-trended, converted to a monthly basis, smoothed, normalised and, possibly, lagged to improve alignment, are then ready to be combined into a single composite indicator. At this stage it would be possible to assign different weights to the component series depending, for example, on their past record in forecasting and tracking cycles or their relative freedom from revisions. In the OECD system, equal weights are normally used to obtain each country's composite indicator. This does not mean that there is no weighting in the OECD system, because equal weighting implies, by default, a judgement on appropriate weights, and the normalisation process is itself a weighting system in reverse. However, when the composite indicators for individual countries are combined into indicators for country groups, each composite indicator is assigned the weight used in calculating group totals for the industrial production index.

Aggregation

The raw composite index is obtained by averaging the normalised indices of each component series. A composite index calculated on an incomplete set of data is linked to the body of the index by use of a linking factor which is equivalent to applying the growth-rate of the "incomplete" index to the last point at which a full index is available.

Amplitude adjustment and trend restoration

The final composite index is presented in a form, which makes it more readily comparable with the reference series. Two adjustments are made to the raw composite index to give it the same form of the cyclical component and the same trend as the reference series. Amplitude adjustment is carried out by adjusting first the mean to unity and then adjusting the cyclical amplitude of the composite index to agree with that of the de-trended reference series by means of a scaling factor. Trend restoration is done by

multiplying the amplitude adjusted composite index by the trend of the reference series in its original units.

6. Performance

The performance of leading indicators can be evaluated in different ways. One is to examine the behaviour of the indicators in relation to the cyclical turning points of the reference series. Forecasting turning points is one of the main objectives of the leading indicator technique, because predicting the timing of cyclical turning points is one of the least reliable activities in economic forecasting. The OECD system of leading indicators is designed not only to pick out turning points, but also to give information about the likely rate and amplitude of movements in the reference series. Thus it is also useful to examine the "general fit" of the composite indicators in relation to the reference series at all stages of the cycle.

The historical performance of the composite leading indicators for all Member countries covered by the OECD system is set out in Table 5. To check their performance at turning points the table shows the number of extra or missing cycles in the indicators, and the median leads at peaks, troughs and at all turning points, together with the absolute mean deviation from the median.

The median, rather than mean, is usually used in this kind of analysis because there are relatively few observations -- only 8 or 9 for some countries. These measures can be relied upon to give a true picture if the cycles are clear and irregular variation is not a problem. However, with a win-peaked pattern, the choice of one date rather than another can alter these measures significantly.

A further desirable characteristic is that the mean of the absolute deviations from the median should not be too great in itself and should not be too great in comparison to the median. Assuming that the distribution of the leads around the median is normal (which it is not), then the indicator can be expected to fail to lead at turning points no more than 1 in 40 times if the median lead is about double the mean deviation. This condition holds for most countries with the exception of Australia, Denmark, Italy, Norway, Portugal, Spain, Sweden and Yugoslavia. The mean deviation exceeds the median lead only for Portugal.

In testing the general fit, cross-correlation between lagged smoothed leading indicators and reference series is used. The number of months lag at which the correlation has the highest peak-correlation value is a guide to the average lead of the indicator over the reference series. The value of the correlation coefficient shows the extent to which the cyclical profiles of composite indicator and reference series resemble each other. There are limitations to this method however. First, it is a measure only of the linear relationship between variables, and second, the presence of extreme values can affect the estimate of the cross-correlation coefficient. The second problem is, however, generally solved by using MCD-smoothed series in the cross-correlation calculations.

From Table 5 it can be seen that, in general, the historical record of the composite indicators both at turning points and concerning closeness of fit has been rather good. There are very few occasions where the composite indicator does not reflect a cyclical fluctuation in the reference series at all. The most striking example of the failure of a composite indicator to show a cycle is in the 1963-1964 sub-cycle in the United States. The correlation coefficients give only a guide to the closeness of fit, but are high for all country groups, for a number of the major countries and also for some of the smaller countries.

