

Business Cycle Barometer as a Method of Economic Diagnosis and Forecasts in the Case of Warmia and Mazury Region

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Abstract

The purpose of this article is to assess the possibility of using a business cycle barometer to measure both the current economic situation and short-term forecasts for a regional economy, on the example of the Warmia and Mazury. The basis of this assessment is the construction of regional business cycle barometer based on data obtained from the Regional Statistical Office in Olsztyn. A survey was conducted which showed that a regional business cycle barometer can be created using the official statistical data. It provides a way to assess the current economic situation and short-term prospects of its fluctuations. In comparison to business surveys made by other institutions, the business cycle barometer is more objective, because it consists of so-called hard economic data.

Keywords: business cycle, business indicator, region, business survey, warmińsko-mazurskie

Introduction

The analysis of regional business cycles is becoming increasingly important both in science as well as in business practice. However, so far there is no consistent description and analysis of regional business cycles in the system of 16 regions (voivodships) in Poland. Nor there is a regional business cycle definition, or one clear methodology for measuring cycles. Apart from that, similarly to the nation economy, the cycles can be studied, as regional business cycles are subject to processes of convergence.

Monitoring the business cycle in a regional dimension is becoming more and more important. It takes particular significance in the face of the ongoing decentralization of central authorities to the regional level. This also concerns the relation between regional economic position and the ability to incur public debt by regional authorities. In the EU financial perspective for the years 2014–2020, the main entities applying for public funds will be regional and local authorities. Hence, it becomes a natural question of the effects of their absorption in the context of divergence or convergence of regional development and changes in the morphology of the regional business cycles.

1 Theoretical basis of economic studies using barometers

Economic barometers are called summarized synthetic indicators, which reflect changes in economic conditions. They can be created for a specific industry or present general economic position of country. Economic analysis using a barometer has been discussed in the literature. Doubts relate mainly to acceptance of this method for science. It results from the following properties of barometers:

* In the paper term ‘region’ is identical to the voivodship—Polish administration unit on the NUTS 2 level. Poland is divided into 16 voivodships. Warmia and Mazury Region is equal to Warmińsko-Mazurskie Voivodship.

- they are constructed on the basis of the observation direction and sequence changes in different economic values, they are based on leading and lagging variable patterns
- they do not reproduce the mechanisms of the process investigated, based on rather symptomatic models (correlation) than cause-effect models
- the basis of their design are primarily empirical observations
- they are used to assess the current economic situation and short-term forecast changes
- they provide tools to assist in the formulation of short-term economic evaluations, however, do not constitute a sufficient basis for the comprehensive diagnosis and prognosis of the economy

Business cycle indicators are popular methods of the economic position assessment. The main objective of these indicators is to identify variable specific economic properties, depending on the cross-correlation level with a reference cycle. These are:

- the leading variables
- the coinciding variables
- the lagging variables (Matkowski 1997, 65)

Aggregating both leading, coinciding and lagging variables, to the so-called one-dimensional form indices leads to complex economic indicators. Changes in economic activity, reflected in fluctuations in industrial production and the level of salaries and expenses are usually characterized by a lag in relation to such economic indicators which are anticipative, as the number of permits granted for construction, the number of signed construction contracts, volume of orders in production and trade, the number of bankruptcies and start-ups, etc. These relationships, which are systematic and durable, can be considered for the correctness of cyclic development. They are also the basis for the assessment of current and future economic situations. Selection of the appropriate variables for the specified index is the basis for the construction of barometers as a system of diagnostic and prognostic indicators.

Although the main purpose of constructing barometers is to assess the directions of changes in economic conditions and predict future turning points, a properly constructed index enables the evaluation of other morphological features of the cycle. There are such properties of cycles as scoping economic situation changes, the relationship between the intensity of expansion and contraction, changes in the amplitude of the cycle and the length of each phase.

According to the above-mentioned three types of variables specified with respect to the reference cycle, we may talk about three types of indicators, such as leading, coinciding and lagging with respect to the reference cycle.¹ For assessing the economic situation the most crucial are coincident and leading indicators. The lagging barometers are built to verify the regularity of coincident indicators and for confirmation of the fluctuations, based on the reference series' variable behavior.

