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BUSINESS SURVEY RESEARCH IN THE RIED

Research Institute of Economic Development (RIED) at the Warsaw School of Economics (WSE) has gained a considerable experience in carrying out business surveys in several fields. Its first business survey dates back to 1986, when manufacturing industry, limited to the public sector, was surveyed. Privately owned enterprises were included since 1993. Step by step, the surveyed areas were extended to cover households (1990), agriculture (1992), construction (1993), trade (1993), and banking (1998). All these surveys are questionnaire-based and qualitative in nature. Respondents are selected randomly, with a sample revised periodically, and they reply on a strictly voluntary basis. Based on responses, a vast set of information about various aspects of economic situation, assessment of current levels of activities as well as forecasts for the nearest future are derived. These, in turn, have grown into a monitoring system of tendencies in individual sectors and the economy as a whole. One of the key objectives of conducting such surveys is the prompt availability of signals of slowdowns and upturns as well as a possibility of preparing short-term forecasts. A set of economic indicators (EI) – composite indicators for the whole economy, and consumer and business indicators for individual sectors – derived from balances of selected responses is a key part of this monitoring system. It is a useful tool in forecasting short-term changes in growth of several economic variables, including the GDP.

Results of surveys along with a detailed analysis of outcomes are regularly published in RIED's bulletins. The most recent values of economic indicators are also available on CIRET web pages, while RIED home page includes the recent changes in the evolution of economic indicators for each surveyed area.

1. Composite indicators in RIED's analysis

In RIED's practice two composite general indicators of economic activity are computed, both being weighted averages of business and consumer indicators. The first one, referred to as RIED's barometer of the Polish economy is based on indicators for the following areas: industry, construction, trade, agriculture, households, banking, and transportation[1]. Component indicators for industry and households (consumers) have weights of 2/9 each, while the remaining indicators have weights of 1/9 each. The other composite indicator is computed according to the guidelines of the joint harmonised EU program of business and consumer surveys, and it combines indicators for four

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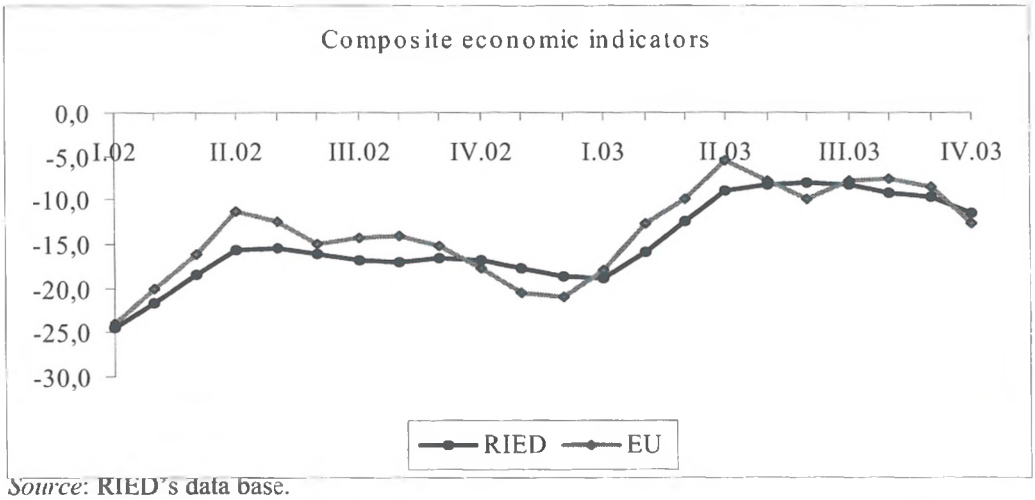
[1] Economic indicator for transportation is computed by the Institute of Transportation in Warsaw, based on its own survey and analysis.

areas: industry, construction, trade, and households, with weights of 40% for industry, and 20% for each of the remaining three sectors.

Both composite indicators are basically in line with the EU concept of economic sentiment indicators, though only the first one is calculated exactly according to EU ESI formula. They have been found equally useful in assessing economic conditions and predicting shifts and changes in the aggregate business activity. Graph 1 presents their evolution in the past two years.

Graph 1. Composite economic indicators for Poland



Source: RIED's data base.