The average lead of the composite indicator, as measured by the lag at which the closest correlation occurs, should not be too different from the median lag at all turning points if the composite indicator is to give reliable information both about approaching turning points as well as the evolution of the reference series. This difference has been four months for both Australia and Canada, and three months for Belgium, but for other countries it has been two months or less. In the case of Australia there seems to have been a genuine difference between the timing at turning points and the fit in general.

For most countries the composite indicator have in the past led the reference series by at least six months, taking both measures into account. The only exception is Portugal with a lead of only one month. The average lead of the composite indicators is rather long for some countries, notably Finland, Switzerland and the United Kingdom. However, these countries, as well as some others, are suitable candidates for the development of longer and shorter leading indicators, and when recombining these indicators into a total the lead- time could be reduced to gain in precision and accuracy.

The performance of the leading indicators cited above refers in general to the period 1960-1985. The record for this period reflects the historical performance at the time the leading indictor system was set up in 1985. Since then, no major changes were introduced for about ten years, primarily because the system worked fairly smoothly, but also due to lack of resources. However, a partial study of the performance of the leading indicators for a few countries was undertaken in 1996 followed by a major revision in 1997 of the leading indicators for the major seven OECD countries, Norway and Belgium. At the same time a leading indicator for Mexico was introduced. The performance of the revised or new leading indicators for these countries for the period 1960-1997 is set out in Table 5.

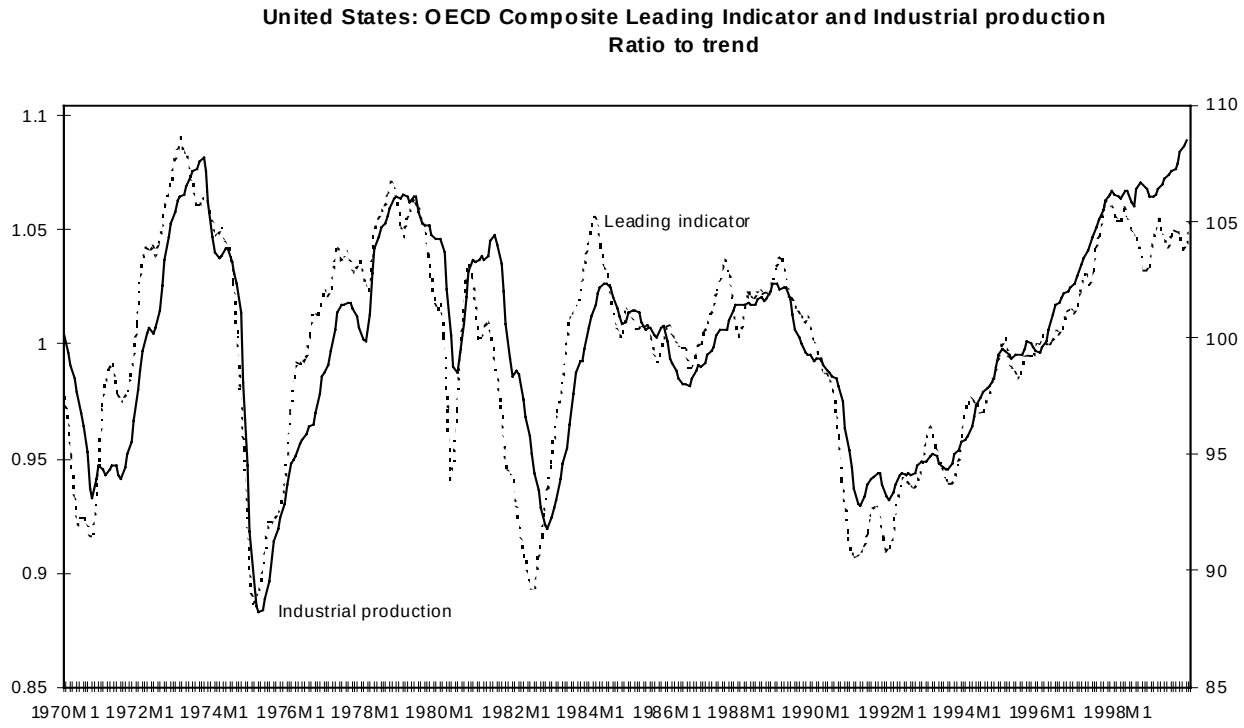
Table 6. Historical performance of OECD Composite Leading Indicators