For substantive and formal correctness of the barometer construction, it is important to select appropriate diagnostic variables. The literature points out two crucial characteristics, i.e. representativeness and relevance. Representativeness means that a particular variable reflects changes in the studied phenomenon in the area covered by the analysis. The relevance means that diagnostic variables are crucial in the whole economy or the evaluation of a particular sector situation.

Selection of diagnostic variables in constructing an economic barometer should be based on historical analogies. This means that for the business cycle description it may be useful to select only variables showing historical resemblance of cycles and promising similar behavior in the future. Taking this into account, the most important criteria for selection of variables in constructing an economic barometer in addition to the required variation, is the persistence of the cause-effect relationship between specific variables.

Meeting the criteria listed above is an important constraint in the composition of an economic barometer. While statistical data representative for the general economy are available, obtaining data for a specific sector of the economy or a particular region causes difficulties arising from the availability of representative and relevant data for business cycle analysis.

1. Most often the reference cycle is represented by fluctuations of gross domestic product or industrial production.

The crucial condition for economic barometer utility is to have a sufficiently long time series to allow the extraction of morphological features of individual cycles. The result is that all variables which are important for the business economic barometer construction variables, that show irregularity or are subject to methodological changes must be eliminated, regardless of their economic importance. In practice, this means that the construction of an economic barometer is mainly based on the quantitative data obtained from the Central Statistical Office (or its regional branches) and other institutions (tax offices, municipal agencies).

The criteria that must be met for the selection of variables to construct the economic barometer may be shown as:

- the continuity and regularity of changes
- the correlation with the reference cycle as well as the persistence of the turning points
- sufficient length of the variables' time series
- uniformity and timeliness of data (Matkowski 1997, 67)

For final selection of leading, current or lagging indicators, the time series variables are subjected to various statistical techniques. The basis for the assignment of a variable to a particular category indicator is its volatility relative to a predetermined reference cycle.

2 The evolution of regional business cycle research in the world and in Poland

The beginnings of regional business cycles analysis occurred in the U.S. economy in the 1980s. The immediate cause of the interest in the regional business cycle was the divergences in US regional economic development (Drozdowicz-Bieć 2012, 51). The effect of this phenomenon is the deepening level of interregional disparities and different vulnerability to crisis. In addition to the widely published nationwide economic indicators, there is growing interest in monitoring the economic situation at the regional level. This is due to a change in the approach to the region's function in social and economic development of countries. Increasingly, regions are perceived as local economic systems and autonomous objects of economic research.²

In the United States, regional business cycle surveys are carried out both by national and regional authorities. This is the way the local authorities manifest the activity of business climate monitoring. It is also a tool to attract potential investors to the region.

The Central Statistical Office in Poland, from 1st January 2013, began the regional business cycle survey in the form of a business questionnaire.

Random business cycle surveys are carried out by well-known research institutes in Poland, such as Pentor or GFK Polonia. GFK Polonia carries out only irregular studies on the structure of sales, marketing preferences of customers, and brand management. In the case of the Pentor institute, they monitor with monthly frequency the situation in the banking market and a barometer of economic sentiment among consumers. However these surveys cover the whole country, and therefore do not take into account such specific regional features as GDP per capita, wages, and regional economic structure.

One of the leading institutes in Poland carrying out business cycle surveys by the test method is the Economic Development Institute operated by Warsaw School of Economics (IRG SGH). The Institute of Economic Research began activity in 1986, using the experience of the leading European centers: ISCO (Istituto Nazionale per lo Studio della Congiuntura, now ISAE) in Rome and the Munich IFO. Studies are carried out both at national, macro-regional and respectively cross-sectoral levels (Gorzelać and Zimny 2012, 4).³

The Institute for Market Economics Research (IBnGR) has conducted business cycle research in Poland since January 2001. The area of their research embraces both national and regional perspectives. The tool of the survey is a questionnaire. The results of the survey are calculated in

2. The special topic of the 28th CIRET Congress—a business cycles research organization, which took place on September 20–23, 2006 in Rome, was regional and local business cycles studies.

3. This division applies to business research in agriculture. In the retail trade studies IRG Institute divides the country into 8 regions, and the analysis of the industry business cycle covers 16 provinces separately.

monthly economic indicators (current and leading) both for the whole country and for the each of the 16 provinces separately.

