CENTRE FOR CO-OPERATION WITH NON-MEMBERS
STATE COMMITTEE ON STATISTICS OF THE RUSSIAN FEDERATION

BUSINESS TENDENCY SURVEYS

in the Russian Federation

FOREWORD

The Division for Non-Members of the OECD Statistics Directorate has been working since 1995 on the development of *Business Tendency Surveys* in the Russian Federation. These surveys are addressed to managers and owners of businesses and ask for the qualitative assessment of the business situation and their expectations for the next few months. They have proved a particularly useful source of information for transition countries which are experiencing difficulties in collecting quantitative information through traditional statistical surveys.

OECD work in this area is carried out in collaboration with the European Commission, which has developed a set of *harmonised* questionnaires in order that the results from these surveys can be compared between countries. The Centre for Economic Analysis of the Russian Government has now developed a range of Business Tendency Surveys based on these harmonised questionnaires. The surveys are conducted in co-operation with the State Committee on Statistics of the Russian Federation. The results of these surveys are widely used both in Russia and by the international community for monitoring economic developments. This report describes the methodology underlying these surveys and the use made of survey results.

This report has been prepared jointly by the Centre for Economic Analysis (CEA), the State Committee on Statistics (Goskomstat) and the Division for Non-members (DNM). The main contributors from the CEA were George Ostapkovich, Fedor Glisin, Galina Veronina, Tatjana Veronina, Zhanna Lukashina, Marina Burman and Vladamir Bezukov. The Goskomstat contributors were Alexandre Surinov, Igor Uljanov and Elena Sedova. Mr. Ronny Nilsson of the DNM was responsible for the general description of business surveys and the discussion of the uses and interpretation of survey results.

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1. INTRODUCTION

Within the framework of the Centre for Co-operation with Non-Members programme, the Division for Non-Members of the OECD Statistics Directorate has worked since 1995 with the Centre for Economic Analysis (CEA) of the Russian Government to develop a system of internationally harmonised business tendency surveys in the Russian Federation. This work is conducted in close co-operation with the European Commission.

Harmonised, quality information on the tendencies in business activity is an important component of general information on the functioning of transition economies. This information is of interest to government agencies as well as economic agents operating in the market.

Since 1993, work has been in progress in the Russian Federation towards creating a national system of economic surveys of trends in business activities in various sectors of economy. Presently, regular surveys are conducted in industry, construction and retail trade.

There are still a number of outstanding methodological and practical issues related to the introduction of fully harmonised forms, development of representative samples and weighting techniques, organisation of interaction with respondents and ensuring reliability of results.

The level of experience in conducting surveys of business tendencies in the Russian economy means that it is also particularly important to develop effective methods of using survey results. This includes the calculation of simple and synthetic indicators, the integration of BTS data into short-term and macro analysis, forecasting tendencies of economic activity and effective presentation of the results of this analysis to users in government and non-government agencies.

To progress work in these areas a joint project on the development of business surveys in the Russian Federation was established in 1997 between the *OECD's Statistics Directorate*, the *State Statistical Committee on Statistics of the Russian Federation (Goskomstat) and the Centre for Economic Analysis (CEA) of the Russian Government*. The main aim of this project is to modify where appropriate existing methods of analysis and forecasting of business activity currently used by OECD countries for the study of business tendencies in the economy of the Russian Federation.

The OECD has been working with the European Commission and Eurostat to develop a programme of business and consumer tendency surveys in transition countries since the early 1990's. This programme is part of a larger OECD-EC project to assist transition countries in developing appropriate short-term indicators. The Russian Federation has been active in this programme and participated in three workshops (Munich 1991, Tashkent 1993 and Kiev 1996).

Part A of this publication discusses general features of business tendency surveys, methodological issues connected with the design and implementation of surveys, interpretation of data, analytical use of survey data and presentation of survey results. Part B outlines the methodology adopted for the different business tendency surveys in the Russian Federation and gives detailed information on survey characteristics, questionnaires and results related to the surveys in industry, construction and retail trade.

The experiences gained by the CEA and Goskomstat in the development of business tendency surveys are provided in a final chapter in Part B. This chapter discusses many of the issues associated with the collection of basic data. These include coverage, treatment of non-response, etc. The problems raised are also relevant to many other statistical collections conducted in transition countries.

This publication contains both data and methodological information related to business tendency surveys conducted in the Russian Federation and is relevant for readers both within the Russian Federation and in other countries. In addition, in providing background information to some of the decisions associated with the development of business tendency surveys conducted in the Russian Federation, this publication provides useful information on the problems and issues being confronted by transition countries in the development of statistical systems more oriented towards their emerging market economies.

PART A: BUSINESS TENDENCY SURVEYS: METHODOLOGY

2. GENERAL FEATURES

Overview

In contrast to conventional statistics, business surveys make use of opinion testing techniques to collect facts from entrepreneurs about business conditions in their own companies. The information collected is, on the whole, qualitative in nature and cover, as a rule, an assessment of the current situation as well as recent and expected developments. This type of information is easier for the enterprises to supply because the answers are not based on precise records and the returns can be sent in faster.

Data collection procedures and calculation methods used to transform qualitative data for individual firms into relevant figures for sectors of the economy are relatively simple. The rapid execution and easy processing of results contribute to make the business surveys an appreciated tool for current economic analysis

Survey Variables

Compared to traditional statistical surveys, which only cover one or a few related variables from one area of the economy, business surveys collect information about a wide range of variables selected for their ability, when analysed together, to give an overall picture of a sector of the economy. The surveys include questions such as the volume of production, order books, order inflow, stocks of finished goods, exports, employment and prices

The range of information covered by business surveys also goes beyond variables normally captured by classical statistics. Qualitative information may be collected for variables, which are difficult or impossible to measure, by conventional methods such as:

- Capacity utilisation.
- Production bottlenecks.
- Views on the overall economic situation.

Analytical Characteristics

The statistical series derived from business surveys are by their very nature particularly suitable for business cycle monitoring and forecasting. The cyclical profile of the series is in many cases easier to detect because they contain no trend. The respondents who add to the relative smoothness of the series normally seasonally adjust the series. This and the fact that they are seldom revised facilitate their use in forecasting and, in particular, to predict the cycle’s turning point.

Business cycles are a feature of the economies of market-oriented industrialised countries and they affect a wide range of economic variables and this is reflected in corresponding statistical series. The series derived from business surveys show clearly such cycles and many survey series indicate cyclical turning points in advance of corresponding turning points in aggregate economic activity. Such series are known as leading indicators in cyclical analysis.

Purpose and Use

The basic purpose of business tendency surveys in the past was to collect information on business conditions for the benefit of respondents. Today, survey results have become a valuable tool for economic analysis for all types of users.

The main users of survey results are still the respondents themselves. Detailed survey results broken down by sectors of activity give them valuable information on business conditions in their own sector, as felt by their colleagues, and about the current and future business situation in their suppliers' and users' sectors.

Economic and financial analysts have also become major consumers of series derived from business surveys. This is because the data are available rapidly and because some of the series are reliable leading indicators of changes in aggregate economic activity. In addition, the survey information reflect assessments and expectations of the economic situation by actors on the market, which adds to their relative advantage compared to quantitative statistics. This is reflected in the extensive use of so called confidence indicators derived from business survey results. Such composite indicators summarise the results of a selection of key survey variables into a single synthetic indicator.

Business and consumer tendency surveys collect qualitative information from business managers and consumers on their assessment of the current economic or financial situation and on their intentions and expectations for the immediate future. Such surveys are conducted in all OECD Member countries and they have proved a cost-effective means of generating timely information on short-term economic developments. Current economic information is of particular interest to countries in transition and a reliable system of both quantitative and qualitative short-term indicators is of prime importance.

Member countries of the European Union have found it useful to standardise (or "harmonise") a number of the questions included in their business and consumer surveys so that the results are internationally comparable. Transition countries are being encouraged to use a number of standard questions to make their survey results internationally comparable.

3. METHODOLOGICAL ISSUES

3.1 Factors Influencing Questionnaire Design

3.1.1 Choice of Questions

Business tendency surveys collect information about a wide range of variables selected for their ability to monitor the business cycle. Priority of selection of variables goes to indicators which:

- Measure an early stage of production (*e.g.* new orders, order books).

- Respond rapidly to changes in economic activity (*e.g.* stocks).

- Measure expectations or are sensitive to expectations (*e.g.* production, overall economic activity).

For practical reasons, the selected variables included in the business survey should not only be relevant from a theoretical point of view but also from the view of the management in the enterprises, otherwise it will be extremely difficult to motivate managers to participate in the business survey. The number of variables should also be kept to a minimum in order to reduce response burden. For these reasons it is extremely important to choose only the most important variables to be included in the business survey, in particular, if the survey is to be conducted on a monthly basis.

Core Questions

The number of questions or variables included in a particular business survey are, however, restricted to key economic variables in order to reduce the time it takes to fill in the questionnaire and to speed up data collection and processing of survey results. A standard set of questions included in the system of harmonised business surveys conducted in European Union countries is set out in Table 1.

The business surveys in industry, construction and retail trade in EU countries are conducted with monthly and quarterly frequency. The monthly questionnaire is designed to monitor the present and future production situation and the factors determining the production situation. The monthly survey in industry includes the following six questions or variables:

- Production, tendency.
- Assessment of order books.
- Assessments of export order books.
- Assessment of stocks of finished goods.
- Production, future tendency.
- Selling prices, future tendency.

The quarterly questionnaire is designed to identify variables determining the production situation and to assess factors of production. The quarterly survey in industry covers the following eight questions

- Employment, future tendency.
- Limits to production.
- Assessment of current production capacity.
- Duration of production assured by order books.
- New orders, tendency.
- Exports, future tendency.
- Capacity utilisation.
- Assessment of stocks of raw materials.

The questions included in the monthly and quarterly surveys in construction and retail trade are selected on the same grounds as the ones used for the industry survey. The construction survey includes five monthly questions (business activity *i.e.* production, limits to production, order books, employment and prices) and one quarterly question (assured production). The survey in retail trade covers four monthly questions (business situation, stocks, orders, and future business situation) and one quarterly question (employment). The monthly and quarterly core questions are set out in Table 1.

Other Common Survey Questions

The questions or variables covered by the surveys differ so much from country to country that a complete review will not be presented here. The most frequently surveyed variables covered by business surveys in OECD countries correspond closely to the core series outlined above.

Other commonly surveyed variables covered by business surveys in industry, construction and retail trade includes:

Industry survey	Construction survey	Retail trade survey
Sales, deliveries, turnover	Technical capacity	Sales/turnover
Stocks of work in progress	Supply of labour	Income
Purchase of inputs	Own demand for labour	Prices
Lead time of purchase (deliveries)	Investment in equipment	Competition
Raw material prices	Overtime	Wages
Factors limiting exports	Productivity	Financial conditions
Investments	Overdue debtors	Availability of labour
Overtime, new employment	Average costs	Operating expenses
Profitability, costs	Profitability	Profitability
Productivity	Interest rates	Investment
General business situation	Prices of raw materials	Interest rates
	Wages	Floor capacity
	General business situation	Limits to activity
		Exports

Harmonised Questions for Transition Countries

The core questions covered by surveys in most OECD countries and included in the harmonised system of business surveys in EU countries and above list of other commonly surveyed variables were used to as a basis for a permanent set of questions to be used in surveys in transition countries. The content of a harmonised system of business surveys for transition countries was discussed at a series of workshops for transition countries organised by the OECD-EU/Eurostat within the framework of a joint project on short-term indicators for transition countries. The result of these discussions ended with an agreement on a permanent set of questions to be regularly surveyed. These variables covered, in addition to the core variables outlined above, the following other commonly surveyed variables:

Industry survey	Construction survey	Retail trade survey
Investment	New orders (contracts)	Selling prices
Type of investment	Financial situation	Financial situation
Factors limiting investment	Delays in payments from clients	Competition in own sector
General business situation	Technical capacity	Limits to activity

The additional variables included in the harmonised questionnaire for transition countries were selected because they were considered to be important variables for economic analysis during the transition period. The selected variables were, however, restricted to the ones, which were considered to be the most important, in order to keep response burden for reporting enterprises at a reasonable level. The frequency of the surveys was left to the transition countries to decide and the variables may be conducted on a monthly or quarterly basis with exception of the variables related to investment which in general follows the frequency indicated in Table 1.

Table 1. Core Questions: Harmonised Business Surveys in EU and Transition Countries

Survey	Frequency	Countries/Variable	Type of Variable/Period Covered
Industry		EU and transition countries	
1	Monthly	Production	present tendency, (3-4 months ago)
2	Monthly	Production	future tendency, (3-4 months ahead)
3	Monthly	Order books, total	present level
4	Monthly	Order books, export market	present level
5	Monthly	Stocks of finished goods	present level
6	Monthly	Selling prices	future tendency, (3-4 months ahead)
7	Quarterly	Employment	future tendency, (3-4 months ahead)
8	Quarterly	Limits to production	present situation
9	Quarterly	Production capacity	present situation
10	Quarterly	Duration of production assured by order books	months
11	Quarterly	New orders	present tendency, (3-4 months ago)
12	Quarterly	Exports	future tendency, (3-4 months ahead)
13	Quarterly	Capacity utilisation	present rate
14	Quarterly	Stocks of raw materials	present level
		Transition countries	
15	Bi-annual	Investment	future tendency, (12 months ahead)
16	Annual	Type of investment	present situation
17	Annual	Investment constrains	present situation
18	M/Q	Business situation	present situation
19	M/Q	Business situation	future tendency, (6 months ahead)
Construction		EU and transition countries	
1	Monthly	Business activity	present tendency, (3-4 months ago)
2	Monthly	Limits to production	present situation
3	Monthly	Order books/production schedules	present level
4	Monthly	Employment	future tendency, (3-4 months ahead)
5	Monthly	Prices	future tendency, (3-4 months ahead)
6	Quarterly	Duration of activity assured by order books	months
		Transition countries	
7	Q/M	New orders (contracts)	future tendency, (3-4 months ahead)
8	Q/M	Financial situation	present tendency, (3-4 months ago)
9	Q/M	Delays in payment	present tendency, (3-4 months ago)
10	Q/M	Technical capacity	present situation
Retail trade		EU and transition countries	
1	Monthly	Business situation	present situation
2	Monthly	Stocks	present level
3	Monthly	Orders placed with suppliers	future tendency, (3 months ahead)
4	Monthly	Business situation	future tendency, (6 months ahead)
5	Quarterly	Employment	future tendency, (3 months ahead)
		Transition countries	
6	Q/M	Selling prices	present tendency, (3-4 months ago)
7	Q/M	Selling prices	future tendency, (3-4 months ahead)
8	Q/M	Financial situation	present tendency, (3-4 months ago)
9	Q/M	Competition in own sector	present tendency, (3-4 months ago)
10	Q/M	Limits to activity	present situation

M = monthly, Q = quarterly

3.1.2 Layout and Other Design Issues

One of the basic requirements of a questionnaire is the need for it to be simple, *i.e.* constructed to encourage participation by the respondents. Filling it out must require very little of the respondents' time. The layout adopted contributes to make this possible. Almost all questions are of the multiple-choice type; *i.e.* mutually exclusive answers are pre-printed on the form. All the respondent has to do is to tick the answer he chooses. A standard question in a survey could be asked as follows:

Do you think that over the next three months your firm's production will be?

( ) higher ( ) same ( ) lower

The number of questions are normally also kept to a minimum. This is important for obtaining correct answers and to keep non-response low. Most questionnaires are also designed so that all questions fit onto one or two pages which also improves response and makes processing easier.

Form of Questions

Qualitative questions of the three-fold multiple-choice type are used for most variables in all surveys. These questions normally call for a judgement on recent developments, an assessment of the current situation, or expectations for the near term future. The pre-printed answers relating to these questions may take one of the following forms.

1. Assessment of Current Situation

Opinions on current conditions often imply a comparison with the normal situation in terms of an appreciation of present level of activity. The comparison with the normal is asked for, either explicitly or implicitly. The pre-printed answers may be of the following forms:

( ) above normal	( ) normal	( ) below normal
( ) too large	( ) normal	( ) low
( ) more than adequate	( ) adequate	( ) less than adequate

Variables covered by this type of form are normally stock variables, *i.e.* finished goods stocks, raw material stocks level of order books etc.

2. Appreciation of Past and Future Changes

The appreciation of past and future changes take one of the following two forms:

(a) A comparison between the situation at the time of the survey and an earlier or an expected later situation; or

(b) An indication of the tendency in the past or the future with no specified reference period.

The pre-printed answers may be of the following forms:

( ) up	( ) same	( ) down
( ) improve	( ) remain unchanged	( ) deteriorate
( ) increase	( ) remain unchanged	( ) decrease

This type of question is the most frequently used and is applied to all types of flow variables, *i.e.* production, orders, employment, prices etc.

Two commonly surveyed variables, however, use a form different from the threefold multiple-choice type, namely production capacity and production impediments.

3. Production Capacity

The different forms used for production capacity are (a) actual figures, (b) size ranges, and (c) qualitative appreciation. The pre-printed answers are of the following forms:

(a) Present utilisation rate in percent of normal is: ( ) %

(b) Present utilisation rate in percent is: up to 50 51-60 61-70 71-80 81-90 91-100 more than 100

(c) ( ) more than adequate ( ) adequate ( ) less than adequate

4. Production Impediments

Questions related to production impediments, *i.e.* production bottlenecks are normally multiple-choice with several alternatives. The respondents are requested to tick one or several causes responsible for current production constraints. The pre-printed answers cover normally the following alternatives:

a) Demand constraints
   Insufficient domestic demand ( )
   Insufficient foreign demand ( )

b) Supply constraints
   Shortage of equipment ( )
   Insufficient capacity ( )
   Shortage of labour ( )
   Shortage of raw materials ( )
   Shortage of capital ( )

3.2 Sample Selection

3.2.1 Coverage Issues

The accuracy of survey results is very dependent on the construction by the statistical agency of a comprehensive list of sampling units included in the coverage of the survey, *i.e.* the frame.

The Frame

To establish the frame for the surveys it is necessary to determine:

- The type of units the data should relate to (enterprises, kind of activity units, local units or establishments).
- The total population of units (the target universe) and sub–aggregates for which information is sought.
- The standard classification (*e.g.* classification of enterprises by industrial activity, size in terms of employment) used to distinguish units in the target universe from units outside it.

Units and Coverage

By far the majority of enterprises consist of only one establishment. However, the largest enterprises, which may account for a significant proportion of activity, usually consist of a number of establishments. It is frequently difficult to obtain information at the establishment level. Some alternative to enterprise level data may be available however. For example, information may be available for all establishments in one locality (a local unit) or all establishments involved in the same kind of activity (a kind of activity unit -KAU). Use of information from local units will not strictly relate to the same kind of activity and vice versa. How important this will be in terms of results will depend on the exact type of unit used by the respondent.

The desired reporting unit for BT surveys is the KAU, which in the SNA is defined as an enterprise or part of an enterprise which engages in only one kind of productive activity or in which the principal productive activity accounts for most of the value added.

Target Universe

For practical purposes the target universe should be determined by specifying which groups of enterprises are to be included in terms of:

- The characteristics of the enterprise such as kind of activity, institutional form, size and location.
- Which point of time or period the universe of enterprises is linked. Ideally, each survey should consist of all enterprises active some time during the period(s) covered in that survey (including any forecast period).

The target universe should be defined to consist of all enterprises regardless of ownership, legal form and size, which were *primarily* engaged in the relevant sector at the beginning of each survey year. This means that the survey sample should be updated every year.

3.2.2 Sample Design

There are three methods for collecting data from enterprises that can be used to draw conclusions about the target universe. These entail:

- The collection of data from all enterprises. This is a costly and lengthy procedure except where small target universes are concerned.

- Use of purposive (or judgmental) selection of a sample of units from the target population. In order to be able to draw inferences about the target universe from such a purposive sample, one has to introduce assumptions about the data.

- Use of random sampling with known inclusion (selection) probabilities for all units in the target universe. In this case no assumptions about representatives are needed and it is possible to estimate parameters for the target universe such as totals, averages, etc. from the random sample, and to determine the precision of these estimates.

A random sample may be designed in many different ways. The more that is known about the target universe from other sources the more efficient the design can be. It is useful to apply stratified random sampling provided the survey frame contains data on industrial classification and/or the size of enterprises.

The use of stratified random sampling is the ideal sampling method for any type survey. However, there are some reasons to use a modified type of stratified sample for business tendency surveys. This type of modified stratified sample is used in many countries due to the fact that a strict random procedure for the selection of sampling units *i.e.* enterprises within each strata is difficult and in many cases not even advisable. The reasons for a deviation from the ideal pure random sampling are both practical and methodological:

Practical Reasons

The participation in business surveys is voluntary and the quality of the results depends and the willingness of enterprises to participate. Even if the selected enterprises could be forced by law to participate, it does not seem advisable to insist strictly on the participation of enterprises that are not willing to co-operate. This would reduce the quality of the answers and the speed of the survey would suffer.

The enterprises included in the survey should be convinced that the information they provide is not only an important input for macro-economic analysis (policy making), but also valuable information that can be used by the enterprises more directly (market research).

Finally, enterprises included in the business survey should fulfil some basic requirements with regard to bookkeeping and short-term planning.