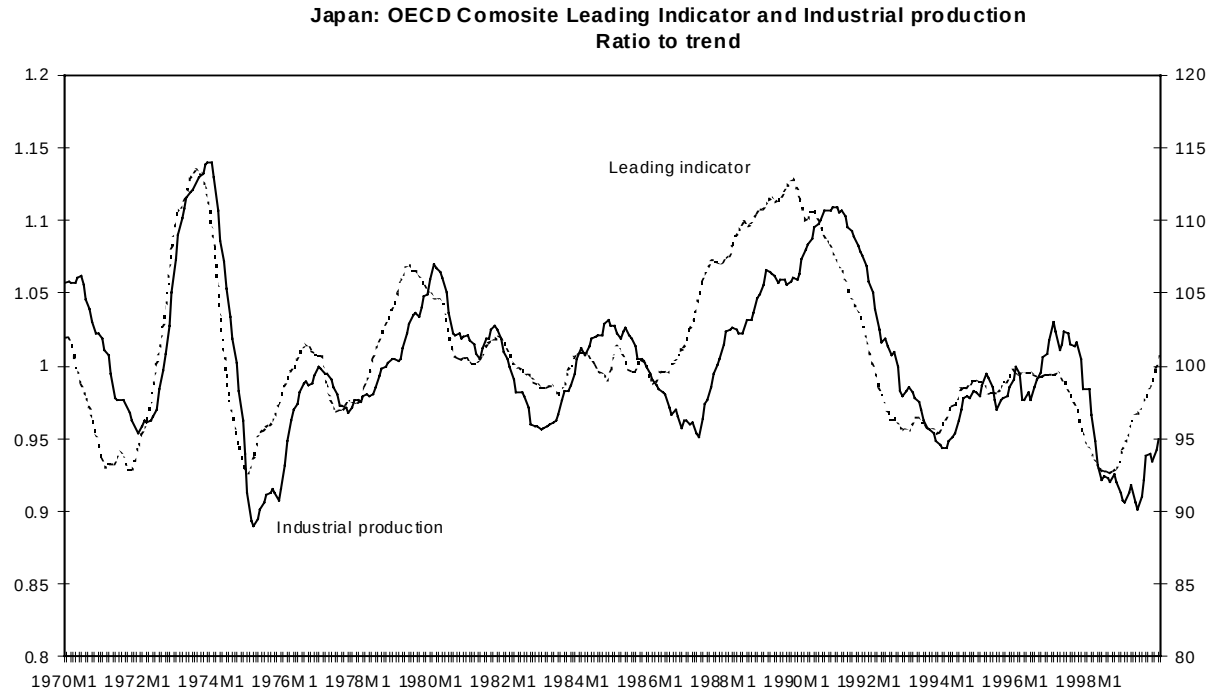
	Performance 1960-1985							Performance 1960-1997				
		Turning point analysis Median lag (+) in months at				*Cross-correlation*		*Turning point analysis* Median lag (+) in months at			*Cross-correlation*	
Country	Extra (x) or missing (m) cycles	Peak	Trough	All turning points	Mean absolute deviation around median	Months Lag (+)	Peak value	Peak	Trough	All turning points	Months Lag (+)	Peak value
Canada		-11	-9	-10	3.8	-6	0.88	-10	-8	-10	-6	0.84
Mexico (1)								-5	-5	-5	-4	0.81
United States	1m	-9	-3	-7	3.8	-6	0.85	-8	-3	-6	-5	0.82
Japan		-4	-6	-5	2.9	-6	0.87	-6	-4	-5	-6	0.81
Australia		-3	-2	-2	2.8	-6	0.85					
Austria		-6	-4	-6	3.4	-7	0.82					
Belgium		-7	-9	-9	2.8	-6	0.75	-5	-5	-5	-5	0.73
Luxembourg	1x	-6	-5	-6	2.6	-7	0.70					
Denmark		-11	-5	-5	4.9	-6	0.85					
Finland		-10	-6	-8	3.6	-9	0.77					
France (2)	1x	-8	-6	-7	2.8	-7	0.81	-6	-5	-5	-7	0.75
Germany		-7	-5	-6	2.0	-8	0.88	11	6	6	-7	0.71
Greece		-7	-9	-8	3.3	-8	0.80					
Ireland		-6	-5	-5	2.1	-5	0.88					
Italy (2)	1x, 1m	-3	-6	-4	2.5	-6	0.75	-9	-9	-9	-7	0.76
Netherlands		-10	-7	-8	3.9	-6	0.81					
Norway (2)	2x	-5	-4	-4	3.9	-6	0.84	-11	-6	-6	-7	0.71
Portugal		-3	0	-1	2.9	-1	0.79					
Spain		-9	-8	-8	4.3	-6	0.81					
Sweden		-4	-12	-9	5.1	-8	0.80					
Switzerland		-10	-15	-12	5.6	-12	0.77					
United kingdom		-17	-10	-13	5.0	-11	0.75	-10	-9	-9	-12	0.71
Euro-zone	1x	-7	-6	-7	2.5	-7	0.93					
G-7		-5	-4	-5	1.6	-6	0.94					
OE CD Total	1m	-5	-5	-5	1.9	-6	0.94					