Aside from these national institutions that monitor the economic situation, business cycle research is also conducted by regional institutions or government bodies. The list of regions monitored is presented in table 1.

Tab. 1. Business cycles research by voivodships in Poland

Voivodship	Survey type	Frequency	Continuing survey
Dolnośląskie	test	month	yes
Lubelskie	test	quarter	yes
Lubuskie	test	month	yes
Małopolskie	mixed	month	yes
Mazowieckie	test	quarter	yes
Podkarpackie	test	quarter	yes
Podlaskie	test	quarter	yes
Wielkopolskie	mixed	half year	yes
Zachodniopomorskie	quantity indicator	quarter	no

As seen above 9 voivodships have already introduced the monitoring of the business activity at the regional level. Only one of the voivodships listed above has discontinued the surveys (Błądowski et al. n.d., 4). The main distinction between the assessment of the economic situation on the basis of the survey, and the results obtained by the official statistics data (national or regional), is the formulation of conclusions based on a sample rather than the entire population. In addition, answers provided by the entities relate to their own economic situation and the opinions about the regional economy have marginal importance. The results of such surveys therefore provide the opinion formulated both by enterprises and households. It comprises such aspects as: expectations, anticipated trends in the level of activity, opinion on the general economic situation in the particular sector, region or in the national economy (Kowerski n.d., 7). An important advantage of the test methods is their high frequency. Surveys are carried out with monthly, two-monthly or quarterly intervals. In the United States, some institutes carry out surveys with weekly frequency, which shows very smooth fluctuations of the regional or state economy.⁴

Apart from the advantages of surveys there are shortcomings, resulting from the subjectivity of answers. Survey results depend on the circumstances and the choice of survey method. The survey via telephone may give different results than a survey done in the form of electronic or postal methods. Also the day of the week, time of year and even the time of day and the current situation in the enterprise can affect the results. There is one more question concerning the survey method of business cycle measurement. It concerns the possibility of a proper assessment of the business cycle situation without quantitative data. The complex and multifaceted business cycle fluctuations makes it risky to assess properly these processes without omitting any important phenomena. For this reason, it seems, survey methods can be used only to identify the trends of business cycle changes, but not as the basis for conducting economic policy.

A characteristic weakness of the survey method is to separate the current evaluation of short-term forecasts in business cycle research. Survey methods allow us to take into account the expectations of producers and consumers, which largely determine their decisions on the market, and consequently have influence on the whole economy. However, it should be noted, that the expectations are based on the limited resources of information concerning the respondents' entities. Although the formulation consists of questions about current and future economic situation, the responses concerning the current situation always contain an element of expectation.

4. The weekly frequency published indicators in the U.S. are for example the number of unemployment benefits applications or the number of mortgage loan applications.

3 Empirical problems of regional business cycle measurement

Both in Poland and abroad regional business cycle measurement is carried out, although its regularity and universality cannot be matched with the number of publications nationwide. The reasons for this can be two-fold. The first is the lack of a coherent theoretical framework that could justify a certain methodical approach to the problem of defining the regional business cycle, and then to its morphological identification. The second and perhaps more important from the point of view of practical feasibility is the availability of statistical data useful for the analysis of regional fluctuations in economic activity. It also involves a considerable delay in the publication of indicators at the regional level, compared to the same data on a national level.

In Poland an additional problem associated with the availability of useful data for business cycle analysis on the regional level is the relatively short period of the country's current administrative division, and hence—a relatively short time series for the variables. In addition to this is the lack of continuity of the methodological variables, so the capacity of statistical data to measure cycles at the regional level is significantly limited.

Another methodological problem is the fact that the regions do not function as independent entities involved in international trade, not only in relations with regions of other countries, but also in relation to other regions of the same country. The consequence of this is that the data concerning the value of regional foreign trade are not accessible. In such a situation, it seems clear that a necessary condition for improving the measure of regional business activity is to expand the number of regional data publication to the level of national statistics publications. Apart from the availability of regional data, it is crucial to acquire data relatively quickly in relation to economic evidences. This enables us to describe the current economic situation, as well as to forecast the changes in the economy some months ahead.