For these practical reasons a purposive selection may be used for the business surveys and the sample will in this case resemble more of 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 data in the total population and only to a much lesser degree on the number of units in the population. Second, changes in results between consecutive surveys based on a stable sample (panel of respondents) have as a rule smaller variance than results derived from completely independent surveys.

In addition, business survey data are in general measured on an ordinal scale and the variance of ordinarily scaled data is as a rule significantly lower than that of metrically scaled data.

3.3 Calculation of Results

The basic calculation procedure used for the different surveys are much the same. For *qualitative questions* of the multiple-choice type, the principle is to calculate, for each question, the *frequency n distribution* of answers expressed by respondents and then to extend the sample results to total population levels. For *quantitative questions* an average of all reported figures is calculated instead of relative frequencies.

Aggregation Method

The *basic principle* is, at all levels of aggregation, to summarise the information collected in the survey into one figure for each question. Each of these figures express the relative frequency of a particular answer, *i.e.* the proportion of respondents who chose it.

Weights may or may not be used. If weights are used, the same weighting pattern may be used throughout the compilation or one weighting pattern may be used at the level of the sample and another for extending the sample to total population level.

Weighting

Weighting at the level of individual data supplied by the enterprises has two functions in the context of qualitative business surveys:

- Correction for bias in the structure of the sample
- First step towards the quantification of qualitative data

Weighting is an integral part of the estimation process when data collection is based on a sample of the total population, regardless of weights collected data are of quantitative or qualitative nature. Weighting serves the purpose of adjusting for over- or under representation in the sample in relation to the target universe. In the case of quantitative data this type of weighting is sufficient. This is not the case with qualitative data, the size of the enterprise must be reflected in the answers in order to get reliable data for the aggregate. Two standard methods are outlined in the following.

Single Weighting Pattern

A weight is assigned to each respondent in order to reflect as closely as possible the relative importance of his or her answer within the sample. The *weighting variables* used are employment, turnover, deliveries, sales and value added. The weight assigned to a respondent is often equally applied to all answers.

At all levels of aggregation, the final figure calculated for each possible answer to each question expresses the *weighted number* of respondents who chose this particular answer as a percentage of the total weight.

The above approach is the basic method used in many countries. A more elaborated approach would be to use the following method.

For each of the alternative answers to each question, the weighted numbers of respondents are summed within strata (by industry and size). Stratum figures are grossed up to population level and then summed into industry groups and overall totals. Grossed-up factors are proportional to total weights of the strata. Total value added would be the best weighting variable.

Double Weighting Pattern

The first stage of the computation is done according to the basic method outlined under *single weighting pattern* above. Aggregation is done up to the level of final figures for industry groups.

The second stage of the aggregation is intended to reflect the industrial structure of the country, not just that of the sample. Weights are therefore proportional to the population levels, *i.e.* to a nation-wide measure of the relative importance of the different industries such as total value added.

The fact that big enterprises are over-represented in many surveys due to a purposive sample design means that weighting performed to correct for the bias in the structure of the sample would result in "blowing up" results for small enterprises. The second weighting step performed in order to reflect the relative importance of the size of enterprises in their answers would work in the other direction. The two effects cancel out to a large extent within a branch and the two step weighted results and un-weighted results differ only to a small extent on the branch level. However, un-weighted results on the branch level tend to underestimate somewhat the importance of big enterprises and a simple weighting system would improve the results.

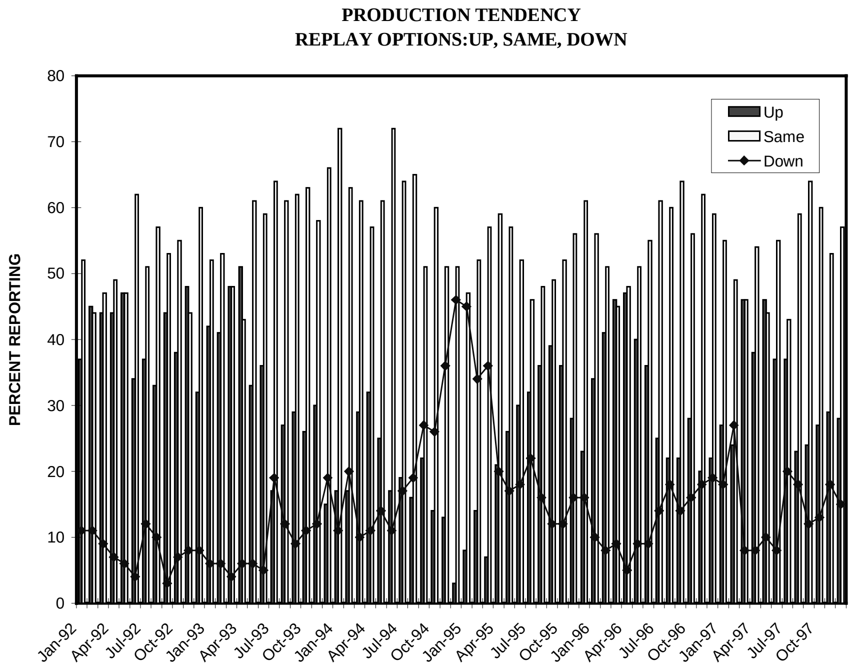
The above shows that there are pros and contra's for weighting of individual responses at the branch level. However, there is no question that results on the branch level should be aggregated using proper weights. The best weights for this purpose would be value-added data for individual branches. This second weighting step should be performed to all business survey data.

3.4 Presentation of Time Series

The basic results for a qualitative question of the multiple-choice type in a give survey, as noted above, are obtained in the form of three or five percentages, according to the number of reply options. Such percentages have limited significance where there are no past references for interpreting them. However, a movement over time in the reply percentages signifies a change in opinion of those questioned and in the variables surveyed.

The presentation of results showing the simultaneous movements over time of a number of percentages of which the sum is constant makes interpretation and analysis difficult. The basic survey results can only be used and analysed for a small number of consecutive surveys. For analysis and presentation of survey results over longer time periods, which is necessary in cyclical analysis *i.e.* the prime use of the surveys, it is more difficult to work with the full scope of survey information and the results presented in charts are more difficult to interpret (see Chart 1).

CHART 1



The analysis of trends and changes in trends is fundamental to forecasting. Some data measure trends of activities, while others provide direct measurement of change. Business survey data derived from judgements on tendencies give direct indications of change. Comparisons between the results of successive surveys show the change in the trend and the phases of the business cycle.

An important way to use business survey data is to calculate the appropriate *change index*. In the case of multiple-choice questions, the survey results are shown in the form of the *balances*, *i.e.* the difference between the percentages of reported increases and decreases. This type of change index can be used to compare one business cycle with another, to compare trends over time, and to compare one index with another. For a survey question with three reply options, the balance is calculated as follows:

Balance (B) = (“+”) - (“-”)

Where (“+”) + (“=”) + (“-”) = 100% and

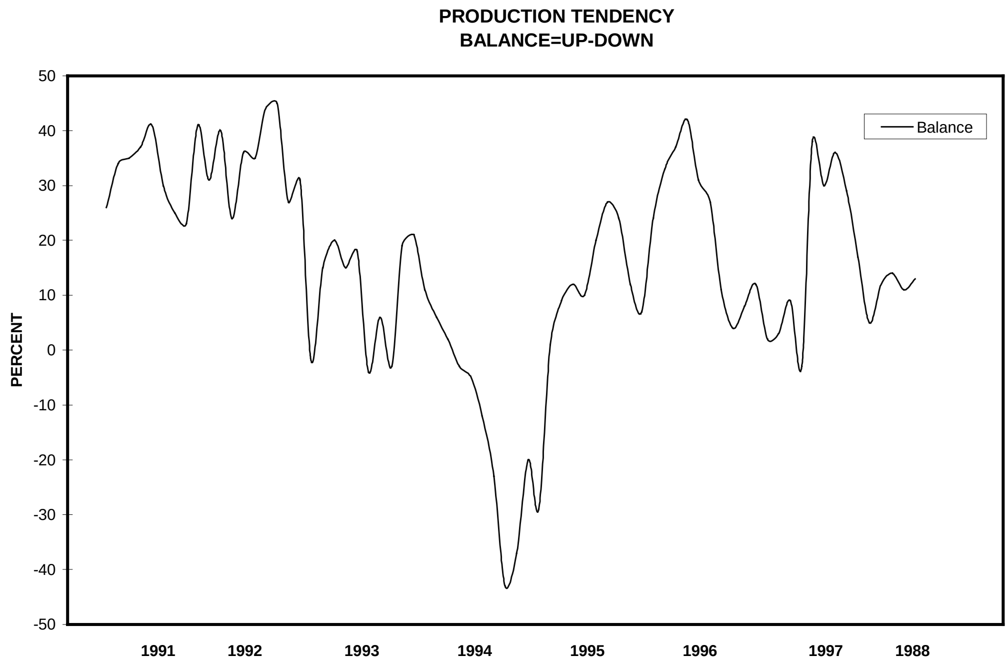
(“+”) = The percentage of positive replies (“up” or “above normal”)

(“=“) = The percentage of replies with the median reply option (“same” or “normal”)

(“-”) = The percentage of negative replies (“down” or “below normal”)

Use of the balance makes it possible to summarise the responses to a question into one single figure and the changes in the responses to that question for successive years in a simple time series (Chart 2).

CHART 2



The use of the balance alone means that some of the initial survey information is lost. However, experience in market economies has shown that that this loss of information is unimportant for the normal use of the surveys. For cyclical analysis, the use of the balance is both practical and entirely adequate. It should be noted, however, that, for a given balance, the varying percentage of "same or normal" replies might indicate a varying degree uncertainty among respondents.

Despite the precaution taken to eliminate seasonal effects when formulating questions (see section III.2.1), some "balance" series may display some seasonality, which must be eliminated before the series are analysed and presented in charts.

Change indices based on balances fluctuate above or below a zero line. When a change index is positive, it means that activity is increasing; when it is negative, the activity is declining. The distance of the change index from the zero line signifies the amount of increase or decrease. Thus, a change index shows by one number both the direction and magnitude of change.

Most other types of change index are derived from an activity index and correspond to the rate of change or slope, of activity. Business surveys, however, provide a direct measure of change.

4. THE USE OF BUSINESS SURVEY RESULTS

4.1 Interpretation of Survey Data

Interpretation of survey data is sometimes complicated initially by the subjective nature of the replies, which are based on the views of respondents. This difficulty is a counterpart to the advantages outlined under general features in section II, in particular, the speed with which the data are made available and the qualitative nature of the information which reduce trend and seasonality problems and the fact that the survey results are seldom revised, all of which make them particularly suitable for business cycle monitoring and forecasting.

These are a number of technical issues fundamental to the correct interpretation of survey data:

- Precise formulation and wording of the question.

- Reference period used for the question.

- “Bias” in replay behaviour.

- These issues are addressed in turn below.

Formulation and Wording of Questions

Interpretation of a survey question must be based on the precise formulation and wording of the question. The question on stocks, for example, is frequently asked in terms of an appreciation of present level of stocks in comparison with a normal situation. The results obtained are clearly not the same as if the question was asked in terms of an appreciation of the present level of stocks in comparison with the average level of the previous year because the concept “normal stocks” may be influenced by price expectations. The results of this question are accordingly more useful for assessing changes in stocks than for estimating the quantitative level of stocks.

The use of the concept “normal” in questions related to stocks and order books is further complicated by the fact that the benchmark used to judge the normality of these variables might change over time. This suggests that shorter term's comparisons of up to a year are more valid than longer term's comparisons.

Reference Period for Questions

Survey questions asking for an appreciation of past and future changes may take one of the following two forms:

- A comparison between the situation at the time of the survey and an earlier or an expected later situation; or

- An indication of the tendency in the past or the future with no specified reference period.

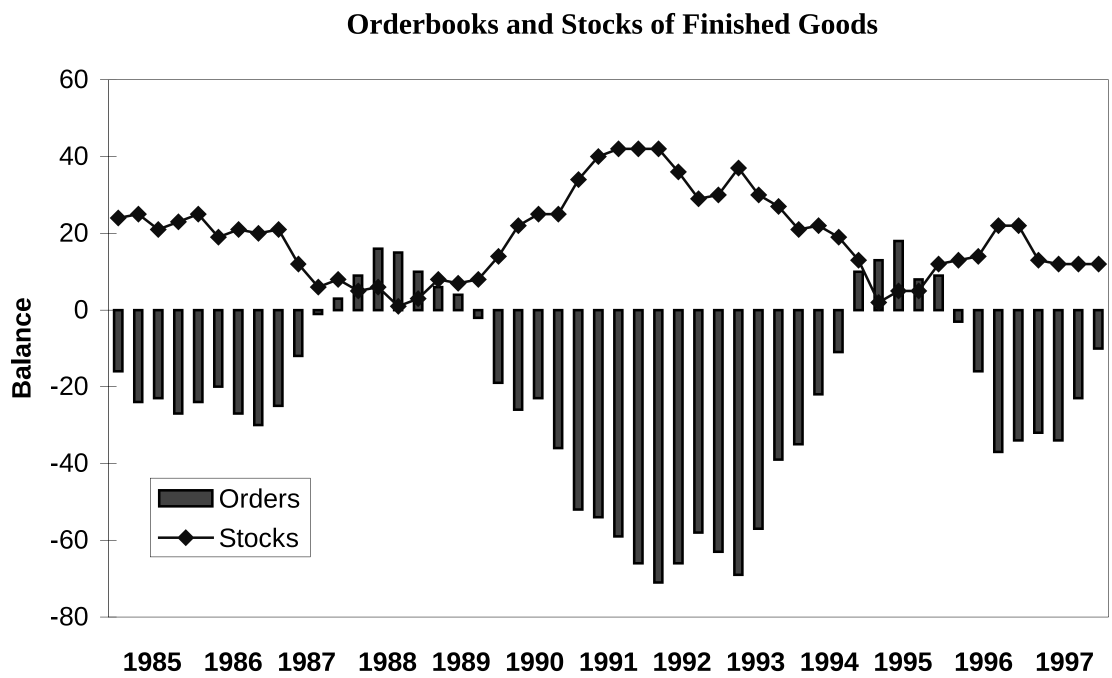
However, in formulating their replies, respondents may refer to other reference periods in the past and in the future. The appreciation of past changes may for example be answered with reference to the corresponding period of the previous year, a way to exclude seasonal problems, and not with reference to the previous period, as asked in the survey. Questions concerning future changes may, on the other hand, be answered with a shorter time horizon than asked in the survey due to problems in estimating the variable too far in the future.

"Bias" in Replay Behaviour

The existence of "bias" in the form of over optimism or over pessimism in the answers by respondents is a phenomena which is occasionally observed and must be taken into account in the interpretation of the results. For example, respondents tend consistently to report that their order books are rather lower than normal. This is illustrated in Chart 3 where the average of the balance relating to order books over several years is well below zero. On the other hand, respondents tend consistently to report that their stocks are rather higher than normal.

This type of bias in no way reduces the significance of the survey results. In the interpretation of the results it is sufficient to take into account the gap between the balance and its long-term average rather than the gap between the balance and the zero level in order to correct this bias. For most survey question there is no bias of this type, this is the case concerning production tendency as illustrated in Chart 2.

CHART 3



Source: Business Survey in Industry, Sweden, OECD Main Economic Indicators

In order to interpret qualitative survey data more accurately, the results over longer time periods can be evaluated against corresponding quantitative quantitative statistics (see section IV.2). Such an evaluation may be used to establish the link between survey balance series and growth rates in quantitative time series.

For a correct interpretation of the survey results it is also very useful to conduct a special survey among the respondents in a regular business survey in order to find out if the answering behaviour correspond to what it is assumed to be. Such a “test of the test” may be conducted from time to time in order to understand the information generated by the survey and may serve as a tool for modifying questions if necessary.

4.2 Relationships between Survey Data and Official Quantitative Statistics

Business tendency surveys are conducted to gain timely information on short-term economic developments. The statistical series derived from such surveys are by their very nature particularly suitable for business cycle monitoring and forecasting and there is ample evidence that survey series are as a rule good proxies for corresponding quantitative series, if available, or show good relationships with some general reference series representing the business cycle or the general economic development, like total industrial production or gross domestic product (GDP).

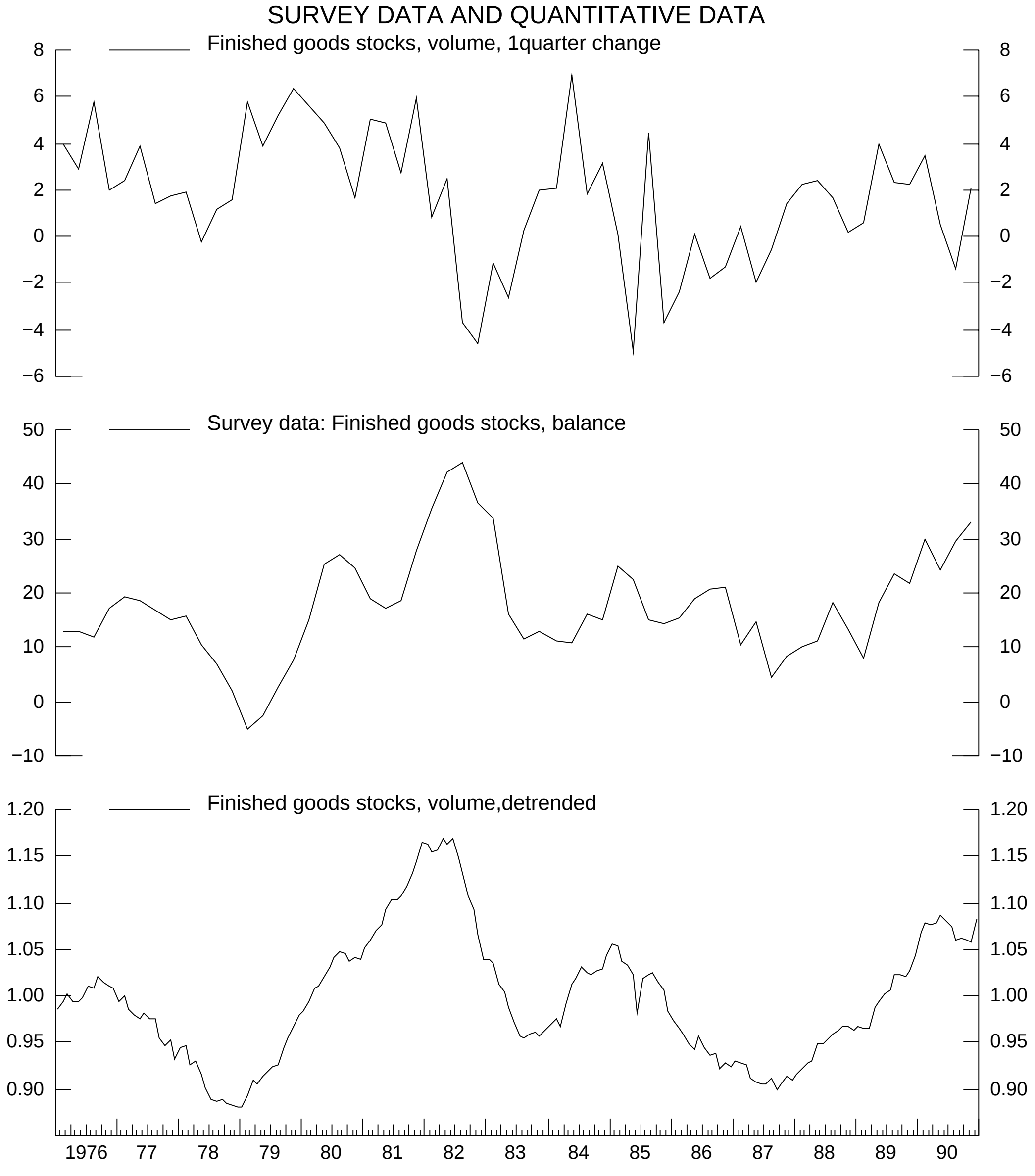
The evaluation of business survey series against quantitative statistical series is a type of external control or external consistency test. Such an evaluation, however, is complicated by the fact that conventional statistical series focus on metric data, while business surveys use ordinal scales for most variables, *e.g.* a three-point scale. A crucial issue in this context is whether survey series (balances) refer to changes or trend deviations in levels in comparable quantitative statistical series.

Indicators derived from business survey results are based on two main categories of survey questions based on the reply expected from the respondents. For questions asking for an assessment on present level of activity as being: above normal; normal; or below normal, the balance series constructed from the replies to these questions can be regarded as representing a trend deviation. For questions asking for a judgement on present or future changes or trends in comparison to past or present periods, the balance series constructed from these replies corresponds to a first difference series.