(1) Performance 1985-1996
(2) Extra or missing turning points refer to period 1986-1997

The results of the 1997 revision suggest a number of conclusions as to how the quality of components has evolved over time. It would appear that monetary series no longer anticipate the business cycles of the 1980s and 90s correctly in several countries and such series have been deleted in the case of the United States, Japan, Belgium, France, Germany and Italy. Other financial series such as interest rates shows results of variable quality: adequate for Mexico, the United States, France, Italy, Norway and the United Kingdom, mediocre for Belgium and Germany. In contrast, series derived from business or consumer tendency surveys remain accurate tools for anticipating business cycles. In addition to the many series from business surveys in industry already used as components, several revised composite indicators now include consumer confidence indicators as well. Such series have been included in the composite indicators for the United States, France and Italy.

In addition, the revision of the composite leading indicator for Norway revealed the problem of choice of reference for ascertain cycles and selection of component series. Whereas for most OECD countries, GDP cycles coincide with cycles in total industrial production, this is not the case for Norway. This is probably due to the size of the energy sector (about 20 per cent of annual GDP in value) so manufacturing production is used as reference series. The case of Norway illustrates the problem of using a single reference series, industrial production, and shows the importance of verifying cycles in the reference series with those of GDP. Another problem revealed in the revision of the composite indicators is the substantial "noise" in many quantitative indicators, which illustrates the importance of smoothing of such indicators.




