

BUSINESS SURVEYS – EVALUATION INSTRUMENT OF THE EUROPEAN ECONOMIC CLIMATE

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Business surveys or conjuncture surveys are specific statistical researches, but complementary to traditional, official statistics. While official statistics provide quantitative information regarding the level, structure and evolution of varied economic processes and phenomena, business surveys offer quality information, essential to the short term evolutionary analysis of economic indicators: the diagnosis of the current situation, the timely detection of inflexion points within the economic cycle and the rapid estimation of short term tendencies of the main macroeconomic indicators (the dynamics of the gross domestic product, the index of industrial production, etc.).

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1. What are business surveys?

Comparatively to official statistics – of which's utility is undeniable, but are usually available after a certain period of time (weeks, months) – business surveys present two essential qualities:

- periodicity, usually monthly;
- operativity, the results dissemination time often being very fast, usually, a few days after the reference period.

Business surveys are quality surveys, that are addressed to managers of the companies included in the sample. They must answer a series of questions regarding the current and future situation of the unit they lead and about the economic climate in which they conduct their activity.

The primary characteristic of business surveys is that instead of exact numbers, the answer to the question is an "appreciation", an "estimation", an "opinion" about different aspects of the company's activity (production, contracts, production capacity, employees, prices, stocks, etc.), in the form of ordinal scales, in most cases, with three options:

- for questions regarding an indicator's level the answers can be: "above normal / normal / below normal";
- for questions regarding the evolution in time of a phenomenon, the answers can be: "has risen / is stable / has dropped" or "will rise / will remain stable / will drop";

Through a calculation and aggregation procedure (presented in paragraph three of the paper), the quality information provided by companies' managers is transformed in statistical indicators with a special power to reflect present reality and anticipate future short term evolutions.

So, the business surveys provide reliable and fast information, published regularly, in the form of new indicators used for describing the economic situation in the European Union and the Member States. Presently, these indicators present a growing interest, especially after the finalization of the European Union's growth process and in the condition of the present financial crisis. The Central European Bank, the Governments of the Member States, the central banks and financial institutions, the business environment and the research institutes currently use the results of business surveys for detecting and analyzing the economic conjunctural diagnostic and the estimation of the main macroeconomic indicators at a national and community level.

In this context, the existence of a conjuncture survey system at a European level has been imposed, that allows the comparison of national economies, different as development level and etherogenic from economic structures' point of view.

2. How are the business surveys in the European Union harmonized?

The business surveys are planned and take place in an organized environment (The Joint Harmonized EU Programme of Business and Consumer Surveys), so such that their results can be used for monitoring economic development, both at the Member States' level and the entire European Union and the Euro Area's level.

The mentioned programme, coordinated by DG ECFIN (Directorate General for Economic and Financial Affairs), although was launched by the decision of the European Committee all the way since 1961, has recorded a continuous rise in development, revisal and harmonization, in at least two directions:

- sectorial coverage, as activity domains in which the surveys took place and, implicitly, the

- results have been published (industry – 1961, construction and investment in industry – 1966, consumption in farms – 1972, retail trade – 1984, services – 1996 and more recently

- in the financial sector);

- the geographic coverage that numbers three countries that have participated in the programme; beginning in January 2007, the programme contains the 27 States.

- Members of the European Union and a candidate country (Croatia); another candidate country (Turkey) have integrated themselves into the programme in May 2007.

The harmonization's objective is the production and publication of comparable data for all the Member States in such a way that it permits conducting comparisons between the business cycles of different countries as well as the aggregated calculus of composition indicators, for the European Union and at the Euro Area's level.

The harmonization is based on two principles:

- the use of harmonized questionnaires that contain the same standardized questions, in number and form, by all the Member States; still, depending on the economic specific and the analyzed sector, the questionnaires can include additional questions, conforming to the necessities of the respective country;

- the statistical researches and the transmission of results to the European Commission (DG

- ECFIN) is realized in periods and on common terms.