Survey Series in Level Form

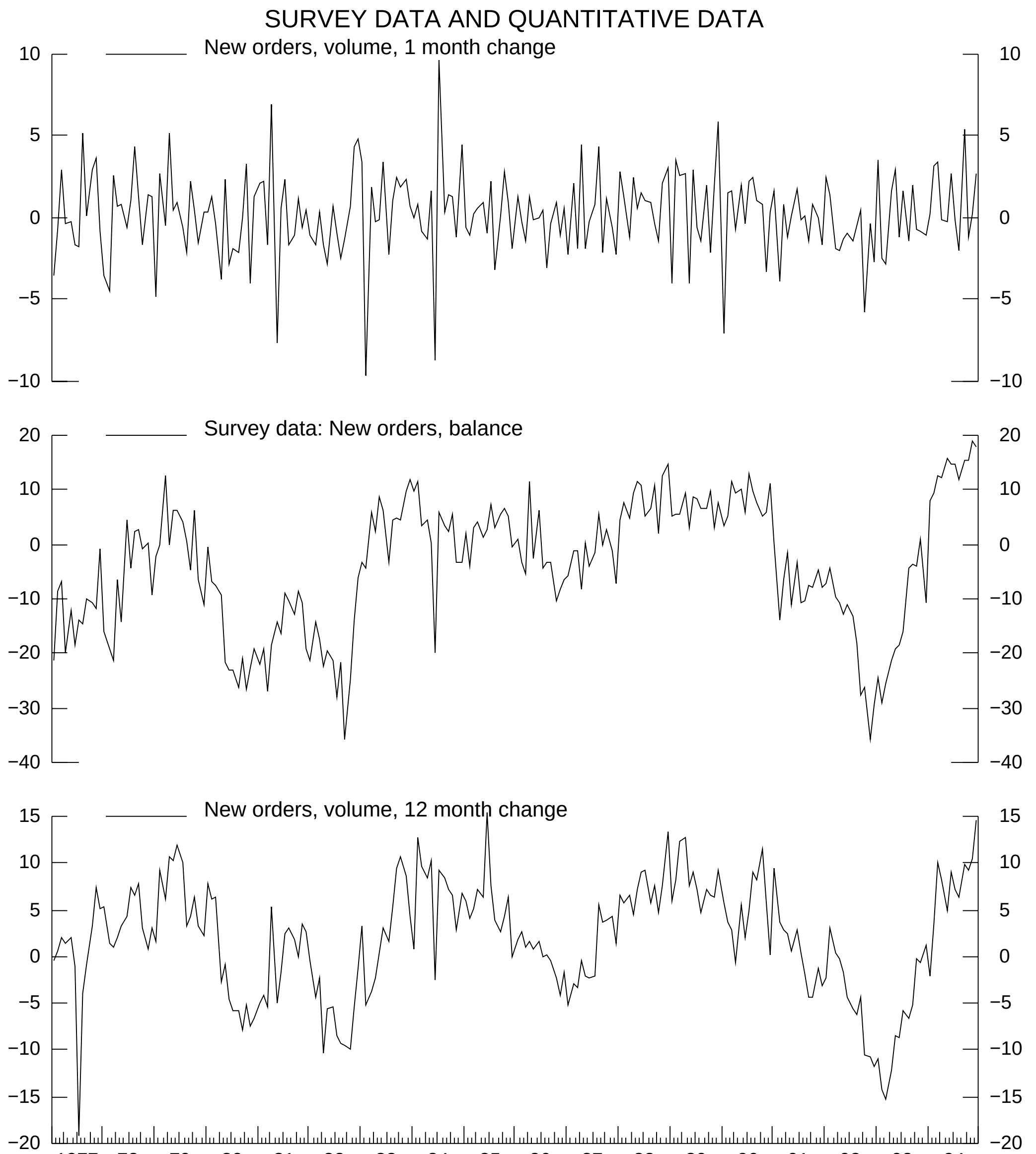
The first category of survey questions *i.e.* an assessment of the present level of activity, is illustrated in Chart 4 by a balance series on finished goods stocks. The survey series is compared with the quarterly changes in the corresponding quantitative series on finished goods stocks (top panel)) and the same quantitative series in de-trended form in the bottom panel of Chart 4. The correlation between the balance series and the quarterly changes in the quantitative series shows a correlation coefficient of 0.45 while the correlation between the balance series and the de-trended quantitative series shows a correlation coefficient of 0.87. These results support the argument that survey series in level form are more compatible with corresponding quantitative series in de-trended form.

CHART 4



Source: Business Survey in Industry, Canada, OECD Main Economic Indicators

CHART 5



Source: Business Survey in Industry, Germany, OECD Main Economic Indicators

Survey Series in Tendency Form

A further complication concerns the reference period for survey questions asking for judgements on present or future changes, which may not be the same as the one used by the respondents in answering the question. This will mean that it is not certain, for example, that a transformation of a quantitative series in monthly or quarterly changes corresponds to the correct reference period used by respondents for a survey question asking for present or future changes.

The importance of the reference period for survey questions in tendency form *i.e.* judgements on present and future changes is illustrated in Chart 5 by comparing a balance series on new orders with a corresponding quantitative series. The survey series on orders inflow/ demand tendency measured as the direction of change over one months is compared with the changes over one month and 12 months in a quantitative series on new orders (top and bottom panel in Chart 5). The balance series shows a correlation of 0.25 against the one-month change in the quantitative new orders series and a correlation of 0.76 compared to the 12 months change in the quantitative series. These results indicate that the balance series reflects changes over longer periods than one month as requested in the survey.

4.3 Business Surveys and Cyclical Analysis

The statistical series derived from business surveys are by their very nature particularly suitable for business cycle monitoring and forecasting. The cyclical profile of the series are in many cases easier to detect because they contain no trend and the series reflect assessments and expectations by businessmen, which make them very suitable as leading indicators.

The above arguments have led to an extensive use of business surveys series in cyclical analysis in market economies and in particular, the establishment and use of composite indicators.

Composite indicators based only on business survey information are included in many surveys or calculated from survey information in many countries. These types of indicators may be labelled internal or external with reference to the requested survey information.

Internal Composite Indicators

This type of composite indicator is labelled internal, in the sense that the composite index is based on survey information that is internal to the reporting enterprise *i.e.* the questions refer to assessments or judgements of variables concerning the own company.

Composite Indicators Based on a set of Survey Questions

In order to have an overall cyclical indicator, a selection of a set of survey variables is combined into a single composite indicator. These indicators are called "*confidence indicators*" because they summarise economic agent's assessments and expectations of the economic situation. The confidence indicators are made up from the averages of the replies (balances) to the main questions or variables in the surveys. The confidence indicators used in the harmonised system of business surveys in the European Union are calculated as follows:

The *industrial confidence indicator* is an average of the results to the three questions in the business survey in industry relating to:

1. Production, future tendency.

2. Total order books.

3. Stocks of finished goods (inverted).

The *construction confidence indicator* is an average of the results to the two questions in the business survey in construction relating to

1. Total order books.

2. Employment, future tendency.

The *retail trade confidence indicator* is an average of the results to the three questions in the retail trade survey relating to:

1. Business situation, tendency.

2. Stocks (inverted).

3. Business situation future tendency.

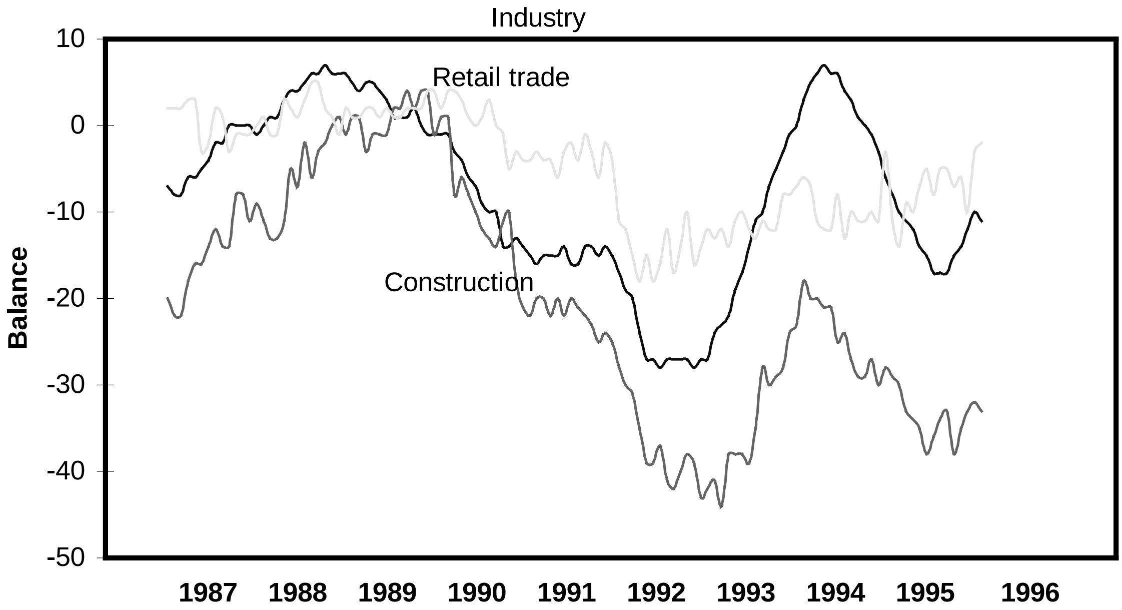
The business confidence indicators are based on the above questions with three answer alternatives to each question (“above normal/normal/below normal” or “up/same/down”). The confidence indicators are expressed as the balance of positive over negative results with inverted sign for the balance of the 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

The cyclical development over the period 1987-1996 for above confidence indicators for the European Union is presented in Chart 6 below. The advantage with composite indicators is clearly shown in the chart: the cyclical development in the different sectors of the economy is clearly illustrated and the timing relationships between the sectors are easy to identify. The chart revels as well that the industry indicator is smoother than the indicators for the other sectors. This is partly explained by the types components included: order books and stocks, two very stable indicators. The construction indicator is more volatile which may be explained by the fact that it is based on only two components. The retail trade indicator is also showing an irregular behaviour and a less pronounced cyclical pattern than the indictors for the other sectors are. This may be explained by the fact that the retail trade indicator include two component related to the past and future business situation which are two relatively difficult variables to judge for a sector with la more stable cyclical development.

Composite indicators of this type, but with other combinations of questions, are calculated from national surveys in Germany and Switzerland. The German indicator combines answers to two questions about the business situation at present and 6 months ahead. The geometric average of the two seasonally adjusted balances is calculated to give the composite index. In the case of Switzerland, four to six questions on the developments concerning production, order books and order inflow over the past twelve months and judgements on the present level of order books, stocks of finished goods and stocks of materials make up the composite index, which is a simple arithmetic average of the balances.

CHART 6

CONFIDENCE INDICATORS



Source: Harmonised Business Surveys, European Commission

A single Synthetic Survey Question

Questions on the general business situation for the enterprise may be considered as composite indicators in their own right in the sense that they combine factors determining the respondents' appraisals concerning order books, expected orders inflow, customers' situation and profit possibilities. This type of question is asked in the industry survey in the following OECD member countries: Belgium, the Czech Republic, Germany, Hungary, Japan, Finland, Norway, Poland and Switzerland and in the following transition countries in Central and Eastern Europe: Bulgaria, Estonia, Latvia, Lithuania, Romania and the Slovak Republic. Such a question is also included in the retail trade survey in all European Union member countries, the Czech Republic, Hungary, Poland and the above listed transition countries in Central and Easter Europe.

External Composite Indicators

Another approach that may be called external, is when a question in the survey asks for information that is external to the reporting enterprise, such as the general economic situation in the country, industrial sector or industry. A question of this type is asked in the industry survey in Australia, New Zealand, France and Italy.

4.4 Integration into Economic Analysis

The main aim of conducting business surveys is to improve economic analysis and forecasting. The survey results can be used to:

- Monitor the economic situation at the time of the survey.
- Indicate the probable short-term development of key economic variables covered in the survey.
- Develop cyclical economic indicators.
- Supply input data to econometric models in addition to quantitative data.

There are two main approaches to business cycle analysis and forecasting:

- Structural (econometric) models.
- The indicator approach.

However, structural models are as a rule not very well suited for short-term forecasting in the near term future *i.e.* the next 2-3 quarters, particularly not in times of strong structural changes. On the other hand, structural models play an important role for checking the consistency of short-term forecasts, for policy simulations and for medium- and long-term forecasting. The indicator approach is a more successful way to use business survey data for cyclical analysis and forecasting.

The indicator approach is a technique for monitoring the present position of the cyclical development and, in particularly, for predicting the turning points in key economic variables such as industrial production and GDP. This approach is used to establish cyclical indicator systems *i.e.* to select, evaluate and classify statistical indicators into leading, coincident and lagging indicators and to aggregate individual indicator series into composite indicators for the different timing categories of indicators, in particular composite leading indicators.

The establishment of cyclical indicator systems necessitates, however, a definition of the cycle and a selection of a reference series for the indicator system. Economic development is normally regarded as a succession of cycles with requirement sequences of altering phases of expansions and contractions identified by turning points (peaks and troughs). The cycles can be *classical cycles i.e.* business cycles where the cycles are measured from the levels in time series or *growth cycles* where the cycles are measured in terms of the deviations from the long term trend. Growth cycles contractions include slowdowns as well as absolute declines in activity, whereas business cycles contractions include only absolute declines (recessions).

Cyclical indicator systems are constructed around a reference series *i.e.* the target series whose cyclical development it is intended to predict. The reference series is used to establish the timing classification of statistical indicators as leading, coincident and lagging with respect to the selected target series. A single macroeconomic variable like total industrial production or GDP is used as reference series in many cyclical indicator systems. However, a set of coincident indicators combined into a composite indicator is an alternative way to define a reference series.

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.

Integration of Business Survey Series into Cyclical Indicator Systems

The statistical series derived from business surveys are by their very nature particularly suitable for business cycle monitoring and forecasting, as noted in the previous section. In particular, their ability to predict the cycle's turning point makes them very suitable as leading indicators. The construction of composite leading indicators is also the main objective of a cyclical indicator system.

The selection potential leading indicators for inclusion into a cyclical indicator system are normally evaluated against the following criteria:

- *Relevance*: economic rational for the observed leading relationship.
- *Cyclical behaviour*: length and consistency of lead, cyclical conformity (general fit) absence of extra or missing cycles, smoothness.
- *Practical considerations*: frequency of publication, absence of excessive revisions, timeliness of publication, availability of long time series with no breaks.

The extent to which the business survey series fulfil above criteria and how well they may be integrated into a cyclical indicator system and their advantages compared to quantitative statistical series are examined in the following.

In terms of relevance, the business surveys score well as they include variables which measure the early stages of production (*e.g.* new orders, order books), respond rapidly to changes in economic activity (*e.g.* stocks) and measure expectations or are sensitive to expectations (*e.g.* overall economic situation).

Business survey series may be easily integrated into a cyclical indicator system due to their construction and related cyclical behaviour. The cyclical profiles of statistical series derived from business are in many cases easier to detect because they contain no trend. This is a very strong advantage in the case the indicator system is based on the growth cycle approach *i.e.* where the cycles are measured in terms of deviations from long term trend. As explained earlier, while conventional statistics focus on metric data, business surveys use ordinal scales for most variables, *e.g.* a three-point scale (up/same/down) which makes them very sensitive to cyclical development. In addition, survey variables related to judgements and expectations register a change in the cycle earlier than corresponding quantitative statistical series. This is because judgements and expectations lead to plans and only after these plans have been implemented will they be picked up by traditional statistical surveys.

The length of the lead at cyclical turning points of business survey indicators is not among the longest compared to all types of indicators, however, the size of the of the lead is more stable and the number of extra or missing cycles is less frequent compared to quantitative statistical series.

In general, answers to business surveys are "seasonally adjusted" by respondents, that is, the questions specifically ask for the exclusion of seasonal effects when reporting the answers. In most cases, survey series contain only little seasonal variation compared to corresponding qualitative statistical series. This is partly explained by the fact that survey series are often free from distortions that may effect “real” statistics for months, such as changes in holidays or plant shutdown schedules, or unusual weather etc. However, respondents may not able to completely eliminate seasonal variation from their answers for certain series and it may be necessary to adjust the series for remaining seasonality. The fact that most business survey series contain only little seasonal variation adds to the relative smoothness of the survey series.

Accuracy of measurement is to the advantage for quantitative statistical series. However, this advantage is counterbalanced by the qualitative survey series in terms of timeliness and the fact that quantitative series are in general revised several times before the final figures are available, while survey series are rarely revised. In addition, business surveys collect qualitative information for variables that are difficult or impossible to measure by conventional methods such as capacity utilisation, production bottlenecks and the overall economic situation. A further advantage for the qualitative survey series related to timeliness is the fact that they are available from one source and released for publication at the same time. This means that a composite indicator with many component series coming from business surveys will always be calculated with a high number of components available and will be less revised subsequently.

Types of Series used in International Indicator Systems

Cyclical indicator systems are used by national governments and economic research institutes in various parts of the world for analysing business cycles and for predicting cyclical turning points in aggregate economic activity. Systems of cyclical or leading indicators are also maintained by international organisations for monitoring economic development across a number of market oriented countries.

The types of leading indicator series used in international indicator systems are described in the following. The institutions covered are the OECD, Centre for International Business Cycle Research (CIBCR), United States, and the Commission of the European Communities (EC).

The main leading indicator series used in the different international indicator systems are set out in Table 2. The major difference between the systems in terms of types of series used is the degree of dependence on qualitative business and consumer survey data. In the case of the EC system this is almost total, the only quantitative series used is the share price index; in the OECD system they are the most frequently used leading indicator series, but in the CIBCR system they are not used at all.

Apart from the difference in use of series from business surveys, the use of two other statistical series further distinguish between the various indicator systems. The OECD system is the only one to include series from the foreign trade area, *i.e.* exports and terms of trade series, and to cover series related to activity in foreign countries.

A further major difference between the indicator systems is the use of money supply as a leading indicator for most countries in the OECD system. This series is not used in any of the other systems. The use of series such as money supply, deposits and the above series related to foreign trade and activity in foreign countries means that the OECD system include series of the "prime movers" type which are relevant to monetary and fiscal policies and foreign economic developments.

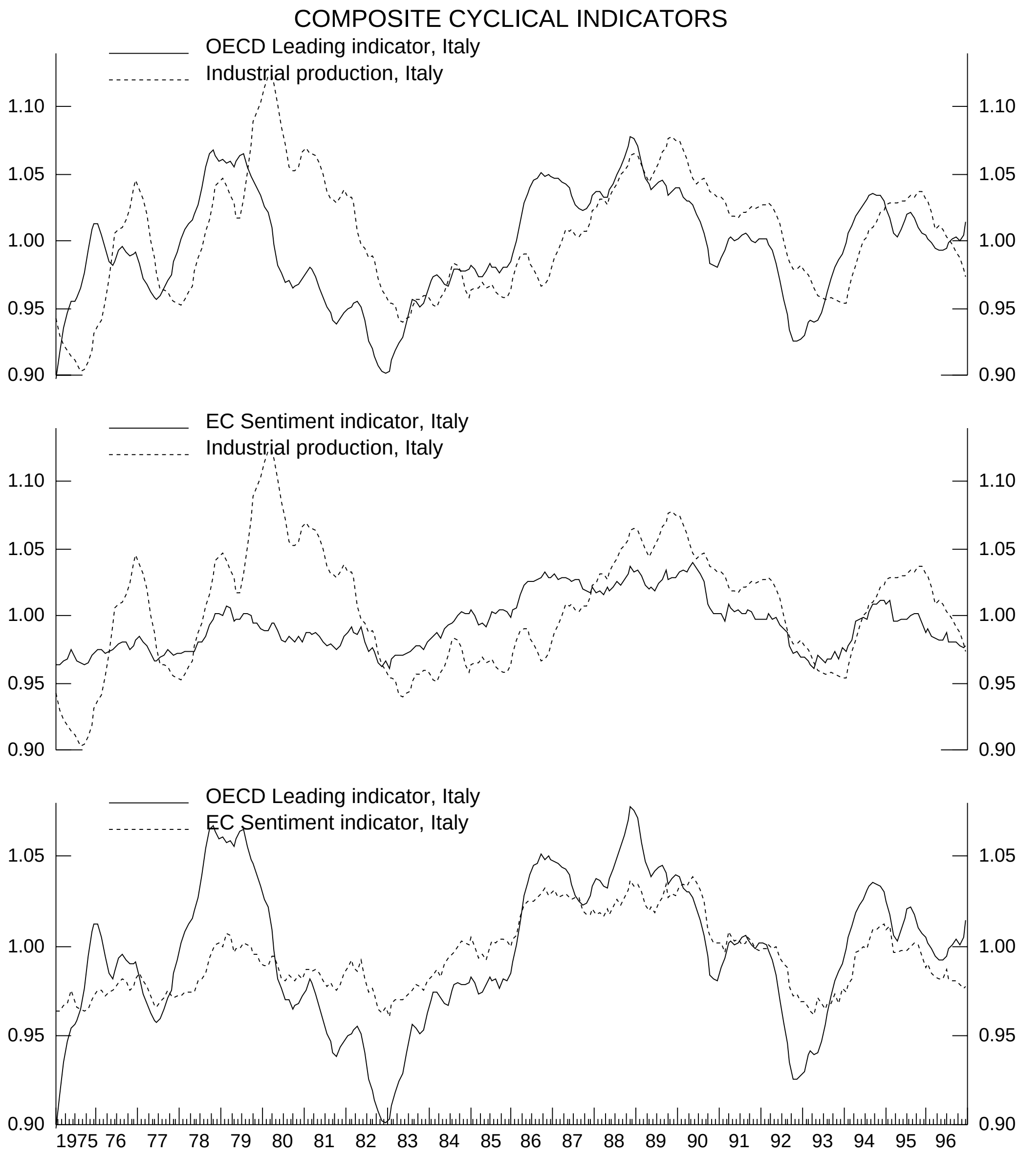
Composite Indicators

The construction of composite leading indicators is the main objective of a cyclical indicator system, but the types of series used in international indicator systems may be quite different, as noted above. A standard set of indicators across countries may be used or an individual set of indicators per country may be used. An indicator system may be almost totally dependent on qualitative business survey series or based solely on quantitative statistical series. The use of a standard set of indicators across countries is a good approach for obtaining international comparability. However, cyclical indicators, which perform well in one country, may not work well in another because of differences in economic structure and statistical system.