Japan: OECD Comosite Leading Indicator and Industrial production
Ratio to trend
Leading indicator
Industrial production
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1.15
1.1
1.05
1
0.95
0.9
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120
115
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105
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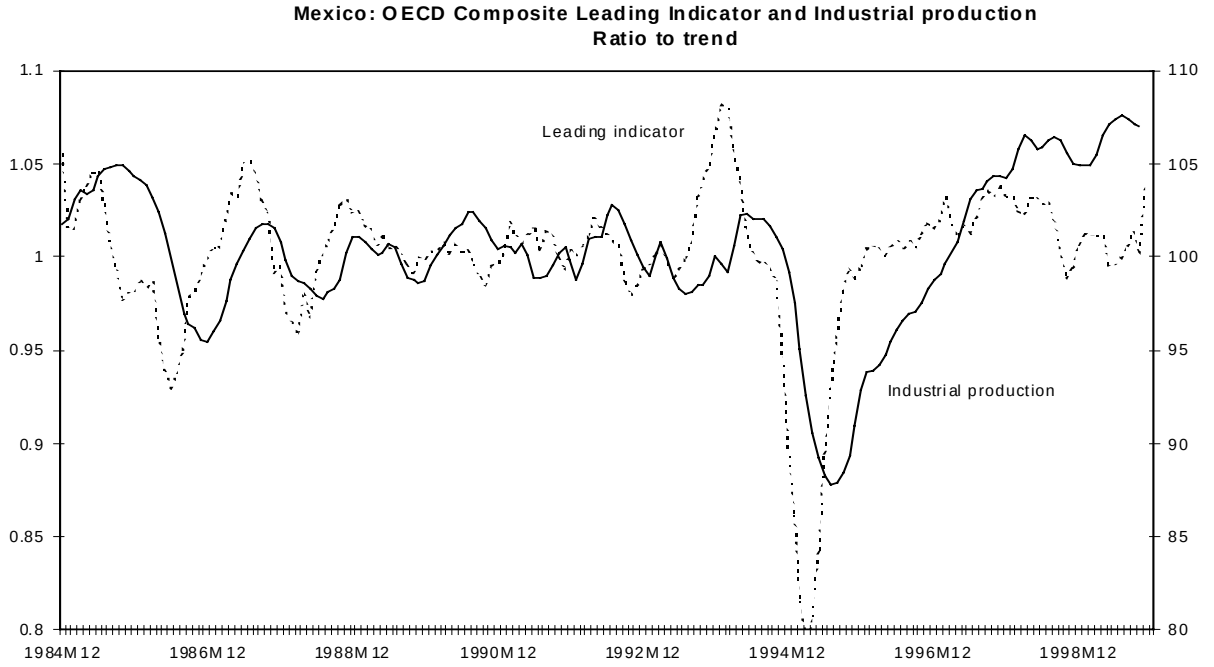