Business surveys have been implemented gradually in Romania, at the National Institute of Statistics, following the initiation in 1991 of the Centre of Cooperation with Economics in Transition's (CCET) programme within the Organization of Economic Cooperation and Development (OECD) and the European Commission (DG ECFIN – Bruxelles).

Business surveys have been realized at the National Institute of Statistics, first trimestrially, beginning with June 1991 for the manufacturing industry, October 1993 for construction and January 1994 for retail trade.

Following development and revision, the "European Union's business survey harmonizing Program", approved by the European Commission in November 2000, beginning with June 2002, has passed on to the National Institute of Statistics for the monthly existing business surveys' conductance, as well as the implementation of monthly surveys in services and biannual for investment and industry.

Presently, Romanian statistics provides all the necessary information following the community's requirements. As such, the obtained results are intensely used – alongside the ones from

traditional statistics – by the responsible nationals and Europeans, by the business environment and, last but not least, by the specialized mass-media.

Currently, five current surveys with monthly frequency are being organized and conducted by all the Member States of the European Union, in the following activity sectors: manufacturing industry, construction, farms' consumers, retail trade and services.

The questionnaires contain standardized questions specific to every activity sector, regarding:

- the appreciation of the actual situation overlooking:
 - the level of production, goods sales, services demands, construction works;
 - the level of underway contracts and orders;
 - the level of stocks of finished products and stocks of goods.
- the estimation of evolution in the next three months, for a series of indicators such as:
 - the evolution of production, the physical volume of product sales, service demands, construction works;
 - the evolution of production and sales prices;
 - the evolution of the number of employees.

Mostly, the questionnaires have a qualitative character, the main questions referring to appreciations, estimations and opinions from the managers and consumers.

To record the information in the research questionnaire, a large range of methods are used:

- the method of the interview, direct or by phone (done by the operators at the County's Statistical Offices);
- the method of autoregistration, in which companies' managers complete the questionnaire on paper or electronically.

3. The calculation and interpretation of indicators

Answers of a qualitative nature, obtained from research (by collecting primary data) are transformed, through a hierarchic aggregation algorithm, in two categories of quantitative indicators: conjunctural balances and composite indicators.

Conjunctural balances (CB) or short term balances are determined for every question, for every sector (manufacturing industry, construction, consumption, retail trade, services), for every class of activity within the respective sector, as well as in groups depending on the size of the companies.

The conjunctural balance (CB) for every question, at the level of each stratum of the sample is determined based on the companies answers that can be one of the three options: rise (R), stability (S), decrease (D), where $R + S + D = 100\%$.

The conjunctural balance is calculated as the procentual difference between the alternative extremes:

$$CB_{\text{stratum}} = \%Rise - \%Loss = R_{\text{stratum}} - L_{\text{stratum}}$$

R_{stratum} = the percentage of those who have chosen the positive option of the phenomenon;

L_{stratum} = the percentage of those who have chosen the negative option of the phenomenon.

To obtain representative results and considering the quality assurance of the sample, the proportions R and L are not calculated directly, based on the number of answers (positive and negative) for the questions in the questionnaire, but considering the weight of the companies that have chosen the respective alternative in the volume of activity of the stratum in the sample, so the importance of every company from one relevant indicator's point of view (turnover or the number of employees). In this way, a greater importance is attributed to larger companies in evaluating the current economic situation and previewing future evolutions.

As a result, the conjunctural balance at each stratum's level represents the difference between the percentage of companies that have answered positively and the weight that have answered negatively:

- regarding the surveys in the manufacturing industry and construction, the weight of the number of employees is considered;

- regarding the surveys in retail trade and services the weight of the turnover is used.