Two composite indicators for Italy are used in the following to illustrate the cyclical performance of composite indicators based on different types of series. The first composite indicator is calculated on the standard set of series used in the EC system and the second is based on the country individually selected leading indicator series used in the OECD system. In addition, the EC indicator *i.e.* economic sentiment indicator is almost totally based on quantitative business survey series while the OECD indicator includes both qualitative and quantitative statistical series.

The cyclical development of the two composite indicators over the period 1975-1996 is set out in Chart 7. The industrial production index is used as reference series in order to evaluate the cyclical performance of the two composite indicators. The OECD composite leading indicator is set out in the top panel of Chart 7 and shows a clear leading behaviour against industrial production. The lead of the OECD composite indicator against the de-trended industrial production series is 10 months with a peak correlation of 0.74. The EC economic sentiment indicator (middle panel) shows a rather short lead (3 months) and a relatively weaker correspondence with a peak correlation of 0.51 against the industrial production series. The leading characteristics of the OECD composite indicator against the EC economic sentiment indicator are also confirmed by a direct comparison between the two composite indicators (bottom panel). The OECD indicator shows a lead of 2 months against the EC indicator with a peak correlation of 0.76.

CHART 7



Source: OECD and European Commission

Table 2: International Systems of Leading Indicators-Main leading indicators

Indicator series by subject area	Number of countries with indicators		
	OECD	CIBCR	EC
Production, stocks and orders			
Industrial production branches	4		
Orders	4	5	
Stocks	6	7	
Construction, sales and trade			
Construction	9	10	
Sales or registration of vehicles	5		
Retail sales	5		
Labour force			
Layoffs/initial claims	2	4	
Hours worked	2	8	
Prices, costs and profits			
Wages and salaries per unit of output	3		
Ratio, price to labour cost		9	
Price indices	5	8	
Profits, flow of funds, etc.	2	6	
Monetary and financial			
Consumer debt		7	
Foreign exchange holdings	2		
Deposits/credits	4		
Money supply	17		
Interest rates	11		
Share prices	12	11	12
Company formation	1	6	
Foreign trade			
Exports	3		
Terms of trade	8		
Business and consumer surveys			
General situation	6		12
Production	12		12
New orders	8		12
Order books	10		12
Stocks	13		12
Employment			12
Financial situation of households			12
Purchases of households			12
Economic activity in foreign countries			
Foreign series	4		

5. PRESENTATION OF SURVEY RESULTS TO USERS

5.1 Identification of Different Users

Institutes that produce statistics normally put a great deal of effort into sampling, collection and processing needed to produce the data. Some institutes extend this to analysing the data. However, less effort is normally put into presentation and publishing of the results. In particular, little time is devoted to presenting data in a way that encourages a wider circle of people to use the results.

There are many different potential users of statistics in general and business survey results in particular. The following groups of users may be identified:

- Economists, researchers and analysts in general.
- Respondents to the survey.
- Senior executives in business generally.
- Politicians.
- Senior civil servants responsible for government policy.
- Senior personal in banks and financial institutions.
- The press and other media.

From the above list of potential users it is quite clear that they do not want the same type of information. In general they can be divided into two categories: those who intend to analyse the results in detail and those who simply want to know the main results. To the first category *i.e.* the "analysts" will include the economists, researchers and other analysts in general and the respondents to the survey. The second category may be labelled "executives" and will include the remaining greater number of potential users of the results.

5.2 Characteristics of Different Users

Analysts

The analysts are characteristics by people who are capable and have time to analyse the survey results. This type of people may work for statistical institutes, economic research institutes and organisations that have their own in-house research department. The main requirements by this category of people are:

- To have the figures clearly laid out.
- To receive historical data for a few years back so they do not have to waste time looking through too many back issues of the survey reports.

- To find the same series in the same place all the time.
- Not to have the figures revised too frequently and to have the full back run of data made available.
- To have any breaks in the series competently dealt with and noted, with at least one period on both old and new base.
- To have figures clearly printed.
- To have clear footnotes where appropriate.
- To have a certain amount of concise, easily absorbed methodological information and if possible a telephone number or address to write to with queries.
- To receive the data quickly after publication.

A special type of user belonging to this category is the respondent to the surveys. These people need to be motivated to continue filling in the questionnaires. In order to provide more incentives for enterprises to participate in the surveys many institutes conducting business surveys are providing special services in order to convince participants to remain in the sample or on request from special clients (mainly banks). These services include:

- Sectoral and branch forecasts based on the survey series alone or in combination with quantitative statistical series.
- Enterprise forecasts: survey data for customer branches are used to forecast the incoming orders to an enterprise.
- Disequilibrium analysis on branch level: this approach focuses on the micro data from the surveys and has the advantage that both cyclical and structural phenomena can be analysed at the same time.

Executives

However, the analysts are a minority of potential users, but an important minority. The executives are a much greater potential user group characterised by people who do not want to look at the results as such, but want to know what the results mean, that is, they need their information “pre-digested”. If the institute conducting the business surveys does not publish the results in a way that enables these people to “use” them the majority will never know what the results are.

The results for senior executives should be presented in a way that makes it easy for them to absorb the material and encourage them to read it. These categories of people do not have time to read everything and will select only that, which seems important. They will hardly look at statistical tables. On the other hand, the interpretation of business survey data is not obvious and a simple explanation needs to be presented. However, statistical tables should be included in the presentation, they add credibility to the analysis, but they should play a relatively minor role or be put in an annex. The main requirements for a report for executives may be summarised by the following points:

- The main part of the report should devoted to text.
- The text should focus on results, which have some particularly relevant or important to say.

- The main results should presented in a simple way and give a good overview of the economic development, such a presentation could focus on the results based on confidence indicator for broad sectors of the economy.

- It should be brief, two or three pages of text with a few graphs (business survey data are particularly suitable for graphical presentation).

- One or two pages of statistical tables attached in annex.

- It will need to explain why the survey results can be important guides to economic activity as well as reflecting the views of the business community, and any relevant technical points (this is most important in the early days of the survey).

5.3 Presentation of Survey Results to Different Users

Four main types of reports or publications may form the basis for a publication strategy for presentation of survey results to different users. The four main reports are:

- Press release

- Report for executives

- Publication for analysts

- Reports for respondents

Focus of information and content of above reports are summarised in Table 3 and outlined in detail in the following.

The press release should be very short, one or two pages maximum. Only the main features should be covered in the text. The press notice will also include some methodological information *i.e.* survey characteristics like number of respondents and coverage of the survey in terms of employment or some other key variable. A table summarising key indicators and a graph showing the overall development of one main indicator could also be included. A telephone contact number should be indicated.

In many ways everything that applies to the press release applies to the report for executives. However, this report could be a bit longer, two or three pages and could include one or two graphs. The main message should be summarised in headlines followed by some text focusing on specific results for the current situation and main features of the future development.

The text could be completed by a few tables, one summarising the results of key indicator and one showing the results for some specific indicators or by industries or regions. The report should include some methodological information *i.e.* a brief explanation of what the survey is about (type of questions, type of respondents, etc.), survey characteristics and some information about how to interpret the results.

The report for analysts should contain a complete presentation of the survey results. This will include an overview of the main results and main features by sectors, regions etc. The text should be complemented with graphs and tables of key results. This type of report should contain detailed results with full data presentation in tables for all variables by sectors, regions etc. For a reasonable period of past data. These tables could show quarterly or annual averages of data for a longer period of years so that the analysts can easily compare current results with past trends.

The methodological description should be rather extensive and give more technical and detailed information. The following points should be covered and included in the report at least once a year:

- Classification standards used and their reliability.
- Frame, sampling units and reporting units.
- Sampling method, if stratified selection is used, by which criteria branches or sectors, size groups in terms of which variable (employment, turn over etc.) or other criteria.
- Aggregation method: how branches or activities have been aggregated industries or sectors and totals.
- Survey characteristics: sample size, structure of sample, response rate, and coverage.
- Data collection method.
- Information about respondents.
- Comparability of results with regard to other surveys and quantitative statistics.
- Sample of the survey questionnaire and instructions to respondents.

The report for respondents to the survey should include the same information as the one prepared for analysts. In addition, it could contain enterprise specific information, if such information is available. This type of information could include sectoral and branch forecasts for key sectors of interest to a particular enterprise. Specific forecast for individual enterprises participating in the survey could also be prepared on request.

Table 3. Business survey reports for different users

Reports/users	Focus of information	Content
Press release	Main features	Text, survey characteristics
Executives	Main features	Text, graphs, survey characteristics Interpretation of results
Analysts	Overview Main features by sectors	Text, graphs, tables Detailed data Survey characteristics Interpretation of results Methodological information
Respondents	Overview Main features by sectors Enterprise specific information	Text, graphs, tables Detailed data Special tabulations Survey characteristics Interpretation of results Methodological information

PART B. BUSINESS TENDENCY SURVEYS IN THE RUSSIAN FEDERATION

6. GENERAL CHARACTERISTICS

In the transformation process of the economy in Russia the problem of incomplete coverage and quality of urgent economic information became more aggravated. Limited possibilities of traditional statistical measurements of rapidly changing conditions of economic management led to the necessity to use alternative sources of information on economic development of the country in a short-term period.

Based on international practices of studying business activity, the Centre of Economic Analysis (CEA), since 1992, conducts on a regular basis wide-scale sample business surveys of enterprises and organisations in different sectors of economy of Russia aimed at urgent reflection of the reform processes in the national economy, its functioning and the need to get more significant results. The programmes of business surveys under way are designed to receive, in addition to official statistical data, short-term qualitative information on the main microeconomic tendencies, peculiarities the of functioning of economic agents, their intentions and degree of adaptation to market behaviour of economic management. Among the necessary demands to be met by the surveys programmes the following are of the first priority:

- Adequacies to the current economic state and feature of the national economy at the present stage of development.
- Comparability with the analysis of national economy with analogue conceptual and statistical characteristics.
- Comparability with the international analogues, in particular with the indicators of the Harmonised European System.
- Accessibility and possibility of receiving urgent and reliable information.
- Representativeness and stability of the sampling frame of respondents.
- Stability of core set of indicators and updating of specific set.
- Possibility to process and aggregate qualitative information, its dynamic observation, indication of business cycles as well as its integration into macroeconomic forecasting.

At present the CEA conducts the following business surveys on a regular basis:

- In industry, since 1992, on a quarterly basis, the surveys cover about 1.0 thousand large, medium and small enterprises of 11 enlarged branches which are different in types of ownership, organisational and legal forms and which represent about 30 regions of Russia. Since May 1995, on a monthly basis, about 1.2 thousand medium and large (base) industrial enterprises are surveyed in accordance with the European Harmonised Programme (jointly with the Russian Statistical Agency).
- In construction, since 1993, on a quarterly basis, up tp 1998 the surveys covered more than 500 enterprises of different type of ownership in 14 regions of Russia; since 1998 –the survey covered more than 5 thousand enterprises of different types of ownership and number of employed in 70 regions (jointly with the Russian Statistical Agency).

- In retail trade, since 1995- on a half-yearly basis and since 1997 - on a quarterly basis, the surveys cover more than 4 thousand enterprises of different types of ownership, size of daily retail turnover and number of employed in 35 regions of Russia (jointly with the Russian Statistical Agency).

- In Banking and the Insurance sector, since 1993 -twice a year and since 1999- on a quarterly basis surveys are conducted on business activity of more than 100 commercial banks with different size of registered starting capital and own capital; since 1994 the surveys cover about 200 insurance organisations of different groups by types of ownership and size of paid starting capital.

- Surveys of enterprises and organisations, which are included in financial and industrial groups of Russia, have been conducted since 1995.

- Industrial, construction and trade enterprises covered by surveys since 1994 are among Investment and innovation activities as well as small businesses in real sector of economy.

- Processes of shadow economy have been studied since 1997 by means of including corresponding indicators in the programmes of the surveys.

- By the end of 1999 it is envisaged to conduct selected pilot surveys of small businesses in industry, construction and trade.

- Pilot surveys of investment activities of industrial enterprises and business activity in wholesale trade were conducted in 4 regions of Russia in the first half of 1999.

The information received in the course of the surveys may be used for: analysis of the state of the economic situation at the moment of the survey and of the current tendencies; description of the probable short-term perspective; development of economic indicators including those which monitor economic development on a regular basis; presentation of additional information as input to econometric models.

Information and analytic materials of the business surveys results are submitted by the CEA to the Administration of the President, Federal Assembly, governmental organisations, Russian Statistical Agency, local statistical bodies, enterprises participating in the surveys; they are also published in the press as well as in the CEA publications both in Russian and English. Apart from that, the results of the surveys are sent to the Organisation for Economic Co-operation and Development (OECD) and Commission of the European Union (CEU).

6.1 System of Indicators

Business surveys are built up on the collection and generalisation of opinions of entrepreneurs about their current economic situation and their intentions for the short-term future. The system of selected indicators and structure of corresponding questions in the programmes of conducted surveys are worked out and developed in accordance with the following main principles:

- Questions referring to characteristics of the enterprise or organisation under survey.

- Questions connected with the reflection of indicators dynamics refer to the general interval of time for which surveys are conducted (month, quarter, etc.).

- Questions connected with the assessment of current situation in an enterprise (organisation, etc.) mainly include comparisons with normal (usual) level, despite possible subjectivity of respondents replies: higher than the normal level (+), corresponds to the normal level (=), lower than the normal level (-).

- Three categories grading is used for all the questions concerning the assessment of indicators referring to changes over time: growth (improvement) (+), no changes (=), recession (change for the worse)
(-).

- All information received in the business surveys is of a qualitative character except some indicators. Quantitative indicator of the number of employed in all the surveys of the real sector of economy are used as statistical weight of the unit under observation.

Application of these principles based on the recommendations of OECD and CEU enables, to a great extent, to compare qualitatively the survey results in dynamics with official national quantitative information, as well as with the results of surveys in other countries.

As a whole, the system of business surveys indicators developed by the CEA consists of three consolidated blocks:

- The first block contains regular questions for each survey, including harmonised indicators recommended by OECD and CEU.

- The second block contains special questions repeated systematically during several surveys and related to the study of stable specific tendencies in the Russian economy.

- The third block contains special questions concerning phenomena, which are either arising or having momentum in their development.

Table 6.1 presents the whole set of all indicators with marking out regular indicators relating to main aspects of business activity and special indicators needed for the present day problems of economic development, more exact determination of the sphere of activities and intentions. Apart from that, the Table indicates the periods used for indicators referring to changes over time and scales measurement of the indicators. Given separately are indicators, which correspond to the standards of the Harmonised European System.

Table 6.1 System of Indicators in the Programme of Business Surveys Conducted by the Centre of Economic Analysis

		Indicators*	Period of change	Scale of measurement
	I. Industry			
1	Average number of employed	•, •, •	F1	K
2	Number of employed	•, Q7, C, M,	tL, tF, F	I, P, O
3	Rate of capacity utilisation	B, Q12, C, M	F	I
4	Capacity utilisation	B, C, M	tL, tF, F	P, I
5	Output of main kind of products	B, Q1, Q5, C, M	tL,tF	P
6	Demand for the products of enterprise	B, Q10, C, M	tL, tF	P
7	Demand for the products of enterprise at external market	B, Q11, C	tL, tF	P
8	Volume of export transactions	B, Q3, C	tL, tF	P
9	Volume of import supplies	B, C	tL, tF	P
10	Investments including foreign	B, Q13, C	tL, tF	P
11	Investments in fixed capital	B, C	F	N
12	Stocks of raw materials	•, •	F, tL, tF	O,P
13	Stocks of finished products	B, Q4, C, M	F, tL, tF	O, P
14	Order books	B, Q2, C	F	O
15	Availability of capacities in relation to expected demand (within the next 6 months)	B, Q9, C	F	O
16	Competitiveness of the main kind of products	B, C	F	P
17	Prices for raw materials	B, C, M	tL, tF	P
18	Prices for finished products	B, Q6, C, M	tL, tF	P
19	Availability of financial resources	B, C, M	tL, tF	N, P
20	Arrears	•, •, •	tL, tF	N, P
21	Profit (losses)	•, •, •	tL, tF	P
22	Financial situation	•, •, •	F, tL, tF	P
23	Limits to production	•, Q8, C, M	F	N
24	Economic situation	•, Q16, C, M	F, tL, tF	P
25	Causes of change in number of employed	S, C	F	N
26	Alternative forms of settlements	S, C	tL, tF	N, P
27	Causes of settlements in cash	S, C	F	N
28	Purposes of intended investments	S, Q14, H	F	N
29	Factors constraining investments	S, Q15, H	F	N
30	State of innovation activities	S, H	F	P
31	Causes of innovation activities	S, H	F	D, N
32	Purposes of innovations	S, H	F	N
33	Measures for innovation activities	S, H	F	N
34	Sources for financing innovation activities	S, H	F	N
35	Expenditure for innovation activities (as % of profit)	S, H	F	I
36	Results of innovation activities	S, H	F	N, P
37	Factors constraining innovation activities	S, H	F	N

Table 6.1 *(contd.)* **System of Indicators in the Program of Business Surveys Conducted by the Centre of Economic Analysis**

		Indicators*	Period of change	Scale of measurement
	II. Construction			
1	Number of employed	B, Q4, C	F, tL, tF	I, P
2	Utilisation of capacities	B, C	F	I
3	Availability of orders	B, Q6, C	F	I
4	Availability of financing	B, C	F	I
5	Order books	B, Q3, C	F	P
6	Availability of capacities in relation to expected demand	B, Q10, C	tF	O
7	Physical volume of works	B, C	tL, tF	P
8	Order books	B, Q7, C	tL, tF	P
9	Prices for construction materials	B, Q5, C	tL, tF	P
10	Prices for construction and mounting works	B, Q5, C	tL, tF	P
11	Financial situation	B, Q8, C	tL, tF	P
12	Total indebtedness of clients in payments for completed works	B, Q9, C	tL, tF	P
13	Availability of financial resources	B, C	tL, tF	P, N
14	Investments	B, C	tL, tF	P
15	Factors constraining the production activities	B, Q2, C	F	N
16	Economic situation	B, Q1, C	F, tL, tF	P
17	Share of works not officially registered	B, C	F	I

Table 6.1 *(contd.)* **System of Indicators in the Program of Business Surveys Conducted by the Centre of Economic Analysis**

		Indicators*	Period of change	Scale of measurement
	III. Retail trade			
1	Average listed number of employed for the previous quarter	B, C	F	Ê
2	Average daily retail turnover	B, C	F	I
3	Number of employed	B, Q5, C	tL,tF	P
4	Retail turnover	B, Q12, C	tL,tF	P
5	Volume of sales in quantity	B, C	tL,tF	P
6	Orders for goods supply	B, Q3, C	tL,tF	P
7	Assortment of goods	B, C	tL,tF	P
8	Competition	B, Q9, C	F	N
9	Storage areas	B, Q13, C	tL,tF	P
10	Suppliers of goods for your organisations	B, C	F	I, N
11	Share of imports in retail turnover of organisation (food products)	B, C	F	I, N
12	Share of imports in retail turnover of organisation (non-food products)	B, C	F	I, N
13	Stocks in warehouse (adequate to demand)	B, Q2, C	F,tL, tF	O, P
14	Selling prices	B, Q6, Q7, C	tL,tF	O
15	Level of trade margin	B, Q6, Q7, C	tL,tF	O
16	Level of competition on the part of other organisations	B, C	F	O
17.	Kind of settlements with suppliers	B, C	F	N
18	Direction of allocations for the development and expansion of trade activities	B, C	F	N
19	Factors constraining the development of activities of organisation	B, Q10, C	F	N
20	Assessment of financial state of organisation	B, Q8, C	tL,tF	P
21	Assessment of general economic situation of organization	Q1, Q4	F, tL, tF	O, P

* Indicators:
B - basic (questions asked on a regular basis)
S - special (questions asked if necessary)
Q - Harmonised European System of Business Surveys
M - monthly surveys
C - quarterly surveys
H - half-yearly surveys

Period of change:
tL - changes in the current period compared with the previous period
tF - changes in the future period compared with the current period
F - state as of the moment of survey

Scale of measurements: K – quantitative N – nominal I – interval P – ordinal
D – binary O - ratios

7. METHODOLOGY AND ORGANISATION

The programme of business tendency surveys in the Russian Federation is designed to provide a breakdown of respondents by individual qualitative distinctive feature and to analyse general results as well as results within certain groups, or strata. In particular, for the industry survey the respondents are grouped by branch of industry, region, number of employees, and the organisational and legal status. For the construction survey the breakdown is by construction site, territory, and the organisational and legal status.

The unit of observation in all business surveys of real sector of the economy is an enterprise (organisation) registered as a legal entity in the Single State Register of Enterprises and Organisations (SSREO) and located in the region under survey. To establish a representative sample of reporting units is, however, associated with both theoretical and practical problems.