Mexico: OECD Composite Leading Indicator and Industrial production
Ratio to trend
Leading indicator
Industrial production
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1.05
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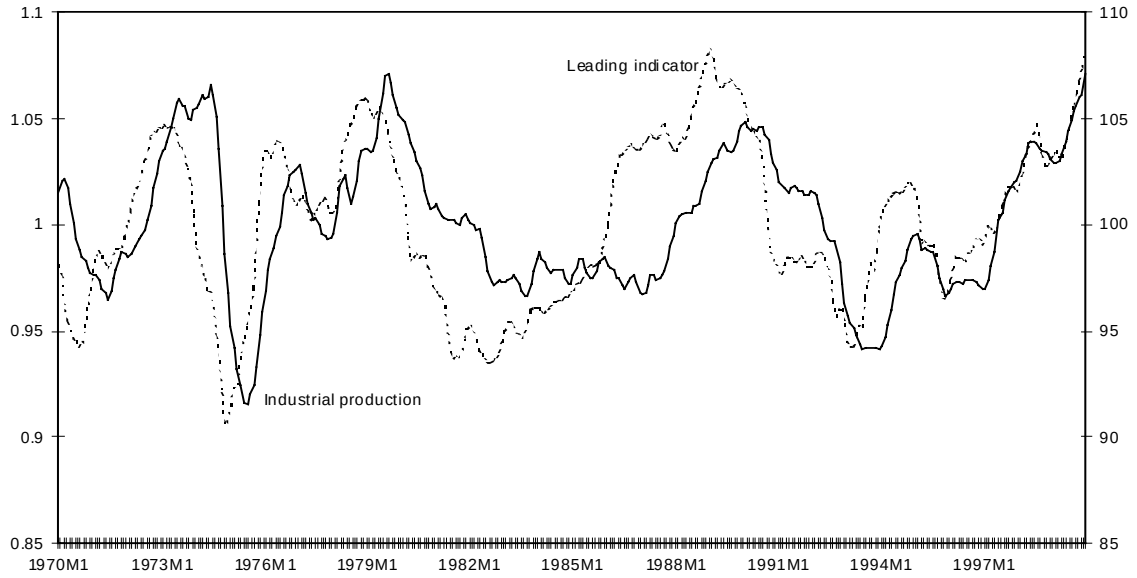
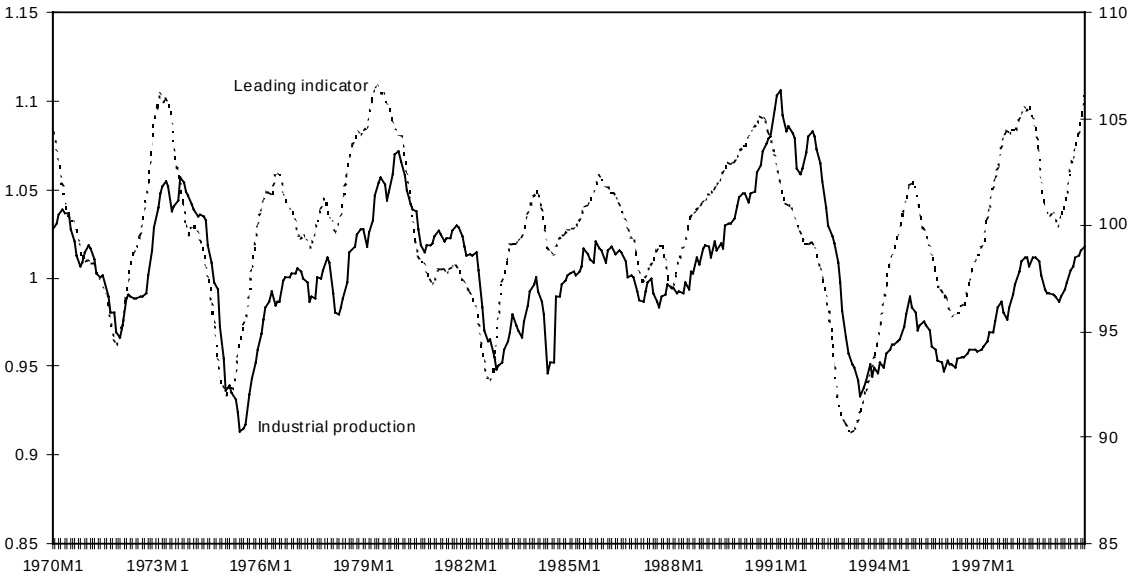
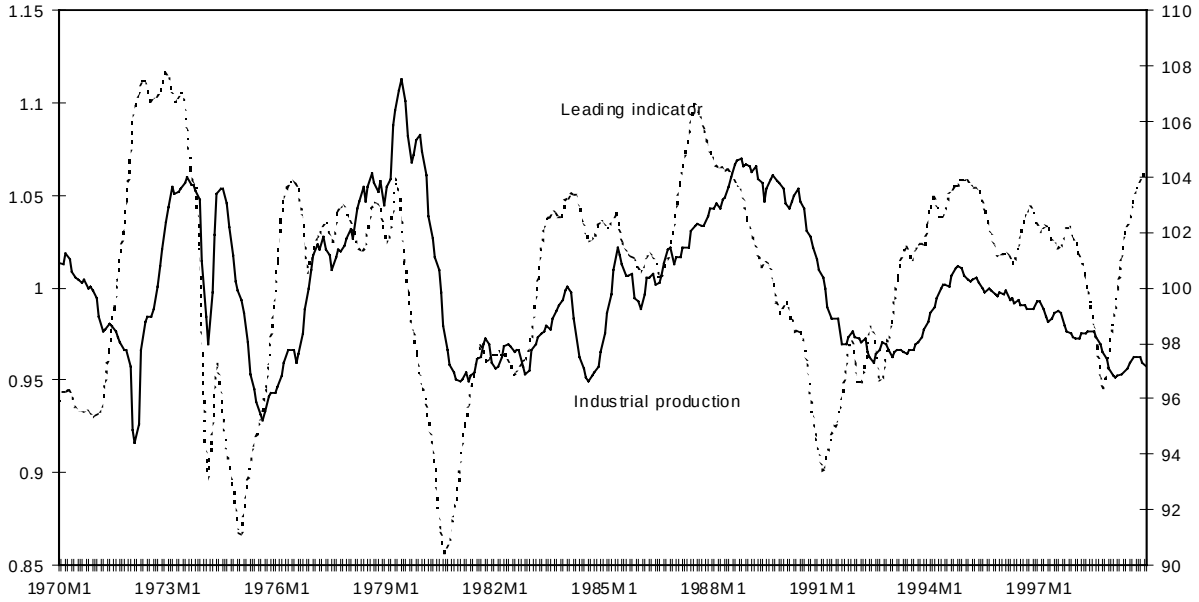
France: OECD Composite Leading Indicator and Industrial production
Ratio to trend