In the sections to follow we describe how synthetic indicators for individual sectors are computed and display graphs showing their evolution over the past two or three years. All the values presented in the graphs are based on balances that have not been seasonally adjusted or standardised.

2. Manufacturing industry

Business surveys in manufacturing industry are carried out on a monthly basis. Each month respondents are asked to provide current assessment of the following items as well as forecast for the nearest 3-4 months:

- Output,
- Order-books,
- Export order-books,
- Stocks,
- Prices,
- Employment,
- Financial standing of enterprises,
- Poland's overall economic situation.

In addition to it, several other questions are asked on a quarterly or semiannual basis. These include: the level of capacity utilisation, barriers to business activity, production structure, and investments.

The RIED's synthetic indicator for industry SII_{RIED} is computed as a moving average of the balances of assessment of the current and predicted production volume. The following formula is used to calculate its value for month *t*:

$$SII_{RIED}(t) = \frac{1}{6}\left(CO_t + FO_t + CO_{t-1} + FO_{t-1} + CO_{t-2} + FO_{t-2}\right)$$

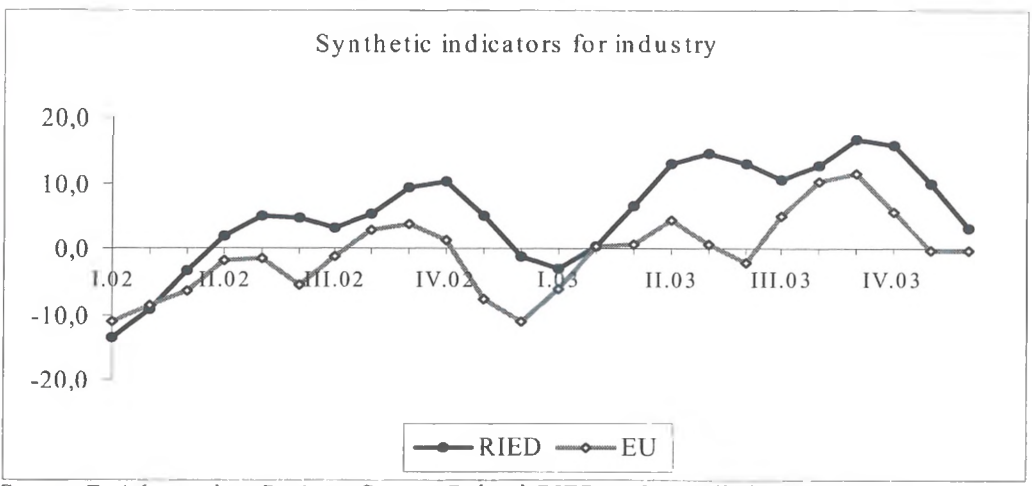
where CO_t denotes the balance of the current output assessment in month *t*, and FO_t denotes the balance of the forecasted output assessment in month *t*. The value of SII_{RIED} enters the formula for the RIED's barometer, with the weight of 2/9.

For the purpose of tracing the EU economic sentiment indicator, the following synthetic indicator SII_{EU} is calculated:

$$SII_{EU}(t) = \frac{1}{3}\left(FO_t + COB_t - CS_t\right)$$

where COB_t and CS_t denote the balances of assessment of current order-books and stocks, in month *t*. The value of SII_{EU} is included in the computation of economic sentiment indicator with the weight of 40%.

Graph 2. Synthetic indicators for manufacturing industry



Source: E. Adamowicz, *Business Survey, Poland*. RIED, WSE. Bulletins No. 150-183.

3. Construction

Business surveys in construction are carried out on a quarterly basis. Each questionnaire contains questions that relate to eleven items, and respondents are asked to assess the current level as well as predict changes for the upcoming quarter in each case. The quantities under study include:

- Production volume,

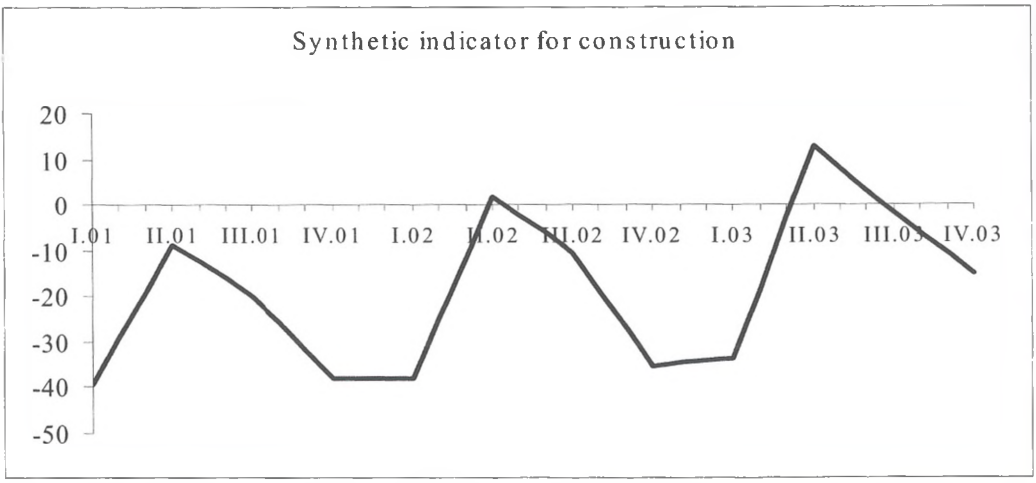
- Employment,
- Prices of services,
- Orders on hand,
- Export orders on hand,
- Financial situation,
- Production capacity utilisation.

The synthetic indicator for the construction SIC is based on balances of assessment of production volume and the forecast of employment level:

$$SIC = \frac{1}{2}(COB + FE)$$

where COB denotes the balance of assessment of current order-books, and FE – the balance of assessment of future changes in employment level. Thus the business indicator for construction is an arithmetic mean of the balances relating to: the changes in the orders on hand and the expected changes in the employment level.

Graph 3. Synthetic indicator for construction



Source: M. Podgórska, *Business Activity in Construction Industry*. RIED, WSE. Bulletins No. 29-40.

4. Trade

Enterprises in trade sector are surveyed each quarter. Respondents assess both the current situation and prospects for the imminent future. Areas under study include, but are not limited to, the following:

- Stocks,
- Purchases from domestic suppliers,
- Purchases from foreign suppliers,
- Employment level,
- Prices of goods,

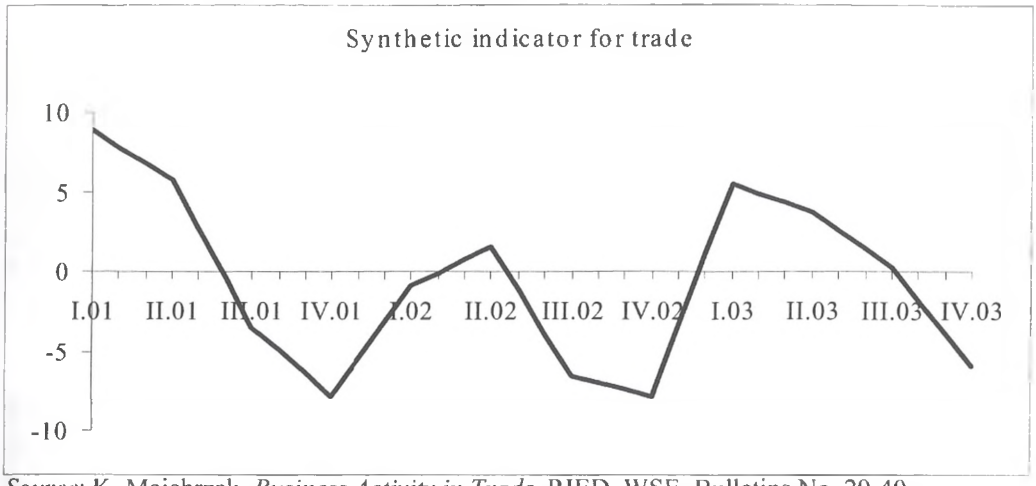
- Sales volume,
- Warehouse space.

A synthetic business activity indicator for the trade sector SIT is computed according to the following formula:

$$SIT = \frac{1}{3}(FSV + FPG - CS)$$

where FSV denotes the balance of assessment of future changes (in the coming six months) in sales volume, FPG – the balance of the aggregated forecasted purchases of goods (over the next six months), CS – the balance of the responses to the question on stocks in the month of the survey.

Graph 4. Synthetic indicator for trade



Source: K. Majchrzak, *Business Activity in Trade*. RIED, WSE. Bulletins No. 29-40.