Organisational and practical factors are of great importance in designing the sampling of enterprises in Russia, for example, the fact that the Russian Federation is composed of 89 self-dependent regions, which considerably differ from each other in respect to many social and economic indicators including the branch structure. In addition, each region is interested in getting its own regional results of the survey, while the survey is organised for the purpose of getting results at the federal level.

The uneven distribution of industrial and construction output and retail trade turnover by region, as well as differences in the development of small businesses by regions, even inside one economic area of Russia, requires the application of a territorial approach for the formation of a sampling frame. Disregarding territorial and economic differences of the regions in the Russian Federation in the establishment of a sampling frame of enterprises for each of the sectors of the economy, as well as for branches of industry, means to receive unreliable results. This is why the total sample size for each sector of the economy is not designed according to conventional scheme, *i.e.* from the set standard sampling error to the required target population. But according to the following scheme: from minimum permissible sample size of enterprises in the regions- to the total sample size for each sector of the economy or branch of industry for the Russian Federation as a whole.

The optimum solution would be to conduct surveys in all regions of the Russian Federation, however, for a number of reasons this is not always feasible. Business tendency surveys among construction organisations and retail trade enterprises cover at present (since 1998) all or practically all the regions of the Russian Federation, whereas industrial enterprises are not surveyed in all regions. The sampling frame for the quarterly industry survey is designed in such a way, that the survey is conducted in the branches of regions, which have a considerable concentration of industrial production of the branch. “Empty” regions are not covered by the survey, *i.e.* those regions where the share of enterprises in a branch measured by the number of employed is not significant.

The general aspects related surveys in all sectors concerning sample selection and weighting of survey results are outlined in the next section and more detailed information specific to the individual surveys in industry, construction and retail trade are presented in the following sections.

7.1 Sample Selection and Weighting

A. Sample Selection

A sampling frame for business surveys of enterprises is designed to meet the following requirements:

- Territorial representativeness of the sample at the federal level.
- Representativeness of the sample within regions and for the main branches of industry.
- Minimum size of the sample at the level of regions.

The sampling frame at the federal level is formed from the regional samples, *i.e.* the selection of enterprises for the federal sample is carried out in the regions.

Two factors are taken into consideration in determining the sample size:

- Sample size should be minimum permissible at the regional level.
- Sample size should be sufficient to provide reliable estimates.

The minimum permissible sample size to provide reliable results at the regional level is considered to be 60 units of observation.

Depending on the financial considerations, the sample size in the regions ranges from 60 to 100 observation units. However, due to non-responses the sample size may be smaller. Results based on a sample size of less than 60 observation units are considered unreliable and are not included in the final published results. However, sample sizes for higher levels of aggregation, taken from the regional samples, will be larger and are considered to produce reliable estimates for the total population.

The sample size by regions for the industry, construction and retail trade surveys is distributed evenly across regions, with no less than 70 enterprises in each region (60 units plus average amount of non-responses for each question of the questionnaire). In drawing up the sample frame for industrial enterprises, the regional sample (70 observation units) is distributed over the leading branches of industry in proportion to the numbers employed in each branch in the region. In drawing up the regional sampling frame for surveys of construction retail trade, the regional sample is drawn from size classes based on the number of employed.

In forming the regional samples in industry, construction and retail trade random (or systematic) stratified selection of the observation units is applied. The “strata” in industrial enterprise selection are the branches of industry, in construction and retail trade these are size groups according to the number of employed. When the sample frame is small (not more than 50 enterprises), instead of random selection, systematic selection of sampling units is used. In this procedure, the units are selected in a systematic way among the different size groups.

Monthly business tendency surveys in industry use a smaller sample created for this purpose. It includes only “basic” (large and medium-size) industrial enterprises, which account for the bulk of production in the branch of industry. Generally, the sampling of these businesses is carried out using a set of weights, which are determined by the value of the main goods produced for a given branch of industry. In most cases, "basic" businesses have a large number of employees and do not include small businesses.

B. Weighting

In aggregating the results of the business surveys at different levels of processing, statistical weights are used, which reflect the significance of different elements of the population. The significance (weight) of responses is determined using information on the size of the enterprise. The best indicator of size of an enterprise in the Russian Federation is the number of employees. That is why during the primary processing of the results of the surveys in industry, retail trade and construction the replies of respondents are weighted by the number of employees in the enterprise. Statistical weights for classification groups of enterprises, which are used in processing of the surveys results, are determined by reference data compiled by the Russian Statistical Agency.

7.1.1 Quarterly Survey in Industry

Quarterly industry surveys have been conducted since 1993.

A. Sample Selection

The sampling procedure applied to the quarterly business tendency survey in industry is territorial stratified sampling by branches of industry within economic regions.

The total sample of industrial enterprises for the Russian Federation as a whole is obtained from the samples formed separately for each of the 11 leading branches of industry, *i.e.* of the branch samples. The branches of industry covered by the survey are:

1. Fuel industry.
2. Ferrous metallurgy.
3. Non-ferrous metallurgy.
4. Chemical and petrochemical industry.
5. Machine building and metal-processing industry.
6. Timber and woodworking industry.
7. Building materials industry.
8. Light industry.
9. Food industry.
10. Flour grinding, grouts and mixed feed industry.
11. Printing and publishing industry.

The branch samples are selected taking account of the following requirements:

- Territorial representativeness.
- Representativeness of the samples with minimum sample size.

- Minimum number of regions covered by the survey for territorial representativeness of the branch of industry.

Taking into consideration the uneven distribution of industrial production in various regions, territorial representativeness of the branch samples is achieved in the following ways:

- Most significant branches of industry are determined for each "economic area" of the Russian Federation.

- Representative regions with significant branches of industry are determined for each economic area of the Russian Federation.

The selection of significant branches of industry of representative regions in each economic area is based on employment, specifically the "average listed number of industrial and production personnel (people)" for the latest report period.

Significant branches are selected from those in the economic area which have the greatest number of employees and cover not less than 90% of the total average listed number of significant branches of industry in a given economic area.

Representative regions are selected from those in the economic area, which cover more than 50% of the total average listed number of significant branches of industry in the economic area.

Sampling of branches in the representative regions is performed by random or systematic selection of enterprises in each of the branches of industry.

The total sample of industrial enterprises at the federal level is obtained from the branch samples selected in the representative regions within each economic area.

The sample size for the regional samples is determined as minimum required to obtain reliable aggregated information for the industry in the region as a whole. The minimum is considered to be 60 enterprises. However, in order to account for non-response questionnaires are sent to 70 enterprises.

The sample size (70 enterprises) in the regions is distributed by significant branches of industry in proportion to the weight of the branch in the total of these branches measured by the number of employees.

B. Weighting

In expanding the sample estimates the total population of industrial enterprises, the data supplied by individual respondents are weighted. The weight assigned to each respondent corresponds to the weight of the enterprise. The weight of the enterprise is determined as the ratio of the number of employees in the enterprise to the total number of employees in the enterprises surveyed.

At the federal level the results are processed by industry as a whole, by branches of industry, by type of ownership and by the number of employees in the groups. At the regional level the results are only processed for the region as a whole.

To estimate the indicators of business activity for each branch of industry weights based on the number of employees in each enterprise are used for the following size classes: up to 100 persons; 101-200; 201-500; 501-1 000; 1 001-2 000; 2 001-3 000; 3 001-5 000; 5 001-10 000; more than 10 000 persons.

To calculate the weight for each group, data from the Russian Statistical Agency for the last reporting period are used.

Thus, for the branch estimates of the indicators two statistical weights are used: individual weight of each respondentm and the weight of the group to which an enterprise belongs depending on the share of employment in the total population. The aggregation of the indicators for industry as a whole is carried out using branch grouping weights. Consequently, the replies of each respondents are processed using three weights:

- Weight of the enterprise (number of employees from the survey questionnaire).
- Weight of the group of enterprises in the branch according to the number of employees (on the basis of data from Russian Statistical Agency data).
- Weight of the branch of industry according to the number of employees (on the basis of data from the Russian Statistical Agency data).

The CEA data base of qualitative indicators for industrial enterprises contains quarterly time series of all the indicators of business activity from the first quarter of 1993 :

- From the first quarter of 1993, the data are weighted by the branch weights.
- From the first quarter of 1999, the data are weighted by the size and branch weights and by the individual weight of the enterprise.

7.1.2 Construction Survey

Quarterly construction surveys have been conducted since 1994. Since 1998 the surveys have been conducted jointly with the Russian Statistical Agency (Goskomstat).

A. Sample Selection

The general principle of sampling is the same as for industrial enterprises *i.e.* Starting from regional samples to obtain a sample at the federal level. All regional sampling is performed by stratified random selection. Enterprises are stratified by number of employees using the following size groups: up to 50 persons; 51-100; 101-200; more than 200 persons. For each region the sample design uses the same sample size - 100 enterprises per region. The sample size is distributed by strata in proportion to the number of employees in each group. The total number of completed questionnaires is now about 4,000 observation units. Since the second quarter of 1998 almost all the regions of Russia participate in the surveys of construction.

The sampling of construction *organisations* which is used at present is representative of the structure of polulation and as regards territorial character; its size is sufficient to expand sample estimates to the total population with sufficient accuracy.

B. Weighting

At the federal level the results of the survey are processed for the construction branch as a whole, by employment size and by types of ownership. At the regional level, only results by regions as a whole are processed. To estimate the indicators and expand them to the total population in the region, the individual replies of the respondents are weighted by the number of employees in the enterprise and then by the sample probability of the enterprises in the group (strata) measured by the number of employees in the region. For the estimats at the federal level according to other characteristics (by employment size and by type of ownership, etc.) the sum of the values of the weighted replies for the regionas are used.

7.1.3 Retail Trade

Quarterly retail trade surveys have been conducted by the CEA since 1994. Starting with the second quarter of 1998 the surveys are carried out jointly with the Russian Statistical Agency.

A. Sample Selection

As in the case of construction, the sampling is done in the regions and the sample at the federal level is based on the regional samples. Regional samples are formed following the same methodological principles as the regional samples for construction, *i.e.* by stratified random (or systematic) selection. Stratification is based on the number of employees in each enterprise using the following size groups: up to 10 persons; 11-30; 31-50; 51-100; more than 100 persons.

Since the second quarter of 1998, the surveys of retail trade have covered all regions of the Russian Federation and the total number of completed questionnaires is now between 4 000 – 4 500. The percentage distribution retail by number of employees, is assumed to be the same as at the federal level The recommended sample size (100 units) for the regions is distributed by size groups based on the number of employees in proportion to the total number of trade enterprises in the group. The samples formed for the region in this way replicate structurally the total population of trade enterprises. The total sample size is sufficiently large to give reliable estimates of the indicators at the federal level.

B. Weighting

At the federal level the results of the surveys of retail trade enterprises are processed separately according to employment size, average daily retail turnover and by type of retail trade. At the regional level results are only given for all retail enterprises.

In aggregating the results of the survey the two systems of weights are used: a weight for the region measured by by retail turnover (data from the Russian Statistical Agency) and a weight for the size of a group of enterprises measured by the number of employees. From the beginning of 2000 it is planned to include a question for retail trade enterprises on the number of employees in the enterprise. This information will be used to set up a system of weights for employment size groups as well as individual weights for the enterprises.

7.2 Organisation of the Surveys

The surveys of business activities of industrial enterprises, construction organisations and retail trade enterprises are conducted by the CEA in •o-operation with the Russian Statistical Agency and regional statistical bodies. The preparation of methodological materials associated with the design of questionnaires, formation of the sampling frames, expansion of the results of sample surveys to the total population, provision of software for data processing, as well as analysis of the received results is carried out by the CEA.

Regional statistical bodies make the selection of enterprises and send questionnaires to the respondents of construction and trade organisations as well as of industrial enterprises. The collected data are transfered to the Main Interregional Centre for Processing and Dissemination of Statistical Information (MIC) to be processed, except for the data of the quarterly surveys of industrial enterprises, which are submitted to the CEA for processing and receiving total results. On the basis of the results of the surveys in different sectors of economy the CEA prepares information publications and analytic materials.

Table 7.2 Main Stages of Surveys Conduct and their Executors

Main Stages of Surveys Conduct	Business Surveys		
	Industrial enterprises		Enterprises of retail trade and construction organisations
	quarterly	monthly	
1	2	3	4
1. Preparation of questionnaires for mailing		Russian Statistical Agency	
- preparation of a complete set of questionnaires;	CEA		Russian Statistical Agency
- preparation of accompanying letters to the complete set of questionnaires;	CEA		
- preparation for mailing;	CEA		
- preparation of graphic table for mailing by regions;	CEA		
- preparation of labels- addresses of enterprises	CEA		Regional statistical bodies
- preparation of "packets" for the regions and their mailing to the regions	CEA		Russian Statistical Agency
- preparation of envelopes with addresses;	CEA		Regional statistical bodies
- preparation of envelopes with questionnaires	CEA		
2. Approbation of data processing software:		Russian StatisticalAgency	
- entry of control questionnaires;	CEA		MIC,
- calculation of data by all characteristics;	CEA		Russian Statistical Agency
- control printing of the publication;	CEA		CEA
- verification of correctness of calculations ;	CEA		CEA
- setting a task on making changes in the software	CEA		CEA
3. Processing of entry information:		Russian StatisticalAgency	
- logic control of information;	CEA		MIC
- control of code net in the survey questionnaires	CEA		Russian Statistical Agency
- entry of data into the data base;	CEA		Russian Statistical Agency
- verification of correctness of data entry, making corrections in the data base	CEA		Russian Statistical Agency
4. Preparation of publications		Russian Statistical Agency	
- combining of information;	CEA		CEA
- calculation of indicators by all characteristics	CEA		CEA
- editing of the file in accordance with the requirements to be met by the publication	CEA		CEA
- preparation of attributes for the publication;	CEA		CEA
- printing of the publication;	CEA		CEA
- preparation of graphs and graphic table;	CEA		
- arranging of the publication	CEA		CEA
5. Mailing of the publications:		Russian Statistical Agency	
- preparation of the accompanying letter;	CEA		CEA
- preparation of the publications for mailing;	CEA		CEA
- registration	CEA		CEA

Table 7.2 *(contd.)* **Main Stages of Surveys Conduct and their Executors**

Main Stages of Surveys Conduct	Business Surveys		
	Industrial enterprises		Enterprises of retail trade and construction organisations
	quarterly	monthly	
1	2	3	4
6. Preparation of the survey results for the regions:			
- calculations of the indicators by all characteristics for the regions;	CEA		
- printing of the results of intermediate calculations;	CEA		
- preparation for mailing the results to the participants of the survey (preparation of the accompanying letter, registration of the material)	CEA		

8. INFORMATION AND ANALYTICAL POSSIBILITIES

8.1 Short-term Economic Analysis

The process of formation of entrepreneurs' judgements is closely connected with the real economic situation and their expectations and intentions are early indicators of possible future changes. This makes it possible to use the received data as material for the analysis of the current business situation, as well as for short-term economic forecasting. Apart from that, the interconditionality of macro-economic tendencies and the behaviour at the micro-level favours the necessity of their mutual study. In this relation, of interest is the viewpoint of entrepreneurs of industrial, construction, monetary and financial and consumer sectors about the situation in economy as a whole and in their sectors in particular, because the sentiments and expectations of entrepreneurs mainly define the "business climate" in the economy.

The system of qualitative indicators used in surveys enables, first of all, to estimate:

- In industry - actual and expected price tendencies and the level of variations in stocks of raw materials and finished goods; branch situation "output-demand"; investment possibilities and intentions of industrialists; level and dynamics of productive capacity utilisation; dominating sources of financing and factors limiting the development of production; structure of debts; strategy of employment; change of export possibilities and imports requirements; economic situation in sectors of industry and business activity as a whole.

- In construction - actual and expected changes in the volume and value tendencies of building and mounting works; situation concerning the availability of financial resources availability and indebtedness; strategy of employment in construction sector; dynamics of order book; distribution of factors constraining construction activities by rate of significance; priority of construction units; economic situation.

- In retail trade- actual and expected changes in the volume of goods stocks and assortment, retail turnover, number of employed (in retail trade); state of resource and financial base; distribution of trade *organisations* by sources of commodity supplies, ways of settlements with suppliers, directions of activity in accordance with the level of purchasing power; system of factors limiting trade activity as well as priority directions of its development and expansion.

8.2 Innovation Activity

By way of summarising the replies of respondents to additional questions, which are urgent for the Russian economy, it is possible to reflect more completely the investment and innovation possibilities of enterprises and short-term intentions of entrepreneurs in these fields of activity, structure and dynamics of employment, results of institutional transformations. One of the priority directions of selective financial policy of the state is innovation activity. This caused the necessity to include special questions in the survey programmes about its implementation by industrial enterprises and construction organisations, in formation, which enables:

- To define the population and structure of industrial enterprises and construction organisations implementing innovation activities.
- To reveal the scales of innovation activity in the industrial and construction sectors of the economy.
- To assess the efficiency of the innovation activity in its final results from the point of view of meeting the market demand.
- To carry out comparative analysis of the tendencies of entrepreneurs activity depending on their innovation intentions.
- To reveal the industrial structure of the sources of finance and directions of innovation activity.
- To define the modern phase of the innovation cycle and state of innovation activity.

Innovation activity in the surveys are processes of creation, mastering and distribution of new and improvement of traditional kinds of products, services, technologies, raw materials; obtaining of different kinds of industrial property, improvement of production organisation and management methods. Such a wide interpretation of the innovation activity in comparison with official statistics, which takes into account mainly most significant technological innovations, is stipulated by the need to study the whole complex of scientific and technological and organisational measures, which are taken at the industrial enterprises and in construction organisations with the aim to improve the production in the conditions of the transition economy. In this regard under analysis are the following questions: availability of innovation activity at the enterprise (in organisation), purpose of innovations, structure of measures in carrying out the innovation activity, sources of financing the innovation activity, factors constraining the innovation activity, socio-economic results due to implementation of the innovations.

8.3 Analysis of Specific Transition Problems

A wide system of surveys and indicators support as well the possibility to make an analysis of cross interrelations of indicators and consequently, to receive additional information on the present-day phase of economic developments.

For example, on the basis of actual changes in the stocks of raw materials it is possible to determine the degree of their deficiency at the market or the character of production policy of an individual enterprise and industry as a whole. The tendencies of innovation intentions correlate well with the banking interest at the credits market, volumes of financing and crediting (in particular, long-term crediting) and correspondingly, with the state of banking and industrial activity. Changes in the stocks of finished products are indicative of efficient price policy, sales possibilities, market requirements and competition.

The strategy of employment characterises the expected changes of the level of unemployment, financial opportunities of enterprises combined with actual and perspective changes in the output of products. Dynamics of the number of employed and level of productive capacities enable to reveal industrial conformity of productive capacities utilisation with the labour force.

Expectations of the leaders of industrial enterprises concerning the future dynamics of producer and consumer prices, based first of all on actual rates of inflation, as well as on the opinions of bank managers regarding the possible changes in interest rates, make it possible to assess the price component of the inflation expectations. The bigger the discrepancies are in the assessment of current and future price development, the closer to reality are higher inflation expectations. It is possible also to determine the conformity with reality of entrepreneurs' assessments, character of their expectations, which are formed either by way of extrapolation of the previous tendencies of the economy development, or together with the analysis of the future opportunities. Stratification of respondents in accordance with their assessments of tendencies in demand, output and stocks is an additional source of information on the nature of the business cycle, in particular, on the availability and prevalence of these or other policies in the concept of balanced economic development.

Comparison of expected and actual estimates of business tendencies in the regular surveys makes it possible to determine the forecasting character and accuracy of the combined opinion of entrepreneurs, that is the so called "optimism curve" and consequently, the degree of tender or over reaction in the expectation of mangers.

Taking into account the urgent character of indebtedness in the real sector the of economy, separately analysed is the problem of non-payments, in particular, the availability of arrears, their dynamics, factors and consequences, interrelation with financial stabilisation of the enterprises. Analysed as well is the dynamics of implementation in the branches of the main kinds of alternative settlements, expected tendencies for the nearest perspective, reasons for settlements in cash. Assessments of the scales of settlements in cash and officially not registered works make it possible to get a certain indirect information on the degree, factors and consequences of the expansion of the shadow business.

The conditions for the formation of a middle class of enterprises in a transition country, creation of its market structure, competitive environment, taxable base for the budget are determined in many cases by the state. Monitoring of small businesses by way of making a separate group of such enterprises and processing correspondingly the data of the surveys are aimed at receiving urgent information on the main tendencies of small enterprises activities in the real sector of economy. In accordance with the programmes of surveys conducted in industry, construction and retail trade small businesses are analysed by branches, types of ownership, in comparison with medium and large enterprises and organisations as well as with general economic situation in the surveyed sector by all the indicators included in the questionnaires.

8.4 Construction of Simple and Composite Indicators

To analyse changes in economic activity it is envisaged to make a comparative assessment of the sequential surveys results, which determines cyclical turning points and phases in the business cycle.

In order to determine current changes in survey indicators, excluding the influence of seasonality, all the time series of the balances of the surveys indicators are seasonally adjusted by the programmes "Natura" (Institute of National Economy Forecasting, Russian Academy of Sciences) or "X12 ARIMA".

An important direction in the use of survey results is the transformation of the aggregate qualitative estimates into quantitative form to monitor changes in individual indicators and to calculate aggregate confidence indicators.