Germany: OECD Composite Leading Indicator and Industrial production
Ratio to trend



United Kingdom: OECD Composite Leading Indicator and Industrial production
Ratio to trend



Bibliography

OECD, "OECD Leading Indicators and Business Cycles in Member Countries, Sources and Methods 1960-1985", No.39 January 1987;

OECD, "OECD Leading Indicators", Ronny Nilsson, *Economic Studies*, No. 9, Autumn 1987;

OECD, "Leading Indicators for OECD, Central and Eastern European Countries", Ronny Nilsson, Article published in the book "*Is the Economic Cycle Still Alive*?", edited by Baldassarri/Annunziato, St Martins Press Inc., New York 1994/The Macmillan Press LTD, London 1994;

OECD, "Cyclical Indicators in Poland and Hungary", I. Kudrycka, Research Centre for Economic and Statistical Studies, Poland, J. Hoos, G. Muszely, Ministry of Finance, Hungary and R. Nilsson
OECD, Paper presented at the *OECD Meeting on Leading Indicators*, Paris October 1996;

OECD, "Cyclical Indicators and Business Tendency surveys", OCDE/GD(97)58, *General Distribution*; 1997;

OECD, "An update of OECD Leading Indicators", Gérald Petit, Gérard Salou, Pierre Beziz and Christophe Degain, Paper presented at the *OECD Meeting on Leading Indicators*, Paris October 1996;

OECD, "The 1994 Mexican Crises: Were Signals Inadequate?", Pierre Beziz and Gerald Petit, Paper published in the *Cambridge Review of International Affairs* (Summer/Fall 1997);

OECD, "Confidence Indicators and Composite Indicators", Ronny Nilsson, paper presented at the 25th *CIRET conference*, Paris October 2000;

OECD, "Calculation of composite leading indicators: A Comparison of Two Different Methods", Olivier Brunet, Paper presented at the 25th *CIRET conference*, Paris October 2000;

OECD, "The OECD System of Leading Indicators: Recent Efforts to Meet User's Needs", Benoit Arnaud, Paper presented at the 25th *CIRET conference*, Paris October 2000;

National Bureau of Economic Research (NBER), "Programmed turning Point Determination", Gerhard Bry and Charlotte Boschan, Paper published in *Cyclical Analysis of Time Series: Selected Procedures and Computed Programmes*, 1971;

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ANNEX B. AGENDA

Joint ADB/OECD/ESCAP Inception Workshop on
Harmonising and Strengthening of Business Tendency Surveys (BTS): Regional Technical Assistance Project (RETA): 5938
21-24 November 2000
ESCAP Headquarters, Bangkok, Thailand

21 November, Tuesday

8:00	Registration of Participants	
8:30	Welcome Remarks	ESCAP and OECD Representative
	Introductory Remarks	ADB Representative
9:00 – 9:20	Overview of RETA: Objectives, activities and expected outputs	Biswa Bhattacharyay, ADB
9:20 – 10:00	Country Presentations: - Adaptation of standard BTS and progress with its harmonisation in participating countries, and related problems and issues. [Moderators: OECD/ADB Resource Person] India Indonesia	
10:00 – 10:15	Coffee Break	
10:15– 11:30	Country Presentations- Adaptation of standard BTS and progress with its harmonisation in participating countries, and related problems and issues. [Moderators: OECD/ADB Resource Person] Lao PDR Philippines Thailand Viet Nam	
11:30 – 13:00	Lunch	
13:00 – 15:00	Country Presentations: Adaptation of standard BTS and progress with its harmonisation in participating countries, and related problems and issues. [Moderator: OECD/ADB Resource Person] Hong Kong, China Japan Malaysia People's Republic of China (PRC) Singapore	
15:00 – 15:15	Coffee Break	