The conjunctural balance for each question, at each of the activity classes' level and at the entire sector's level is calculated based on a plan of processing answers using – based on the situation – the weight of the number of employees or the weight of the turnover (g):

$$CB_{class} = \sum R_{stratum} \cdot g_{stratum} - \sum L_{stratum} \cdot g_{stratum} = R_{class} - L_{class}$$

$$CB_{sector} = \sum R_{class} \cdot g_{class} - \sum L_{class} \cdot g_{class} = R_{sector} - L_{sector}$$

If the answer to a question is given five options: intense rise (RR), light rise (R), stability (S), light decrease (D), heavy decrease (DD), then the conjunctural balance is calculated based on the next formula:

$$CB = \left(RR + \frac{1}{2} R \right) - \left(\frac{1}{2} D + DD \right)$$

$$RR + R + S + D + DD = 100\%$$

It's obvious that the conjunctural balance can become values in the [-100%, +100%] interval:

- if the majority of answers are negative (D), then $CB < 0$; when all the answers are negative

$$CB = -100\%;$$

- if the positive answers (R) are compensated by the negative answers (D), then $CB \approx 0$;

- if the majority of answers are positive (R), then $CB > 0$, when all the answers are positive,

$$CB = +100\%.$$

Consequently, the conjunctural balance indicates the perception of the respondents on the tendencies manifested in the present and future evolution of a phenomenon, but must not be confused with the intensity of rises and decreases of a statistical indicator (that are quantified with the help of indexes and rise/decrease rhythms).

Based on the analysis of historical data, the specialists have convened upon the next milestones for interpreting conjunctural balances (CB):

$CB \leq -41\%$	severe decrease
$-40\% < CB < -16\%$	decrease
$-15\% < CB < -6\%$	moderate decrease
$-5\% < CB < +5\%$	relative stability
$+6\% < CB < +15\%$	moderate rise
$+16\% < CB < +40\%$	rise
$CB \geq +41\%$	severe rise

Composite indicators are synthetic indicators calculated at the level of the European Commission, based on the conjunctural balances sent to the national institutes of statistics. So, through specific aggregations, a series of composite indicators are determined, that quantify the reflected situation in the business surveys for every Member State, at the level of the European Union as well as the Euro Area.

The confidence indicator (CI) for every sector (manufacturing industry, construction, consumer, retail trade, services) and for every Member State is calculated as a simple arithmetic average of the answers (conjunctural balances) for a part of the questions. The selected questions are appreciated as being the most representative from the point of view of the correlation with the evolution of a statistical reference indicator (the analysis of the main components).

To exemplify, the confidence indicator in the manufacturing industry – which best adjusts the movements of industrial production index (IPI – considered reference indicator) – has conjunctural balances for the following three components in view: the estimation of production (CB_p), the appreciation of the contracts and demands portfolio (CB_c) and the appreciation of stocks of finite products (CB_s), these being taken from the calculation formula with a changed calculus sign; the explanation is the fact that a positive response to this indicator reflects a negative aspect.

Consequently, the industry confidence indicator (ICI) is:

$$ICI = \frac{CB_p + CB_c + (-CB_s)}{3}$$

The confidence indicators synthetically reflect perception, estimations and expectations at each sector's level (industry - ICI, construction - ICCT, consumer - ICCS, retail trade - ICRT and services - ICS).

The Economic Sentiment Indicator (ESI) is an aggregate of confidence indicators from all the five sectors (business surveys), being considered a true barometer of the national and community economic climate. It anticipates the future tendencies of the gross domestic product in each of the Member States in the European Union and in the Euro Area, following the movements of the economy as a whole.

The Economic Sentiment Indicator is determined as a ponderated arithmetic average of confidence indicators calculated at the level of each sector:

$$ESI = a \cdot ICI + b \cdot ICCT + c \cdot ICCS + d \cdot ICRT + e \cdot ICS$$

a,b,c,d,e = the allocated percentage of each sector based on the sector's representativity and the performance registered in following (adjusting) the reference variable.

The next percentage system is currently used: industry (a = 40%), construction (b = 5%), consumption (c = 20%), retail trade: (d = 5%), services (e = 30%).

The percentages are not directly applied to the five confidence indicators. These (the latter) have been calculated based on the fifteen conjunctural balances, very different as dynamics and level. In these conditions, components with a relatively high amplitude of the characteristic would dominate the evolution of the composite indicator (ESI), while other important influences, but less visible in confidence indicators, would have an insignificant impact over the ESI.