5. Households

The household surveys are carried out on a quarterly basis. The original questionnaire was reformulated in 1996 to comply with the guidelines of the European Commission[2]. Questions address the following issues:

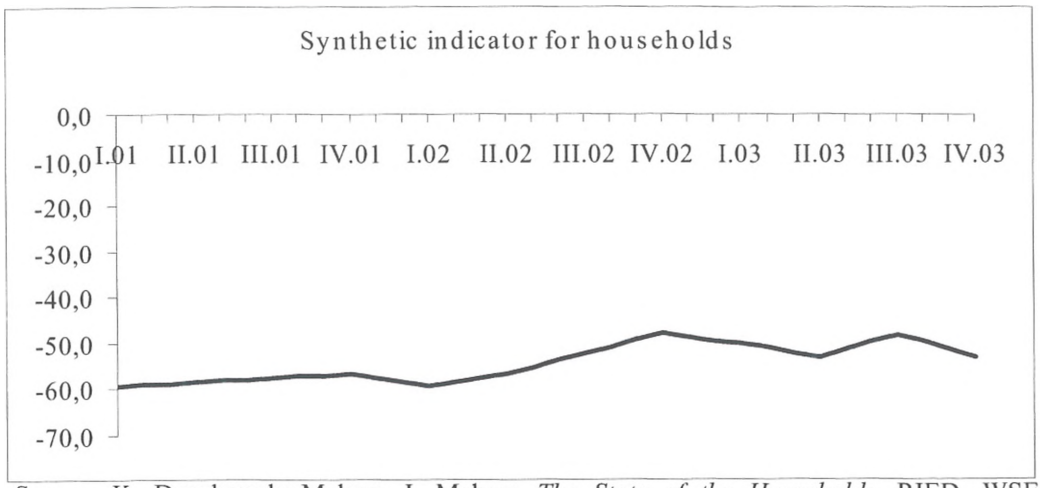
- An overall economic situation of the country,
- Financial situation of the family and its capacity to save,
- Intentions with regard to the purchase of consumer durables.

In case of assessing the current situation, the period of the last 12 months is surveyed, whereas forecasts refer to the period of the next 12 months. For most questions five

[2] See: *The New Economic Sentiment Indicator and Consumer Confidence Indicator for EU and the Euro Area*. European Commission. Directorate General for the Economic and Financial Affairs.

grades of responses are available (very positive, positive, neutral, negative, very negative).

Graph 5. Synthetic indicator for households



Source: K. Duczkowska-Małysz, J. Małysz, *The State of the Households.* RIED, WSE. Bulletins No. 34-45.

The synthetic indicator derived from the household survey SIH may be viewed as a consumer confidence indicator. It is calculated according to the following formula:

$$SIH = \frac{1}{4}(FP + FF - FU + FS)$$

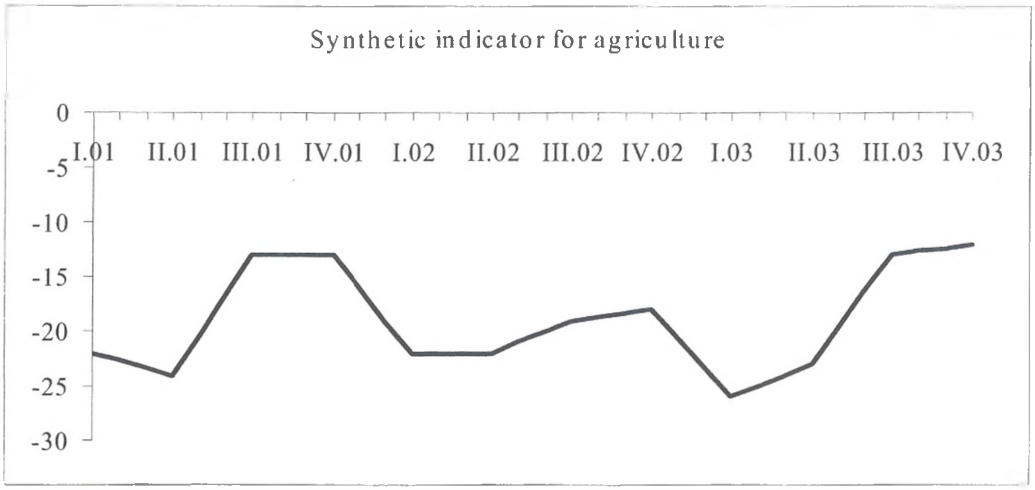
where FP denotes the balance of assessment of future Poland's economic situation, FF – the balance of assessment of future financial standing of the household, FU – the balance of assessment of changes in the unemployment level, and FS – the balance of assessment of household's saving capacity in the imminent future. Therefore, this indicator is the arithmetic average of the balances of responses to the questions on expectations with regard to financial situation of the household, general economic performance of the country, unemployment, and household's capacity to save.