4 Methodology of business cycle research in Warmińsko-Mazurskie Voivodship

The first step in business indicator construction was the selection of the reference series. This is the time series of the regional business cycle's approximate course and constitutes the criterion for assessing the researched variables as lagged, simultaneous or leading. The most popular indicator treated as a reference series in the literature is gross domestic product (GDP). However there are some obstacles to use of this synthetic indicator in research—the delay in publication.⁵ In this case it is indicated in the literature that the reference series should reflect fluctuations in output or employment (Drozdowicz-Bieć 2012, 176). In this paper, time series of industry production was chosen as the reference series.

To construct a synthetic index of economic position in the Warmińsko-Mazurskie Voivodship a wide analysis of the time series convergence with the reference series (industry production) was made.⁶ The selected variables describing the regional business cycle⁷ and used to construct the Warmia and Mazury synthetic indicator were:

- annual growth rate of assembly-construction production value, BUDMONT
- annual growth rate of retail sales value, SDETAL
- annual growth rate of the number of unemployed registered in labor offices, BEZROB
- annual growth rate of the number of unemployed persons who got a job, WYREJ
- annual growth rate of the number of created jobs without subsidy, OFPRACY
- annual growth rate of the average wage in enterprises, PLACA
- annual growth rate of the number of enterprise workers, ZATRUDN
- annual growth rate of the number of applications for building permits, POZWBUD
- value of the banking sector sentiment index Pengab, PENGAB

5. For example in March 2014 the latest accessible data on regional GDP are for 2011. (See: *Produkt krajowy brutto. Rachunki regionalne w 2011 r.* 2013).

6. The procedure of choosing variables that can be used to construct the regional business synthetic indicator was widely described by Warżała (2012, 109–117).

7. All accessible variables taken into account with respect to the Warmia and Mazury economy are presented by Warżała (2012, 113).

The period of survey was 2005–2013. All variables were included in monthly intervals. In order to maintain comparability, all absolute values were changed into annual growth rates (i.e., to the corresponding month of the previous year).

The results obtained in terms of simultaneous and cross correlation, as well as the coherence ratio⁸ and the average value of lag (lead) with respect to the reference series are given in table 2.⁹

The next stage in the construction of a business cycle synthetic indicator is the elimination of seasonality from the time series of empirical data. Currently the most often used method of to eliminate seasonality is the TRAMO/SEATS procedure¹⁰ (Grudkowska and Paśnicka 2007, 15–16). This procedure is also recommended by the European Statistical Office EUROSTAT.

Tab. 2. The researched cyclic factor statistics with respect to the reference series (industry production) in the Warmińsko-Mazurskire Voivodship (2005–2013)

Time Series	Coherence Ratio	Mean Delay	Cross Correlation		
			r_0 ^a	r_{\max} ^b	t_{\max} ^c
BUDMONT	0,19	−0,50	0,33	−0,78	−8
SDETAL	0,53	−0,11	0,67	−0,70	−8
BEZROB	0,64	0,26	0,53	0,71	−5
WYREJ	0,08	2,68	0,11	0,67	4
OFPRACY	0,08	−1,83	0,14	0,41	4
PLACA	0,33	−0,71	0,53	0,57	−3
ZATRUDN	0,74	−0,34	0,62	0,68	−2
POZWBUD	0,12	2,26	0,18	0,56	5
PENGAB	0,17	2,41	0,24	0,47	6

Source: Own calculations based on data from the Regional Statistical Office in Olsztyn

Note: −(+ sign refers to a lag (lead) with respect to the reference series

^a r_0 —value of simultaneous correlation

^b r_{\max} —lead (lag) maximum value of cross correlation

^c t_{\max} —number of periods (lead or lag) by which the cross correlation value is the highest

The aim of the next step is the grouping of the analyzed economic variables into three categories: lagging, simultaneous and leading variables. This is important in determining the impact of the variable on the current regional economic state, expressed by a synthetic indicator. The reference series for the researched variable is usually a variable depicting the changes in employment or production. As a result of correlation analysis and the principal component test method, the grouping of variables into lagging, simultaneous and leading categories was made. The component variables for the simultaneous index are: annual growth rate of the average wage in enterprises, annual growth rate of industry production and annual growth rate of the number of enterprise workers.¹¹

Leading variables included: annual growth rate of the number of unemployed persons who got a job, annual growth rate of the number of created jobs without subsidy and the value of the banking sector sentiment index Pengab.