To get information on individual indicators (volume of production, stocks of raw materials and finished products, availability of productive capacities, assessment of economic situation and some other) the following individual level estimates are used: higher than normal, normal and lower than normal level. Shares of each kind of estimates as a whole for the total population of surveyed enterprises or some homogeneous group (*e.g.* small enterprises) calculated in such a way, as well as change estimates of indicators (growth, without change, decrease), are used in the analysis independently or as balances which corresponds to balances used in the European Harmonised System of the utilisation of conjuncture inquiries results.

Along with the composite of individual indicators of business activity are calculated by means of aggregating information concerning different variables. In the analysis of the business surveys results in industry and construction sectors, as well as in retail trade the confidence indicator, defined as the index of entrepreneurs confidence, is used. In industry the index of entrepreneurs confidence is calculated as the arithmetic average of the "balances" of estimates of expected output, actual demand and current stocks of finished products (inverted). The corresponding index in construction is calculated as arithmetic average of the "balances" of estimates of actual state of the production programme and expected change in number of employed. In retail trade this indicator is calculated as arithmetic average of the "balances" of estimates of actual economic situation of the enterprise, warehouse stocks (inverted) and expected changes in economic situation.

The methodology used to estimate industrial activity is developed on the basis of the industrial enterprises business surveys programme. The logic of this methodology makes it possible to calculate indices of the state and changes in business activity based on the combination of estimates in accordance with the cross interrelations of economic indicators comprising the programme of surveys and characterising current and future changes in the activity of industrial enterprises. These indicators include: investments, stocks of raw materials and finished products, availability of financial resources, utilisation of productive capacities, number of employed, prices, output of products, demand, exports and imports.

The determination of the business activity index as one of the main complex indicators of the business cycle is stipulated by the existence of the following interrelation: at each moment of time the market situation has a direct influence upon the economic agents possibility to gain profits, *i.e.* upon their business activity, while this or other degree of higher economic activity forms the conditions for reproduction. In this respect the economic activity of an individual economic agent can be considered as a degree of the conformity of his conducted and intended business policy with objective economic conditions and requirements of the market. Hence, the whole complex of business activity will reflect the reconciliation of supply or opportunities of the market as a whole and demand or requirements taking place at concrete stages of the business cycle.

At the first stage of the index calculation the "mode" of the choice of answers to each question or indicators by each respondent is determined: decrease, increase, stability. For this the revealed actual change of each indicator is considered in comparison with actual and expected changes of the activity indicators interrelated with it (first of all with the output of products and demand). Each indicator is given one of the values (1; -1; 0) Value (1) is given when the revealed changes of an indicator shows higher activity. Value (0) is given in case of no changes. Value (-1) shows lower activity. Thus, the quantity of these values determines the prevailing tendency of an indicator of a given enterprise.

Further on at the stage of aggregating the received replies of the population of respondents is the number of the respondents of the given sample who have been given one of the values (1. –1.0; 1 1). Here the net balance, *i.e.* the difference between the shares of values (1) and (-1) in total number of replies, is determined as the change index for an indicator. The degree of change (index of change) of an indicator can be determined by way of comparing indices of its state for different periods. Here the value 100% is taken as the highest point characterising the ideal state of indicator activity of the branch, and the value -100% corresponds to the worst state. Value “zero” is the turning point and it reflects the transition of activity from a negative phase to the positive one and vice versa. The results of the surveys aggregated in this index as balances of opinions are well connected with the real situation and reflect changes which make it possible to monitor and forecast the behaviour of Russian entrepreneurs over the near term future.

Comparison of individual and synthetic indicators of the business activity in the sectors of economy under examination is carried out for the current and previous periods, for the current and forecast periods, for the current and corresponding periods of the previous year or quarter (for monthly surveys). Apart from that, the tendency of the report and forecast periods is studied regarding the available accumulated dynamics from the point of view of the character of tendencies - continuation, change, stagnation, seasonal fluctuations, etc. Analysis of the aggregated results is carried out both for the surveyed population and for selected homogeneous groups by number of employed, type of ownership, organisation and legal form, etc.

Apart from the comparative analysis of the indicators, the structural analysis of qualitatively homogeneous groups of enterprises is carried out as well. In particular, of certain interest is the comparison of the most significant indicators of business activity for one and the same enterprises for those periods when they made contrary (“polar”) estimates of the changes of economic and financial situation. More detailed grouping of the respondents, who during the inquiry indicated one and the same estimate of the development of economic situation (financial situation) or business activity of the enterprise, enables to determine their structural peculiarities by distributing the estimates by basic indicators of the activity as well as by factors having influence upon the work of the enterprises. The groupings compiled in such a way, help to extend the analysis due to more detailed examination of production and economic activity of the enterprises, including separate examination of the group of “prosperous” enterprises and the group of enterprises in business recession. Comparison of the main factors influencing the work of the enterprises by the balance estimates of indicators and by the values of factor influencing each of the polar estimates of financial or economic situation of the enterprise makes it possible to define the character of the reasons for these contrary estimates of changes in business activity, financial and economic situation in industry, construction and trade.

9. INDUSTRY SURVEYS

9.1 Quarterly Survey in Industry

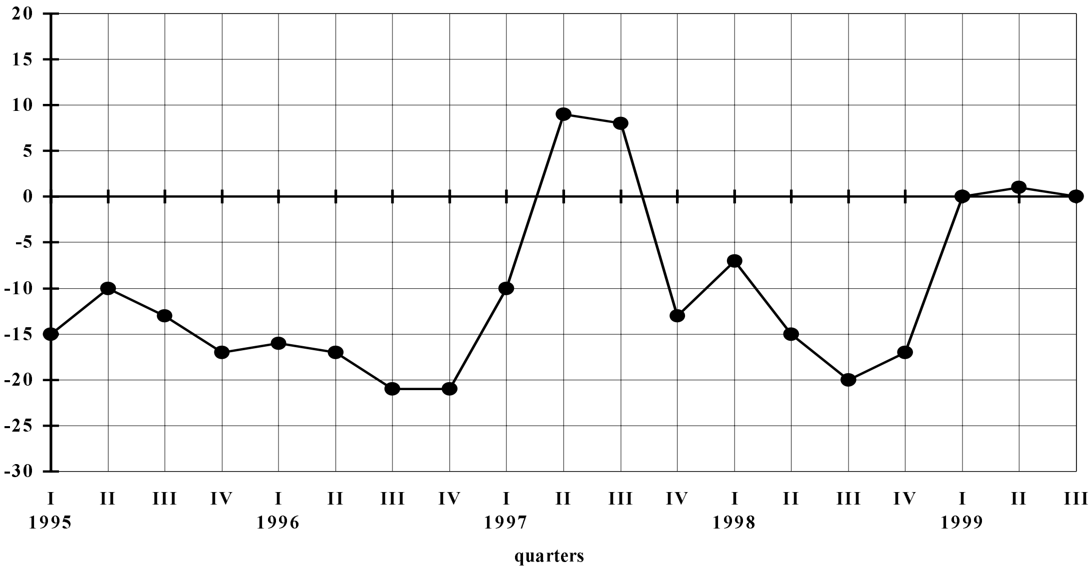
On the basis of the results of quarterly surveys, the production activity of industrial enterprises during 1994-1998 is characterised by large-scale reduction in the volume of output and in the number of employed. The most prevailing factor limiting the production is shortage of money. Enterprises get free capacity from the redundant stocks of finished goods because in the conditions of unsatisfied potential demand, not stocks ("productive assets"), but liquid financial resources become a bottleneck. Reduction in current assets in the industrial sector is accompanied by higher rate of non-payments. Differentiation of enterprises and industries by the level of reduction output and financial situation becomes more significant depending on their orientation towards external or domestic market. August-September of 1998 became the peak of large-scale crisis of the industrial production accompanied by financial crisis and downswing of the ruble exchange rate.

However, since the fourth quarter of 1998 the recovery of the economic situation which didn't have precedents for a number of parameters for the entire period of reforms and which is beyond the limits of standard business cycle fluctuations. Favourable situation in industry has been retained during three-quarters of 1999. Positive tendencies were noticed in the change of most basic indicators of activity of the industrial enterprises including the demand, volume of output, availability of financial resources and profits. Index of entrepreneurs' confidence during nine months of the current year retains a positive value.

Graph 9.1

INDEX OF ENTREPRENEURS CONFIDENCE* IN INDUSTRY

(quarterly surveys, percentage points)

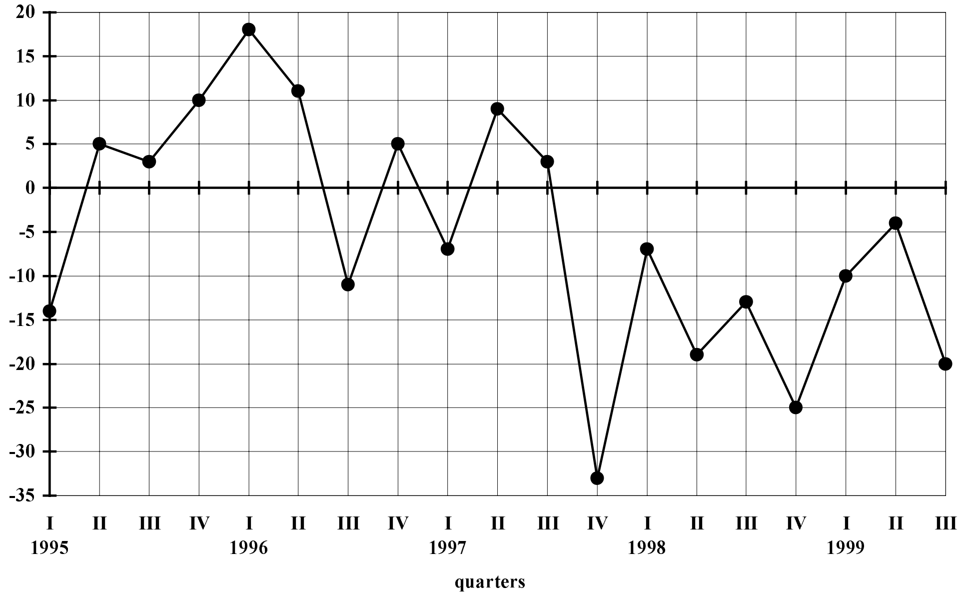


* Index of entrepreneurs confidence is calculated as arithmetic average of the "balances" of estimates of expected output, actual demand and current stocks of finished products (the latter is inverted).