6. Agriculture

The sector of agriculture is surveyed on a quarterly basis, and is limited to individual farming sector. Questions addressed to farmers deal with the following issues:

- Financial standing,
- Savings,
- Debenture,
- Loans,
- Purchases,
- Investments,
- Economic prospects.

Graph 6. Synthetic indicator for agriculture



Source: E. Gorzelak, *Business Activity in Agriculture*. RIED, WSE. Bulletins No. 9-20.

The synthetic business activity indicator for agriculture SIA is a weighted average of two components: FI – farmers' income indicator and FC – farmers' confidence indicator, with weights of 2/3 and 1/3 respectively, that is

$$SIA = \frac{2}{3}FI + \frac{1}{3}FC$$

The value of farmers' income indicator FI is computed as the moving average of the balances of responses to questions on current and forecasted income, from the current and the most recent surveys. The value of the other indicator, FC, is based on farmers' own assessment of their farming prospects, which is presented with three options to choose from: with confidence, with concern, with fear. The two extreme responses are assigned values of +1 and –1, respectively, while the middle one is assigned the value of 0,1. The FC indicator is then computed as the mean value of responses with weights being the relative frequencies (percentages) of responses.

7. Banking

Business survey in banking is carried out quarterly. Questions refer to the following issues:

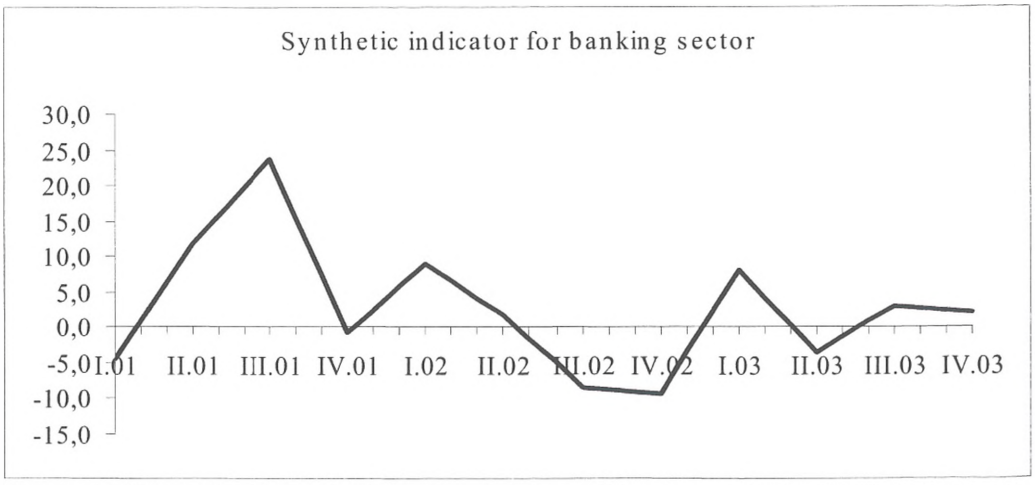
- Revenue from banking activity,
- Loan portfolio quality,
- Value of services rendered,
- Employment,
- Investment expenditures,
- Capital investments,
- Rate of interest on loans and on deposits,
- Loan/deposit ratio.

The synthetic indicator for the banking sector SIB is the arithmetic average of the balances of the current assessments of revenues from banking activity, financial standing, and employment level, that is

$$SIB = \frac{1}{3}(CR + CF + CE)$$

where CR, CF, and CE denote the balances of responses to the questions on current revenue from banking activity, financial standing of the bank, and on employment level, respectively.

Graph 7. Synthetic indicator for banking sector



Source: B. Kluza, K. Kluza, *Business Situation in Banking Sector*. RIED, WSE. Bulletins No. 8-19.