8. Coherence ratio is a measure of fit between the two time series for a given frequency. It takes the values $[0, 1]$ and has a similar interpretation to determination ratio. It determines the extent to which one time series volatility affects the second time series volatility.

9. [In the journal (in both Polish and English texts) European practice of number notation is followed—for example, 36 333,33 (European style) = 36 333.33 (Canadian style) = 36,333.33 (US and British style). Furthermore in the International System of Units (SI units), fixed spaces rather than commas are used to mark off groups of three digits, both to the left and to the right of the decimal point.—Ed.]

10. The TRAMO/SEATS procedure was applied by the BUSY program.

11. In the Warmia and Mazury business cycle analysis it was creation of a lagged synthetic indicator was omitted.

The next step in the process of creating a synthetic business cycle indicator is the standardization of its components. The purpose of this operation is to reduce the impact of high volatility components on the final synthetic index value.¹²

The final step in building a business cycle indicator is the aggregation of component variables to form a composite index. This is done mostly by summing standardized increments of individual variables or by calculating the mean values of these increments. In this paper the second method was applied.

A separate issue to determine in the final stage of the business cycle indicator construction is the impact level of separate variables on the value of the synthetic business cycle indicator. When calculating the impact level of an individual variable on the synthetic business cycle indicator, the value of correlation with the reference series was taken as the main criterion.

5 The analysis of business cycle index components for the Warmia and Mazury region in 2005–2013¹³

Since the first quarter of 2005 the number of unemployed in the Warmia and Mazury region decreased by 54,9 thousand people. In relation to January 2005 the number of unemployed was reduced by 49%. Finally, the number of unemployed in the Warmia and Mazury region at the end of December 2013 amounted to 116 thousand people.

At the end of December 2013, the unemployment rate in Warmia and Mazury amounted 21,7% and was by 8,4 percentage points higher than in the whole country (13,4%). This means that in Warmia and Mazury for each 100 economically active people, more than 21 are unemployed, while the country's average is 13. This means that Warmia and Mazury is the voivodship where regional intensity of unemployment is still the highest in Poland.

An important element of the labor market determining the ability of businesses to create new jobs, is the number of non-subsidized jobs offered. It is the evidence of the capacity of business to create new jobs in the regional economy. In Warmia and Mazury, similar to the whole country, three periods for the number of non-subsidized jobs offered can be extracted. First is the pre-world economic crisis period (2005–2008), when the annual amount of jobs offered rose. In the period of 2009–2012 the number of annual non-subsidized jobs offered declined and since 2013 a systematic increase in non-subsidized jobs offered can be observed. However, the increase in the number of jobs offered doesn't involve the decrease in unemployment rate, excluding its seasonal fluctuations. This situation on the labor market on the one hand shows the first signs of economic recovery in a regional economy, and on the other to appear as a seasonal labor market effect. In addition, the unemployment rate variable properties reveals a lagging character relative to the industry production variable, representing the reference series.

The value of Warmia and Mazury industrial production in current prices fluctuate during the researched period and there appeared two peaks and two troughs. The first peak took place in October 2007 followed by a decrease leading to a trough in August 2009. The next short recovery phase started in September 2009 and lasted till September 2011. Unfortunately, after a short increase there was a second recession phase in regional economy. The second trough took place in June 2013. For the second half of 2013, the slow systematic recovery in the industrial production dynamic can be noted. This implies that in the region of Warmia and Mazury, the first signs of economic recovery can be seen.

Due to negative retail sales annual rate growth within the region during the second half of 2013 it can be assumed that a small recovery in industrial production resulted from external orders, i.e. from other regions and from abroad. In the case of an increasing volume of foreign contracts, the competitiveness of Polish exports is still supported by the low level of the Polish currency exchange rate. In the face of moderate economic growth in the euro zone, export growth results also from the increase of export value to non-EU countries and to EU countries, which are not members of

12. More about this in: (Malina 2004).

13. The analysis of business cycle variables was based on Regional Statistical Office in Olsztyn data.

the euro area. In this context, the key issue of export volume is condition of the German economy, as a major trading partner of Poland. The increase in the value of signed industrial contracts in recent months also gives reason to argue that both the Polish and Warmia and Mazury economies are behind the trough and will initiate the upward trend in the long term. The increase in the value of industry production, both in regional and nation-wide terms, is supported by the low level of inflation (0,7% in December).