9.1.2 Index of Entrepreneurs Confidence by Main Branches, 1995-1999 - Graphs 9.2-9.12

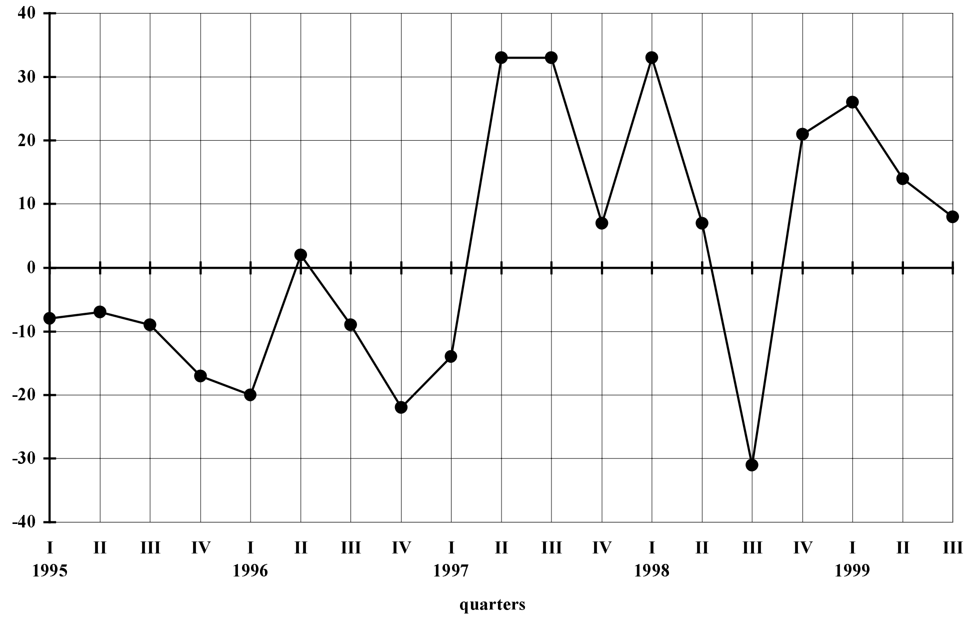
Graph 9.2

INDEX OF ENTREPRENEURS CONFIDENCE IN FUEL INDUSTRY



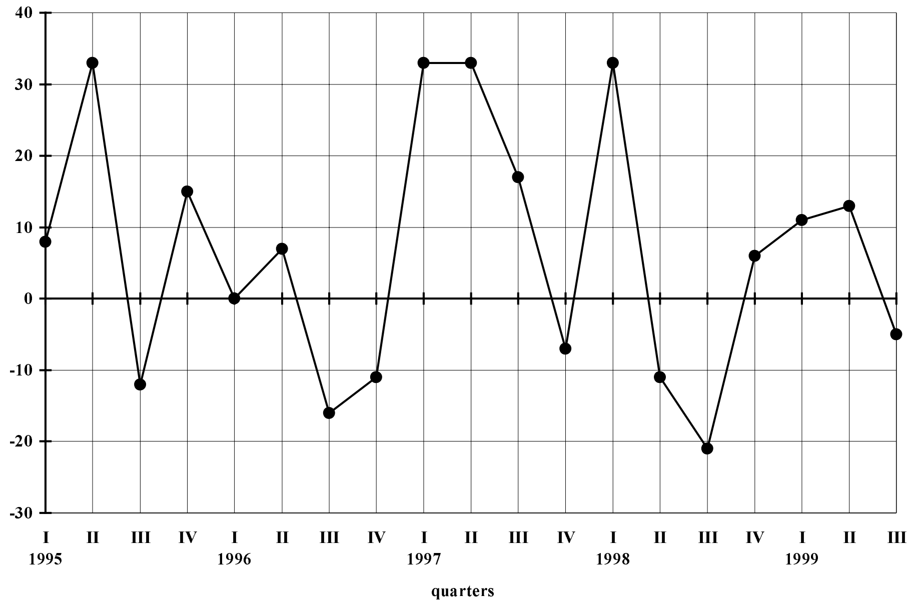
Graph 9.3

INDEX OF ENTREPRENEURS CONFIDENCE IN FERROUS METALLURGY



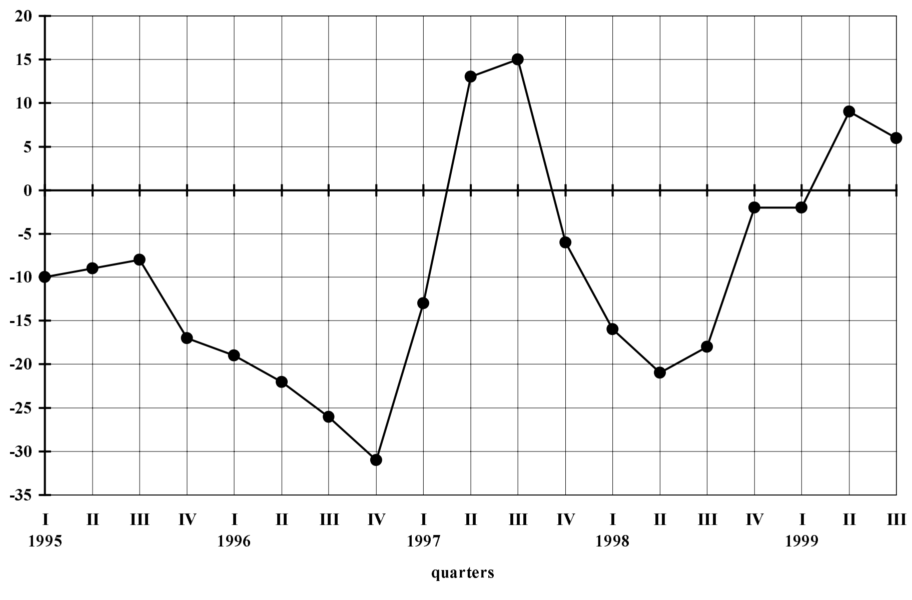
Graph 9.4

**INDEX OF ENTREPRENEURS CONFIDENCE
IN NON-FERROUS METALLURGY**



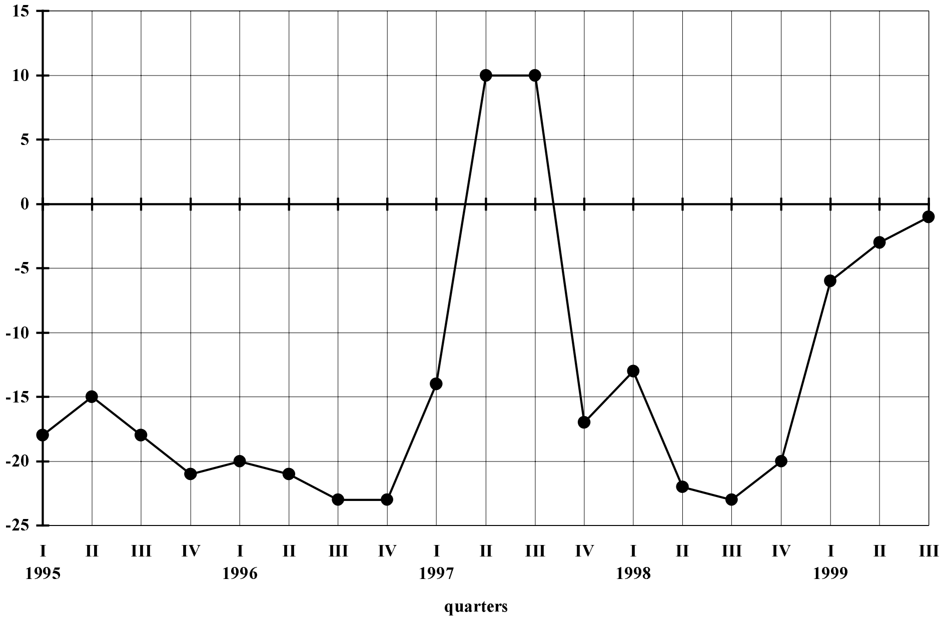
Graph 9.5

**INDEX OF ENTREPRENEURS CONFIDENCE
IN CHEMICAL AND PETROCHEMICAL INDUSTRY**



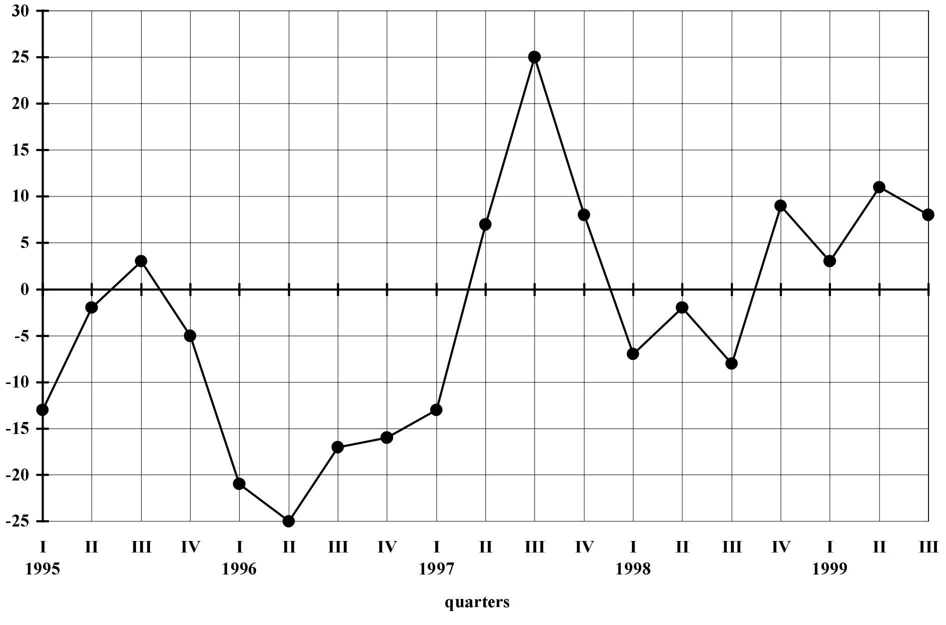
Graph 9.6

**INDEX OF ENTREPRENEURS CONFIDENCE
IN MACHINE BUILDING AND METAL-CUTTING INDUSTRY**



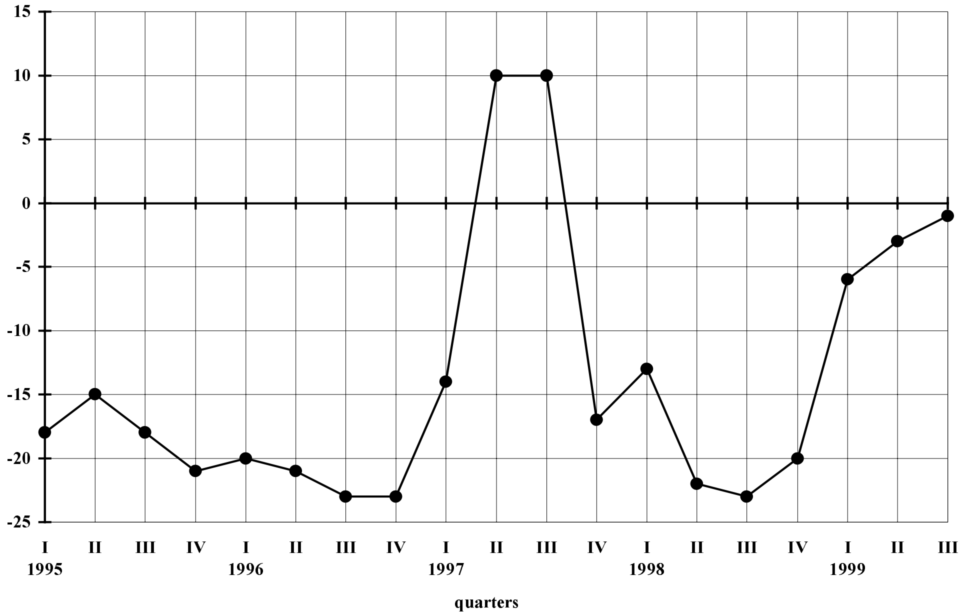
Graph 9.7

**INDEX OF ENTREPRENEURS CONFIDENCE
IN TIMBER, WOOD-WORKING AND PULP AND PAPER INDUSTRY**



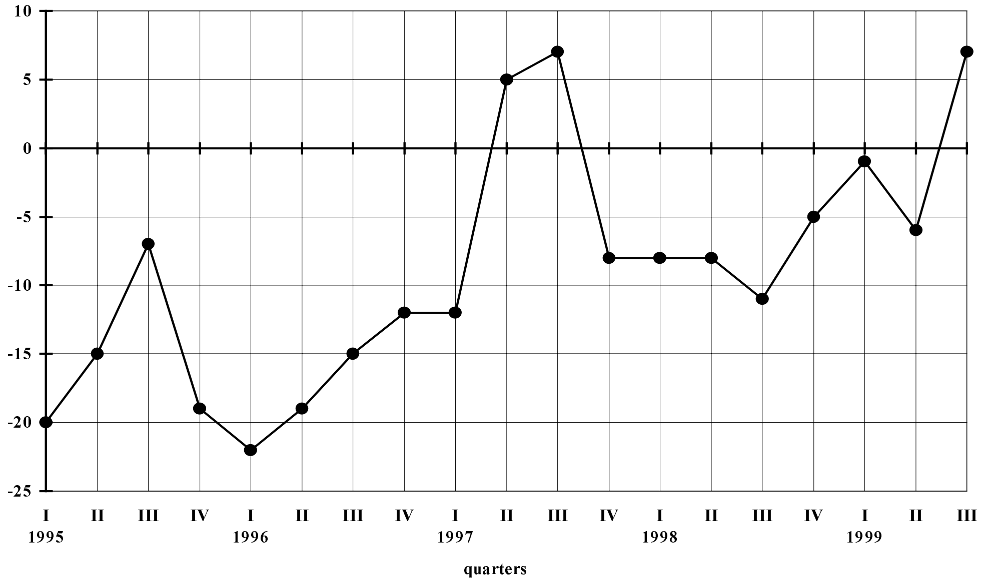
Graph 9.8

**INDEX OF ENTREPRENEURS CONFIDENCE
IN BUILDING MATERIALS INDUSTRY**



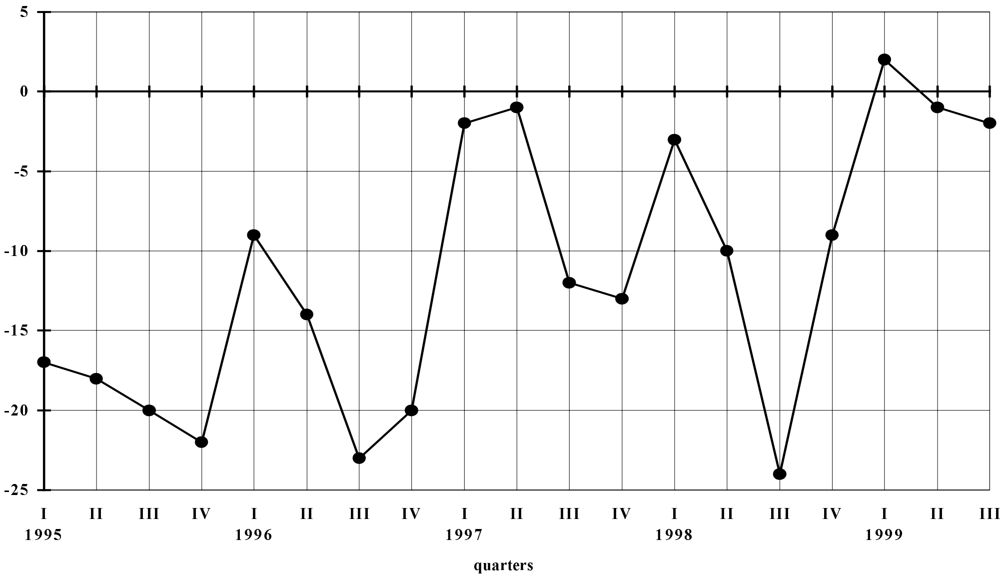
Graph 9.9

**INDEX OF ENTREPRENEURS CONFIDENCE
IN LIGHT INDUSTRY**



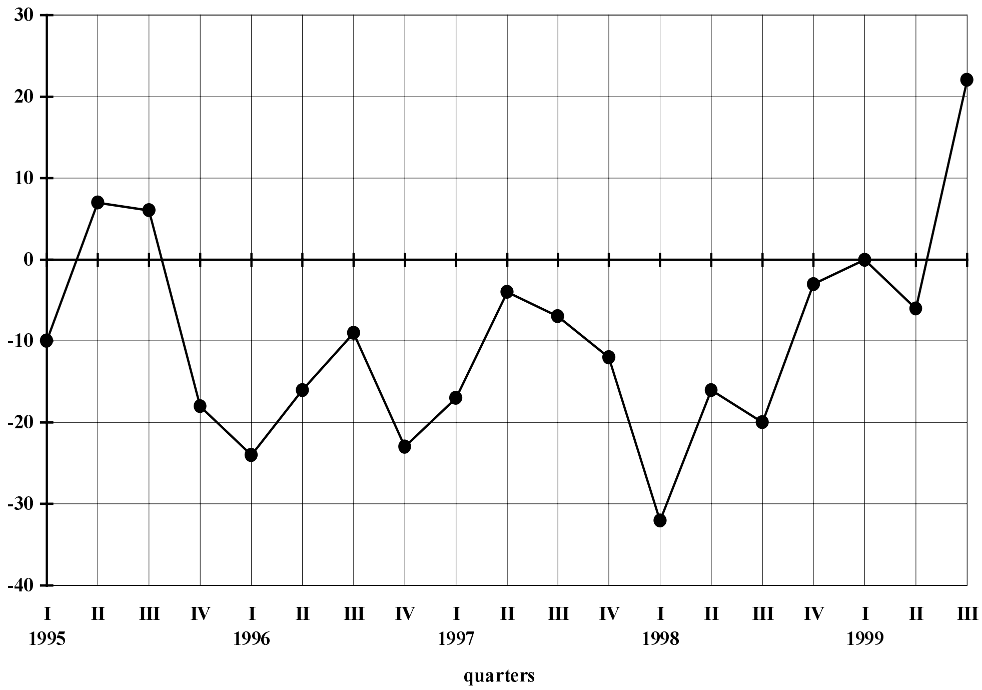
Graph 9.10

**INDEX OF ENTREPRENEURS CONFIDENCE
IN FOOD INDUSTRY**



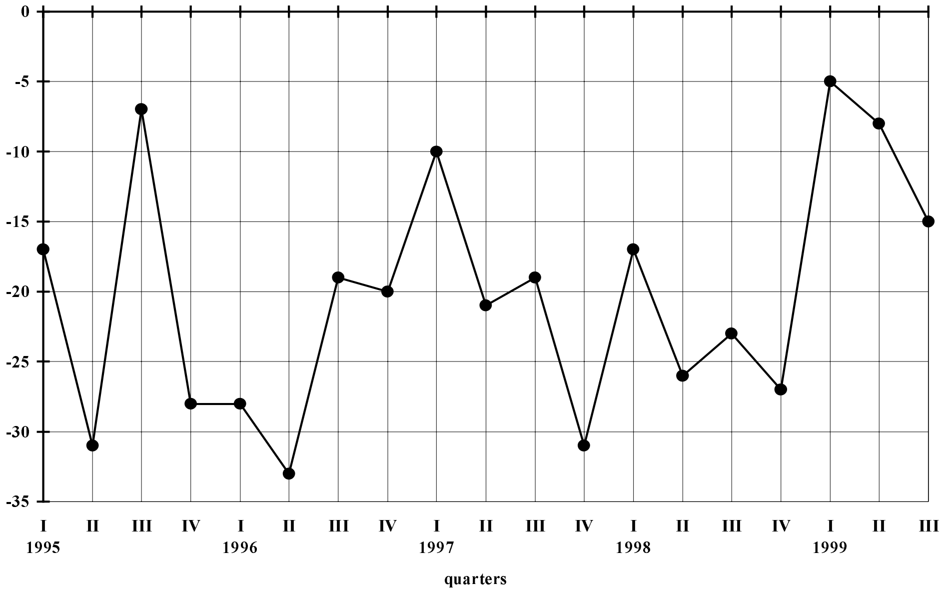
Graph 9.11

**INDEX OF ENTREPRENEURS CONFIDENCE
IN FLOUR-GRINDING AND GROATS INDUSTRY**



Graph 9.12

INDEX OF ENTREPRENEURS CONFIDENCE IN PRINTING AND PUBLISHING INDUSTRY



9.1.3 Survey Results for Manufacturing Industry, 1992-1999

Table 9.1.3 Survey Results for Manufacturing Industry, 1992-1995

		1992		1993		1994				1995			
		Q1-2	Q3-4	Q1-2	Q3-4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Q.1 Production: Tendency	*Balance*	-31	-52	-39	-37	-55	-44	-19	-10	-22	-12	-3	-16
Q.2 Order books/Demand: Total: level	*Balance*									-54	-47	-53	-54
Q.3 Order books/Demand: Export: level	*Balance*											-19	-15
Q.4 Stocks: Finished goods: level	*Balance*									-6	-7	-11	-5
Q.5 Production: Future tendency	*Balance*	-25	0	-11	-13	-24	-22	-9	-1	2	9	4	-1
Q.6a Selling prices: Future tendency	*Balance*	66	91	94	89	81	72	75	84	88	85	81	74
Q.6b Selling prices: Rate of increase: future tendency	*Balance*												
Q.7 Employment: Future tendency	*Balance*	-40	-31	-30	-36	-48	-49	-41	-28	-26	-21	-19	-25
Q.8. Limits to production: 1 None	*Proportion*						2	1	2	1	3	4	3
2 Insufficient domestic demand	*Proportion*												
3 Insufficient foreign demand	*Proportion*												
4 Competitive imports	*Proportion*												
5 Shortage of labour	*Proportion*						7	8	0	5	4	5	3
6 Shortage of skilled labour	*Proportion*												
7 Lack of appropriate equipment	*Proportion*						11	0	16	15	18	15	15
8 Shortage of semi-finished goods	*Proportion*												
9 Shortage of raw materials	*Proportion*						43	35	40	42	46	42	43
10 Financial problems	*Proportion*						85	75	75	75	77	75	79
11 Shortage of energy	*Proportion*								12	6	6	10	11
12 Unclear economic laws	*Proportion*												
13 Uncertainty in the economic environment	*Proportion*												
14 Other	*Proportion*						0	5	2	1	0	1	0
Q.9 Production: Current capacity	*Balance*												
Q.10 Order books/Demand: Total: future tendency	*Balance*	-35	-3	-14	-12	-15	-20	-8	2	3	3	-1	-8
Q.11 Average level of the enterprise productive capacities utilisation	%		65	60	56	50	47	47	45	45	45	44	45

Table 9.1.3 *(contd.)* **Survey Results for Manufacturing Industry, 1996-1997**

		1996				1997			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Q.1 Production: Tendency	*Balance*	-29	-23	-17	-21	-19	7	14	-1
Q.2 Order books/Demand: Total: level	*Balance*	-58	-59	-61	-62	-60	7	3	-63
Q.3 Order books/Demand: Export: level	*Balance*	-21	-19	-23	-22	-25	-27	-26	-31
Q.4 Stocks: Finished goods: level	*Balance*	0	0	-6	-10	-12	-8	-12	-19
Q.5 Production: Future tendency	*Balance*	9	8	-9	-11	17	12	10	5
Q.6a Selling prices: Future tendency	*Balance*	64	56	53	40	41	32	7	24
Q.6b Selling prices: Rate of increase: future tendency	*Balance*								
Q.7 Employment: Future tendency	*Balance*	-27	-29	-33	-33	-24	-23	-15	-21
Q.8. Limits to production: 1 None	*Proportion*	3	4	2	2	1	0	1	1
2 Insufficient domestic demand	*Proportion*								
3 Insufficient foreign demand	*Proportion*								
4 Competitive imports	*Proportion*			16	16	14	15	14	15
5 Shortage of labour	*Proportion*	3	3	2	2	2	1	4	1
6 Shortage of skilled labour	*Proportion*								
7 Lack of appropriate equipment	*Proportion*	13	13	14	11	19	14	11	15
8 Shortage of semi-finished goods	*Proportion*								
9 Shortage of raw materials	*Proportion*	45	42	37	38	40	44	42	40
10 Financial problems	*Proportion*	82	81	82	78	85	82	80	85
11 Shortage of energy	*Proportion*	11	10	11	12	19	11	14	14
12 Unclear economic laws	*Proportion*								
13 Uncertainty in the economic environment	*Proportion*								
14 Other	*Proportion*	0	0	0	1	1	2	5	0
Q.9 Production: Current capacity	*Balance*								
Q.10 Order books/Demand: Total: future tendency	*Balance*	2	0	-11	-19	9	4	5	1
Q.11 Average level of the enterprise productive capacities utilisation	%	41	41	40	38	37	40	39	39

Table 9.1.3 *(contd.)* **Survey Results for Manufacturing Industry, 1998-1999**

		1998				1999			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Q.1 Production: Tendency	*Balance*	-13	-15	-14	-14	-2	22	26	
Q.2 Order books/Demand: Total: level	*Balance*	-60	-60	-64	-65	-47	-36	-35	
Q.3 Order books/Demand: Export: level	*Balance*	-32	-27	-26	-29	-33	-25	-25	
Q.4 Stocks: Finished goods: level	*Balance*	-15	-6	-6	-13	-27	-18	-17	
Q.5 Production: Future tendency	*Balance*	25	8	-2	0	19	21	19	
Q.6a Selling prices: Future tendency	*Balance*	19	2	23	55	52	52	60	
Q.6b Selling prices: Rate of increase: future tendency	*Balance*								
Q.7 Employment: Future tendency	*Balance*	-15	-22	-29	-20	-12	-5	3	
Q.8. Limits to production: 1 None	*Proportion*	1	1	0	0	1	0	1	
2 Insufficient domestic demand	*Proportion*								
3 Insufficient foreign demand	*Proportion*								
4 Competitive imports	*Proportion*	16	15	17	13	13	10	8	
5 Shortage of labour	*Proportion*	1	3	5	1	3	5	8	
6 Shortage of skilled labour	*Proportion*								
7 Lack of appropriate equipment	*Proportion*	15	12	18	29	39	31	33	
8 Shortage of semi-finished goods	*Proportion*								
9 Shortage of raw materials	*Proportion*	37	36	38	40	43	35	36	
10 Financial problems	*Proportion*	85	86	86	84	83	75	77	
11 Shortage of energy	*Proportion*	13	9	13	13	10	8	13	
12 Unclear economic laws	*Proportion*								
13 Uncertainty in the economic environment	*Proportion*								
14 Other	*Proportion*	3	3	3	1	3	2	2	
Q.9 Production: Current capacity	*Balance*								
Q.10 Order books/Demand: Total: future tendency	*Balance*	14	9	-2	2	23	13	15	
Q.11 Average level of the enterprise productive capacities utilisation	%	39	41	41	37	43	49	48	

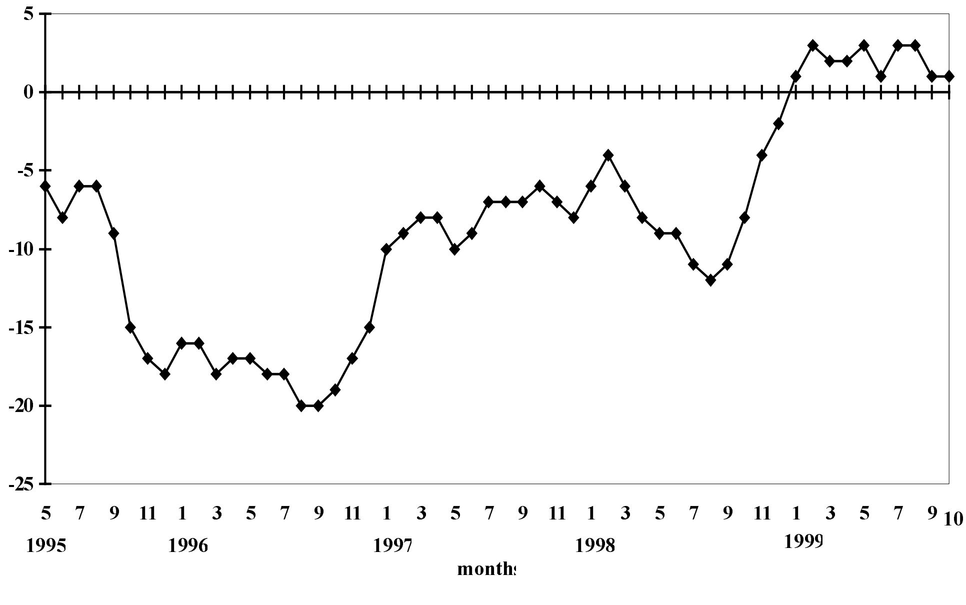
9.2 Monthly Survey in Industry

Apart from the quarterly surveys, inquiries covering about 1 500 leaders of large (base) enterprises of 11 branches of industry have been conducted since May 1995. The revealed tendencies support the results of the quarterly surveys of industrial enterprises and make it possible to estimate business cycle changes more accurately and urgently. The index of entrepreneurs' confidence calculated monthly for the base enterprises during the nine months of the current year, as well as in the quarterly surveys retains a positive value. However, more frequent periodicity of observation enables to reveal the change of tendencies in business activity of the industrial enterprises: from the period of recovery of industrial production (October 1998 -July 1999) to the period of its stagnation (August 1999 - October 1999).

9.2.1 Index of Entrepreneurs Confidence, May 1995- October 1999

Graph 9.2.1

INDEX OF ENTREPRENEURS CONFIDENCE AT THE BASE* ENTERPRISES OF INDUSTRY
(monthly surveys)(in percentage points)



* According to the methodology of the Russian Statistical Agency base enterprises are those which produce the biggest volume of products of the branch.

10. CONSTRUCTION SURVEY

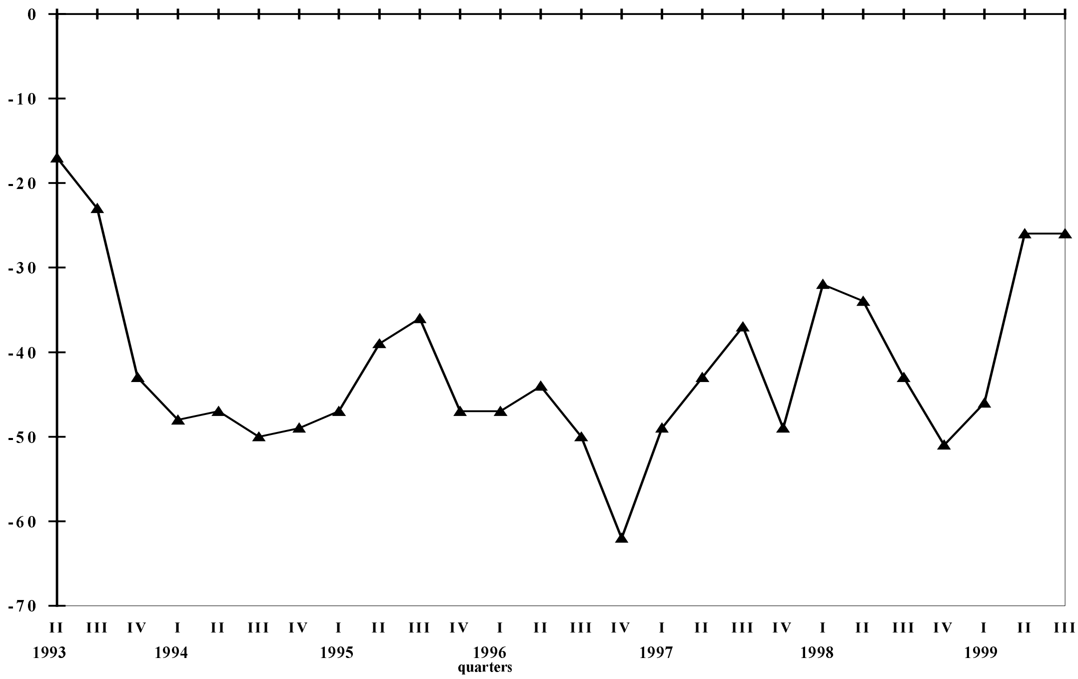
According to the results of the quarterly surveys the activity of construction organisations in the period 1994-1998 is characterised by a decrease in physical volume of construction and mounting works, insufficient “order books”, reduction of the number of employed, worsening of financial situation of the enterprises. Indebtedness of the clients for the executed works has increased sharply. The worst situation was registered in the small enterprises.