15:15 – 15:45 Review of current inter-country comparability of business tendency surveys in the Asia/Pacific region. (Ronny Nilsson, OECD)

15:45 – 17:00 Country Presentation on "Practical issues in implementing surveys in industry and other sectors" [Moderator: OECD/ADB Resource Person]

Methodological problems with implementing and BTS: (experiences with surveys in Asian/Pacific countries.) (Reports by countries with new surveys and/or countries with specific problems)

China (NBS)

India (Reserve Bank of India)
Thailand (Bank of Thailand)
Thailand (National Economic and Social Development Board)
Vietnam (General Statistical Office)

17:00 Welcome Reception and Cocktails (hosted by ADB)

22 November, Wednesday

8:30 – 10:30 Technical Paper Presentation on "Practical issues in implementing BTS in industry and other sectors" [Moderator: OECD Resource Person]:

- Experience with starting up and conducting BTS in the National Bank of Belgium (George van Gastel, National Bank of Belgium)
- BTS in the service sector: The experience of the National Bank of Belgium (George van Gastel, National Bank of Belgium)

10:30 – 10:45 Coffee Break/ Group Photo

10:45 – 11:45 Technical Paper Presentation on "Practical issues in implementing BTS in industry and other sectors" [Moderator: OECD Resource Person]:

- BTS in the insurance sector. The experience of the IFO Institute (Gernot Nerb, IFO Institute, Germany)

11:45 – 13:15 Lunch Break

13:15 – 15:00 Country Presentation: Interpretation and use of BTS results [Moderator: OECD Resource Person]

- Monitoring economic developments using BTS: **(**Reports by countries with longer experience of conducting surveys)
  China (State Information Centre)
  India (NCAER)
  Indonesia (Bank Indonesia)
  Malaysia (Bank Negara)
  Malaysia (Department of Statistics)
  Singapore (National Statistics Office)
  Singapore (University of Singapore)

15:00 – 15:15 Coffee Break

15:15 – 16:30 Technical Paper Presentation on Interpretation and use of BTS results: [Moderator: ADB Resource Person]
The use of BTS results for forecasting real economic and financial sector Developments (Gernot Nerb, IFO Institute, Germany)

23 November, Thursday

8:30 – 10:00 Introduction to the OECD System of Composite Leading Indicators [Moderator: ADB Resource Person]
The OECD System of Composite Leading Indicators**:** Methods of construction and analysis of performance (Ronny Nilsson, OECD)

10:00 – 10:15 Coffee Break

10:15 – 11:30 Workshop on Formulation of RETA work plans/programs of implementation (the conduct of improved and harmonised BTS, analysis of results, presentation of report and compendia) to be done by Country Groupings : [Facilitators: ADB and OECD Resource Persons]

- Target output and scope and coverage of activities
- Questionnaire, sample size and sample design
- Methodology/Estimation Technique
- Analysis of BTS results
- Forecasting and Leading Indicators
- Technical/other assistance needed
- Cost estimates/budgets
- Implementation Schedule
- Future activities

11:30 – 13:00 Lunch Break

13:00 – 15:00 Continuation of Workshop on RETA Work Plans/Programs of implementation [Facilitators: ADB and OECD Resource Persons]

15:00 – 15:15 Coffee Break

15:15 – 16:30 Presentation and Discussion on Work Plan by Country Groupings [Facilitators: ADB and OECD Resource Persons]

24 November, Friday

8:30 – 10:00 Presentation of Individual Country Work Plan [Facilitators: ADB and OECD Resource Persons]

10:00 – 10:15 Coffee Break

10:15 – 11:15 Consolidated Work Plan, Summary of Follow-up activities of Workshop and Proceedings [Resource Persons: OECD and ADB Resource Persons]

11:15 – 12:00 Concluding Remarks and Workshop Evaluation [ESCAP,OECD and ADB Representatives]