The value of assembly-construction production, including investment and renovation works, realized in Warmia and Mazury region by construction companies employing more than 9 persons in September 2013 was the most highly fluctuating variable during the analyzed period. It was due to a high surplus in construction production in 2007 followed by a strong collapse of flat demand. It resulted in a significant flat price decline. The only part of construction that did not appear crisis prone was public infrastructural project co-financing with EU funds. In the face of the results obtained by the assembly-construction companies, it can be seen how crucial in total value of assembly-production are infrastructural projects with co-financing from EU funds. In recent years, due to many bankruptcies of construction companies, some of these have come to a halt.

The very crucial time series fluctuations for construction production value is the variable describing the number of building permit applications. In cross correlation analysis (tab. 2) this variable appeared to be 5 months leading with respect to the reference series. The number of building permit applications depends on the time of year in the seasonal dimension, but in long term this variable is correlated the labor market situation as well as with market loan costs. The advantage of the pessimism among construction enterprises, reflecting the poor dynamics of construction production is largely due to their financial situation. Increasing payment delay is still indicated by small construction enterprises. The market signals indicate the possibility of employment reduction in the upcoming months.

Business conditions in the construction sector are not supported by the credit market. Despite the low level interest rate, there are no loans in foreign currencies offered and the conditions of credit are relatively restrictive. In the long term the reduction in credit demand will result in the non-satisfactory effect of the government apartment home purchasing support program dedicated to young people.

Another time series included in the regional business indicator is annual growth rate of retail sales. The morphological analysis of retail sales in the years 2005–2013 show two peaks and two troughs. However, in comparison to construction or industrial production, the retail sales variable appears to be relatively crisis-proof. The value of retail sales during the analyzed period changed less than the two above mentioned variables. This is partly due to the low wage fluctuations. The second reason is the growing demand of Russian tourists who may cross the Polish–Russian border without a visa since July 2012. It resulted from the small border traffic agreement signed two years ago.

Analyzing the slight decrease in retail sales in Poland, it can be concluded that it resulted from a decline in passenger car sales and lower turnover among small family turnover. From the beginning of the year, the retail sales growth rate in Poland was positive, except in February. The third quarter retail sales growth rate was much higher than the first half of 2013. It may also be understood as a sign that the entire national economy is taking the first steps for recovery.

The retail sales growth rate in Warmia and Mazury region seems to be different. The dynamics of its decrease was higher than in the entire country. Over the entire year of 2013, the annual growth rate was negative. This means that consumers in Warmia and Mazury—unlike those nationwide, are more concerned about the revival of the economic situation in the region. This may result from the bad experience in the first period of crisis, which appeared to end in 2010, but there was a recurrence in 2012. This also may result from a relatively high long term unemployment rate and low real wage growth rate.

The value of the average wage among enterprises in the Warmia and Mazury region is only 81% of the national level. Moreover, the level of wage fluctuations in the analyzed region is smaller than the national wage dynamics. If we take into consideration the inflation in the analyzed period Warmia and Mazury real wages increased approximately by 1% year to year, compared to 1,5% for

the whole country. The slight wage growth in 2013 was accompanied by a decrease in the annual average employment level in the enterprise sector. This means that regional companies still do not need to increase the employment level which reflects both the poor national and regional retail sales growth rate as well as investment dynamics.