As a result, to eliminate this inconvenience and to ensure the comparability between the time cycles of conjunctural balances for all the fifteen main components, a method of standardization (normalization) is applied, that runs through the next steps:

- Each chronological series of conjunctural balances corresponding to each component transforms into a centered variable (through the difference to the average) and reduced (through comparison to the standard deviation of the series). As a result, all the initial chronological series with the property that the average is null and the standard deviation is equal to the unit;

- The conjunctural balance of each country is determined, for each period, through the aggregation of all the components and, implicitly, of all the five conjuncture surveys' results. This result is a correct estimator of economic sentiment;
- Still, for providing analysis and interpreting data, the economic sentiment indicator (ESI) is determined through the rescale of the previously determined balance, through a variable characterized by a long term average of 100 and a standard deviation of 10.

This transformation permits the more practical interpretation of the indicator:

- If $ESI > 100$ the reflected economic sentiment is greater than the long term average;
- If $ESI < 100$ the reflected economic sentiment is lower than the long term average.

The Economic Sentiment Indicator, through its construction, synthesizes information contained within conjunctural balances and provides a measure of the business climate, as it is perceived by a large number of managers. The indicator aggregates attitudes, judgments, behaviors of economic actors in the entire economy, offering precious information about the macroeconomic conjuncture and the short term perspectives of the evolution of the gross domestic product.

The level and tendency of the ESI suggests that the evolution of the gross domestic product.

Also identified are the business cycles and the perception of the European economic climate, with a minimum point reached in March 2009 when ESI was 68 points.

After ten months of uninterrupted improvement of the ESI's level (March 2009 – January 2010), a period of recoil appears in February 2010 manifested through a stagnation at the European Union's level (only +0.2 points compared to January) and even a reduction (-0.1 points) in the Euro Area.

Still, the fact that the highlighted tendency in the last year has led to recording an ESI level very close to the long term average must be marked (97.4 points).

At the Member States' level, in February 2010, there can be identified at least four groups of countries based on the values of the ESI:

- The group of countries with the ESI level that is over 100 points, so the economic sentiment

is over the long term average (that contains the 1990-2009 period). Here we have the Nordic

states: Sweden (108.2 points), Denmark (105.7 points) and Finland (102.8 points), the most

optimistic countries as far as evaluation and anticipation of the business climate are concerned. In January 2010, this level has been reached by Italy and Poland also – but – has

not been able to maintain it in February 2010.

- The group of countries with the ESI varying between 90 and 100 points, under the level of

the long term average, but near it. Here we have fifteen Member States: from Italy (99.7

points) to Spain (90.1 points), including France (98.4 points), Great Britain (98.3 points)

and Germany (97.0 points). The presence of the biggest economies in this group explains

the general tendency at the entire European Union's level.

- The group of countries with the ESI's level between 80 and 90 points is characterized through evaluation and anticipation still moderate in the as far as the business climate is concerned and a withheld economic sentiment, even if it is rising. Here we have six

countries: from Lithuania (89.9 points), to Romania (80.9 points) and Cyprus (80.8 points).

In this group we also find Latvia, Hungary and Bulgaria.

- Finally, in the last group we have Greece, with the lowest level of economic sentiment (72.4

points), still far from the national long term average and the levels recorded by the other

Member States also.

The analysis of the data permits us to point out other interesting conclusions:

- The majority of the Member States have recorded increases in the ESI in the last year: the

fastest increase being in Denmark (+37.4 points, from 68.3 to 105.7), while in Romania, the

economic sentiment has risen with only 3.1 points (from 77.8 to 80.9);

- The only country where the ESI has decreased in the last year is Bulgaria (-2.3 points, from

88.7 to 86.4); Bulgaria's position is explained through the fact that in the reference month

(March 2009) the ESI's level was the the highest in the whole European Union, reflecting

an exaggerated optimism.

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