Since the beginning of 1999 the situation in this industry became somewhat better: the rates of decrease of the main indicators of the construction organisations activity became lower, the average level of the productive capacities utilisation increased. The financial situation of the enterprises improved. The main destabilising factor is still the insolvency of the clients.

10.1 Index of Entrepreneurs Confidence in Construction, 1993-1999

Graph 10.1

INDEX OF ENTREPRENEURS CONFIDENCE IN CONSTRUCTION*



* Index of entrepreneurs confidence is calculated as arithmetic average of the “balances” of estimates of actual state of the production programme and expected change in number of employed (in percentage points).

10.2 Survey Results for Construction Sector, 1993-1999

Table 10.2.1 Survey Results for Construction Sector, 1993-1995

		1993				1994				1995			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Q.1 Business activity:Tendency	*Balance*		42	20	-37	-56	-8	-9	-32	-48	13	9	-34
Q.2 Limits to production activities: 1 None	*Proportion*		5	4	3	4	3	3	0	0	0	0	0
2 Insufficient demand	*Proportion*		29	22	36	38	90	47	50	53	47	43	51
3 Weather conditions	*Proportion*		6	12	9	7	5	6	5	6	4	8	9
4 Cost of materials	*Proportion*												
5 Cost of labour	*Proportion*												
6 Cost of finance	*Proportion*									39	39	32	35
7 Access to bank credit	*Proportion*												
8 Shortage of skilled labour	*Proportion*		11	22	11	4	15	9	2	8	10	13	7
9 Lack of appropriate equipment	*Proportion*		0	0	0	0	0	0	0	27	29	36	33
10 Shortage of raw materials	*Proportion*		0	0	0	0	0	0	0	0	0	0	0
11 Competition in own sector	*Proportion*												
12 Other	*Proportion*		35	23	19	15	14	16	9	3	2	3	3
Q.3 Order/Demand a Domestic:level	*Balance*		-27	-25	-51	-64	-60	-61	-61	-70	-59	-49	-62
b Foreign:level	*Balance*												
c Total: level	*Balance*												
Q.4 Employment: Future tendency	*Balance*		-7	-21	-35	-32	-34	-39	-38	-24	-19	-23	-32
Q.5a Price expectations: Future tendency	*Balance*		65	55	45	56	44	6	4	46	46	42	39
Q.5b Price expectations: Rate of increase: future tendency	*Balance*												
Q.6 Duration of work in hand	*Balance*		10	7	6	6	6	4	5	6	6	5	4
Q.7 Orders/Demand: Total: future tendency	*Balance*								-42	-17	-10	-28	-31
Q.8 Financial situation: Tendency	*Balance*		0	0	0	0	0	0	-33	-39	-11	-16	-34
Q.9 Financial situation: Client delays in payment: a Client delays in payment: public	*Balance*		0	0	0	0	0	0	0	0	0	0	0
b Client delays in payment: private	*Balance*												
c Client delays in payment: total	*Balance*												
Q.10 Technical capacity: with regard to expected demand: tendency	*Balance*											-11	-11

Table 10.2.2 Survey Results for Construction Sector, 1996-1997

		1996				1997			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Q.1 Business activity: Tendtncy	*Balance*	-44	-17	-5	-39	-54	-7	6	-34
Q.2 Limits to production activities: 1 None	*Proportion*	0	2	0	0	0	0	0	0
2 Insufficient demand	*Proportion*	57	57	50	62	74	63	50	58
3 Weather conditions	*Proportion*	9	7	3	4	6	5	6	10
4 Cost of materials	*Proportion*						41	48	42
5 Cost of labour	*Proportion*								
6 Cost of finance	*Proportion*	36	36	34	38	35	35	27	25
7 Access to bank credit	*Proportion*								
8 Shortage of skilled labour	*Proportion*	7	6	8	6	5	7	9	12
9 Lack of appropriate equipment	*Proportion*	34	34	38	34	35	38	45	41
10 Shortage of raw materials	*Proportion*	0	0	0	0	0			
11 Competition in own sector	*Proportion*							22	13
12 Other	*Proportion*	1	5	1	1	2	1	2	4
Q.3 Order/Demand a Domestic: level	*Balance*	-73	-68	-66	-72	-76	-66	-44	-56
b Foreign: level	*Balance*					0	0		
c Total: level	*Balance*								
Q.4 Employment: Future tendency	*Balance*	-21	-20	-34	-53	-21	-19	-31	-43
Q.5a Price expectations: Future tendency	*Balance*	34	29	27	9	54	46	41	39
Q.5b Price expectations: Rate of increase: future tendency	*Balance*								
Q.6 Duration of work in hand	*Balance*	5	4	4	4	4	5	5	4
Q.7 Orders/Demand: Total: future tendency	*Balance*	-14	-17	-33	-40	-15	-7	-26	-44
Q.8 Financial situation: Tendency	*Balance*	-45	-37	-39	-48	-46	-36	-35	-36
Q.9 Financial situation: Client delays in payment: a Client delays in payment: public	*Balance*	0	0	0	0	0	0	0	0
b Client delays in payment: private	*Balance*					0	0	0	0
c Client delays in payment: total	*Balance*								
Q.10 Technical capacity: with regard to expected demand: tendency	*Balance*	-7	-5	2	1	6	4	-1	5

Table 10.2.3 Survey Results for Construction Sector, 1998-1999

		1998				1999			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Q.1 Business activity:Tendency	*Balance*	-61	-23	-16	-26	-37	-6	-14	
Q.2 Limits to production activity: 1 None	*Proportion*	0	0	0	0	0	0	0	
2 Insufficient demand	*Proportion*	54	45	42	47	50	34	30	
3 Weather conditions	*Proportion*	10	4	3	4	4	4	3	
4 Cost of materials	*Proportion*	47	26	21	29	34	42	52	
5 Cost of labour	*Proportion*								
6 Cost of finance	*Proportion*	34	10	11	11	12	14	13	
7 Access to bank credit	*Proportion*								
8 Shortage of skilled labour	*Proportion*	12	4	4	4	4	5	18	
9 Lack of appropriate equipment	*Proportion*	47	12	10	12	11	15	16	
10 Shortage of raw materials	*Proportion*								
11 Competition in own sector	*Proportion*	16	14	12	11	13	17	13	
12 Other	*Proportion*	1	2	3	3	2	4	4	
Q.3 Order/Demand a Domestic: level	*Balance*	-64	-59	-63	-68	-70	-49	-44	
b Foreign: level	*Balance*								
c Total: level	*Balance*								
Q.4 Employment: Future tendency	*Balance*	1	-8	-22	-33	-22	-2	-7	
Q.5a Price expectations: Future tendency	*Balance*	31	32	36	55	63	63	67	
Q.5b Price expectations: Rate of increase: future tendency	*Balance*								
Q.6 Duration of work in hand	*Balance*	5	5	5	4	4	5	6	
Q.7 Orders/Demand: Total: future tendency	*Balance*	6	-5	-22	-37	-22	0	-8	
Q.8 Financial situation: Tendency	*Balance*	-40	-26	-28	-39	-42	-29	-15	
Q.9 Financial situation: Client delays in payment: a Client delays in payment: public	*Balance*		23	27	30	19	20	21	
b Client delays in payment: private	*Balance*								
c Client delays in payment: total	*Balance*								
Q.10 Technical capacity: with regard to expected demand: tendency	*Balance*	11	-25	-20	-22	-22	-22	-19	

11. RETAIL TRADE SURVEY

The results of the quarterly surveys in the sector of retail trade during 1994-1996 show the positive tendencies in these years which are characterised by the increase of the volumes of sales in quantity, increase of orders for the supply of goods, expansion of the assortment of goods.

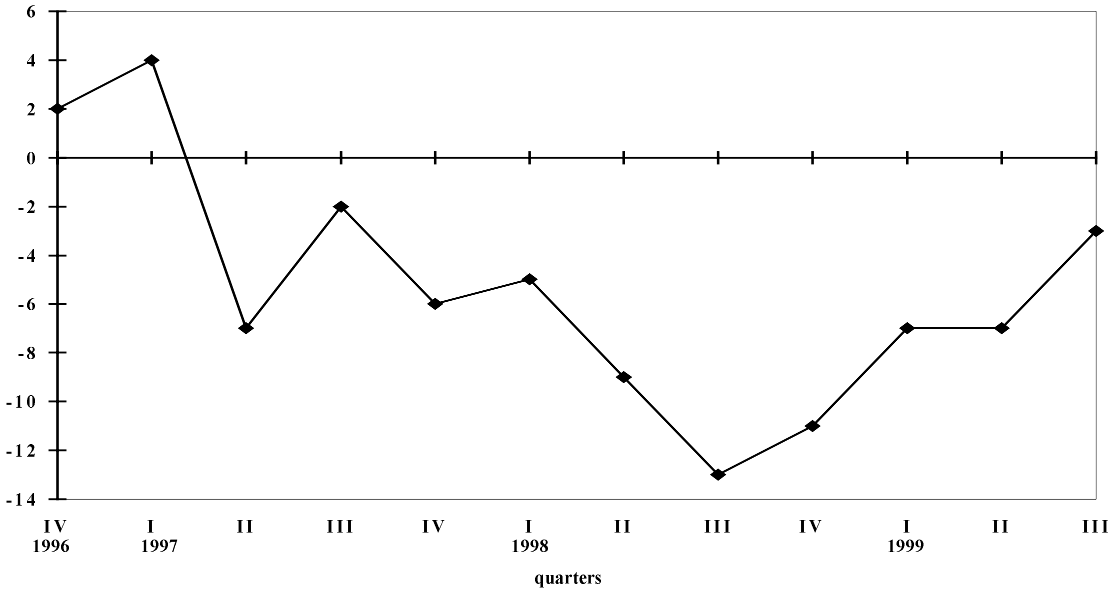
Since the second half year of 1996 negative the tendencies began to increase: volumes of sales became lower, orders for the supply of goods were decreasing, number of employed in trade was reduced, financial situation of the trade organisations became worse. The main factor behind the increase of negative tendencies in the retail trade is the reduction of the solvent demand of the population.

Selected conjuncture fluctuations for the period 1996-1999 did not change the main tendencies in the development of the sector.

11.1 Index of Entrepreneurs Confidence in Retail Sector, 1996-1999

Graph 11.1

DYNAMICS OF THE INDEX OF ENTREPRENEURS CONFIDENCE * IN RETAIL TRADE



* Index of entrepreneurs confidence is calculated as arithmetic average of the “balances” of estimates of actual economic situation of the enterprise, warehouse stocks (the latter is inverted) and expected changes in economic situation (in percentage points).

12. OTHER SURVEYS

12.1 Small Businesses Activity in Industry

In the survey conducted in the third quarter of 1999 participated more than 170 enterprises of small businesses with the number of employed up to 100 persons of 11 consolidated branches of industry and different types of ownership.

The analysis of the results of the inquiries of managers of small industrial enterprises illustrates the improvement of the business situation in small businesses in the III-rd quarter, especially in comparison with the beginning of 1999. Thus, basic indicators of small industrial enterprises activity registered certain positive results, which were not observed during a number of recent years. First of all, it concerned the volume of output of main kinds of products in quantity and the demand for them at the domestic market. The rates of decrease of the number of employed in small industrial businesses slowed down. The situation concerning the profits received by small enterprises improved considerably. In particular, the stabilisation of production activity of small industrial enterprises is supported by the fact that the average level of productive capacity utilisation (about 40%) was retained since the beginning of the year till the third quarter.

Practically unchanged during the last two years were the estimates by the managers of the significance of factors limiting the growth of production at the enterprises. As before, most significant are the shortages of own finances, high level of taxation, clients' insolvency, general economic and political instability. Here, as well, the investment activity is rather low. Credits and borrowings are not used enough. The own debts of small enterprises are not decreasing. However, the tendency of improvement in profit situation is retained by estimates of the entrepreneurs. This resulted in a slight improvement in the overall economic situation in the small businesses. As a whole, the managers began to assess more favourably the present possibilities of small businesses in industry and their forecasts for the fourth quarter proved to be not less optimistic than for medium and large enterprises.

12.1.1 Survey Results of Small Industrial Enterprises, 1999

Table 12.1.1 Basic Indicators of Small Industrial Enterprises

Indicators of Activity	Balance of Estimates of the Indicators Changes			
	I quarter of 1999	II quarter of 1999	III quarter of 1999	IV quarter of 1999 (forecast)
•	1	2	3	4
Number of employed	-17	-6	+7	-2
Demand for the products at the domestic market	+9	+21	+14	+6
Output of main kind of products in quantity	-15	+5	+15	+1
Stocks of finished products	-25	-16	-13	-16
Stocks of raw materials	-18	-9	-6	-11
Availability of own financial resources	-24	-22	-4	-14
Profit	-13	+12	+2	-3
Prices for products being sold	+66	+58	+60	+62

12.2 Small Businesses Activity in Construction

In the survey of construction organisations conducted in the third quarter of 1999, participated 1 700 contractor organisations of different types of ownership with over 100 persons and representing more than 70 regions of Russia.

The results of the survey conducted in the third quarter of 1999 show positive changes in the construction sector with 100 persons employed: the reduction of demand for construction output and, consequently, of physical volume of works slowed down, the utilisation of productive capacities and provision with orders increased. As a result of this the economic situation of more than half of the construction organisations is estimated by their managers as "satisfactory". In particular, the improvement in the small construction businesses positively affected the increase in average level of productive capacity utilisation - from 40% in the first quarter to 62% in the third quarter of 1999. The majority of entrepreneurs consider that over the next 12 months the provision with productive capacities in relation to the demand for construction works executed by their enterprises will be sufficient. At the same time one third of the enterprises will have a shortage of productive capacities. This is caused both by the bigger production programme and substantial wear of fixed assets in the construction sector, while poor financial situation does not make it possible for contractor organisations to replace or modernise them.

Unsatisfactory financial situation affects negatively the investment activity of the small construction organisations. Here the expectations of entrepreneurs in respect of possible changes in the activity of construction organisations are less optimistic in the fourth quarter of 1999, and this is caused by the decrease in seasonal activity of construction contractor works. In comparison with the first quarter it is expected that the physical volume of works will grow, the demand situation and number of employed will be stabilised, the indebtedness of clients for the completed works will decrease and this will improve the financial situation of the construction organisations. However, the prices for raw materials and construction and mounting works will continue to increase and this will adversely affect the order situation.

12.2.1 Survey Results of Small Construction Organisations, 1999

Table 12.2.1 Basic Indicators of Small Construction Organisations

Indicators of Activity	Balance of Estimates of the Indicators Changes			
	I quarter of 1999	II quarter of 1999	III quarter of 1999	IV quarter of 1999 (forecast)
Physical volume of works	-36	-10	-7	-2
Number of contracts concluded	-39	-15	+2	-7
Availability of own financial resources	-38	-25	-13	-12
Number of employed	-37	-17	-2	-7
Prices for construction and mounting works	+61	+73	+89	+89

12.3 Small Businesses Activity in Retail Trade

In the survey of retail trade enterprises conducted in the third quarter of 1999 participated more than 2.5 thousand small trade organisations of different types of ownership from 77 regions of Russia.

In the conditions of overall worsening of the economic situation the tendency of slow down in the rates of the decrease of basic indicators of the small retail trade enterprises activity in the third quarter of 1999 was going on. Thus, during the last quarters there was an increase in the share of the enterprises of which, the managers were assessing the economic situation of their firms as "satisfactory"; the rates of the decrease of volume of sales in quantity slowed down. The rates of assortment growth increased considerably. However, according to the results of the inquiries the small businesses as a whole is in a more difficult situation in comparison with the medium and large trade firms. Although in their forecasts for the next three months the managers of small trade organisations hope for certain improvement of the basic indicators of activity, their forecast are much more reserved than those for the medium and large trade firms.

12.3.1 Survey Results of Small Retail Trade Enterprises, 1999

Table 12.3.1 Basic Indicators of Small Retail Trade Enterprises

Indicators of Activity	Balance of Estimates of the Indicators Changes			
	I quarter of 1999	II quarter of 1999	III quarter of 1999	IV quarter of 1999 (forecast)
Volume of sales in quantity	-25	-19	-13	7
Orders for the supply of goods	-13	-11	-5	8
Assortment of goods	-7	-1	3	14
Availability of own financial resources	-16	-13	-11	-1
Level of trade margin	+19	+18	20	21
Profit	-7	-4	-1	0
Losses	+6	+5	7	-2
Share of small enterprises managers estimating the economic situation as "satisfactory"	57	61	69	

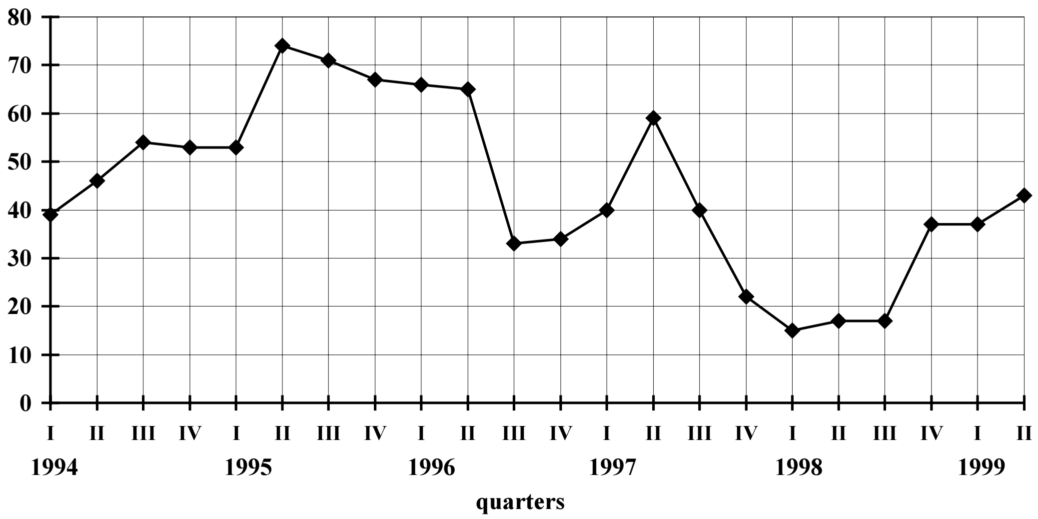
12.4 Innovation Activity of Industrial Enterprises

In the survey conducted in the first half of 1999 participated 804 enterprises of 11 branches of industry, out of which 45% were carrying out these or other kinds of innovation activity.

According to the estimates of the entrepreneurs, in the first half of 1999 there was observed a certain intensification of innovation activity in industry. Thus, there was a slight increase in the share of the enterprises, which had positive impact of innovations on technical and economic results of their activity. First of, all this concerns such indicators as increase of competitiveness of production and growth of volumes of sales at the external market, as well as mastering of the output of new products. The main incentive for innovations is the low competitiveness of the products of the enterprises at commodity markets. Retained, as a whole is the tendency of more intensive innovation activity of the large enterprises. However, the share of completed innovations is small as before. Low rates of innovations are typical mainly of the branches orienting at meeting the requirements of the domestic market. The main source of financing innovation activity is still the own finances of the enterprises. However, despite certain more intensive innovation activity in the first half of 1999, its rates as a whole is low and does not make it possible to expect considerable economic effect in the nearest time.

Graph 12.4

INNOVATION ACTIVITY OF INDUSTRIAL ENTERPRISES[**]



%

[**] Share of industrial enterprises carrying out the innovation activity as % of the total number of surveyed enterprises.

12.4.1 Types of Innovation Activities by Main Branches of Industry

Table 12.4.1 Types of Innovation Activities by Main Branches of Industry in the First Half of 1999*
(as % of the number of innovation active enterprises)

	Research and development		Design and technological works	Purchase of equipment	Purchase of "know-how" licenses, technologies and other kinds of industrial property	Legal protection of R&D results	Cooperation with foreign partners	Mastering and implementation of innovations
	cby own specialists	cby other orgaizations						
For industry as a whole	***45***	***45***	***66***	***56***	***10***	***31***	***44***	***49***
Chemical and petrochemical industry	54	41	62	56	15	4	22	28
Machine building and metal-cutting industry	46	46	74	66	11	43	49	58
Timber, wood-working and pulp and paper industry	4	46	63	56	48	10	58	10
Building materials industry	2	10	21	82	0	2	39	15
Light industry	27	21	30	19	3	0	48	38
Food industry	10	8	17	77	14	3	17	29

12.4.2 Results of Innovation Activities by Main Branches

Table 12.4.2 Results of Innovation Activities by Main Branches in the First half of 1999*

(As Percentage of the number of innovation active enterprises)

	Increase of competitiveness of produced products	Mastering of new kinds of products	Growth of volume of products sales		Increase of profit
			at the domestic market	at the external market	
For industry as a whole	***56***	***55***	***24***	***12***	***23***
Chemical and petrochemical industry	63	74	49	27	45
Machine building and metal-cutting industry	72	76	14	4	10
Timber, wood-working and pulp and paper industry	28	22	16	3	26
Building materials industry	73	52	65	34	59
Light industry	53	62	60	24	17
Food industry	73	56	60	3	65

* The table shows only most representative branches of industry.