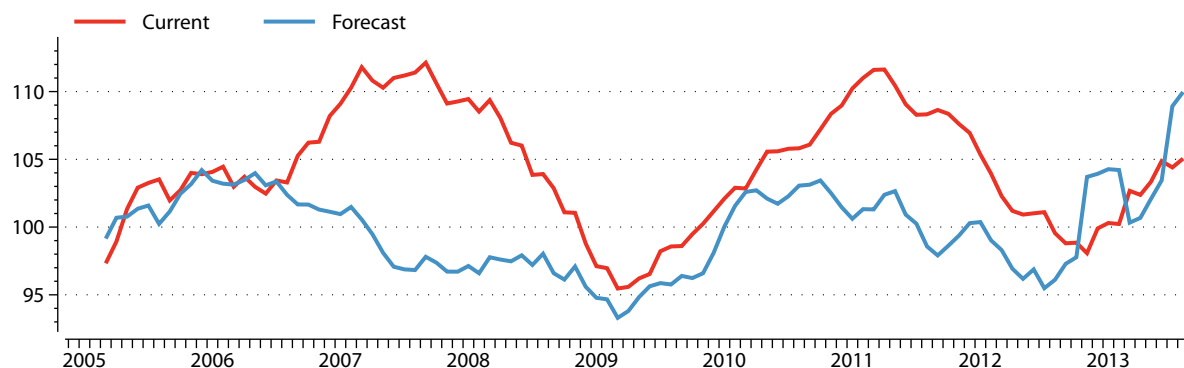


Fig. 1. Business cycle barometer in Warmia and Mazury region in 2005–2013

Source: Own calculations based on data from the Regional Statistical Office in Olsztyn

Analyzing the value of the regional current synthetic indicator for Warmia and Mazury region in the 2005–2013 period, two peaks and two troughs were pointed out. The first peak was in September 2007, and the second in June 2011. Similar to this, the first trough was in April 2009 and the second lower turning point was in January 2013. The value of the regional current synthetic indicator in January amounted to 95,2 points and was 10,2 points lower than in December 2013. It is crucial, that since January 2013 the value of the synthetic index has been systematically increasing. The value of the short-term forecasting indicator amounted in January 2005 to 99,6 points, and grew to the level 105,2 at the end of 2013.

A rise in the current synthetic indicator in 2005–2013 resulted from a recovery in such variable values as annual growth rate of retail sales, annual growth rate of the number of unemployed registered in labor offices, annual growth rate of the average wage in enterprises, and annual growth rate of the number of enterprise workers. The recovery in the short-term forecasting indicator resulted from the growth in such variables as annual growth rate of the number of unemployed persons who found employment, and the annual growth rate of the number of created jobs without subsidy.

Conclusions

To sum up the evaluation of the economic situation of Warmia and Mazury region, we can conclude that after relatively poor results in the period from July 2007 to January 2011, there was a slight recovery. It was reflected in the growth dynamics of such indicators as value of industrial production, the number of non-subsidized jobs offered and the number of unemployed persons who found employment. The second recession observed in the period of April 2011 to December 2012 was due to industrial production decline. It was also reflected in the growth of the unemployment rate. Forecasts of a drop in the unemployment rate refer rather to the second quarter of 2014 and will not result from the impact of cyclical factors, rather these will be seasonal factors (tourism, agriculture). The inflation in the Warmia and Mazury region is similar to the level characteristic for the entire country and will not threaten growth prospects. The situation in foreign trade is positive, mainly due to export to non-EU countries and the relatively low level of the zloty exchange rate, which improves the competitiveness of exported goods. It can be said that export was an “automatic cushion” for both national and regional economies in the case of poor dynamics of domestic demand.

The subject of greatest concern is the construction industry position. The fears are concerned with the low level of construction industry production, as well as the decreasing number of permits

issued for building. Forecasts of the construction industry recovery relate to the third quarter of 2014. The essential influence for the regional assembly-construction industry position will be the effectiveness of the government's construction supporting program, and the credit policy of banks.

The expectations of households and enterprises for the next quarter are careful. It should be noted that the fourth and the first quarter of the year are always characterized by the generally less favorable conditions of seasonal factors, which will adversely affect the situation on the labor market. The elimination of impediments to legal work on the EU labor market were not reflected by a significant drop in unemployment. It seems that the economic development of the region in the coming quarters will be determined by dynamics of consumption in the private sector in Poland, as well as in the EU. However, not only the fact of recovery is crucial, but also the dynamics of growth among the main economic indicators. The dynamic of economic recovery is important because it affects the reduction in the unemployment rate, the increase in domestic and foreign demand, the dynamics of income growth and volume of investment. An adversely affecting factor can also be high debt levels among countries and regions, due to infrastructure investment completion. For all EU development prospects, it is crucial that the implemented recovery programs in the Southern European countries be carried out successfully. The success of this program also will determine the EU economy transition rate from the crisis phase to recovery.

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