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Ryszard Barczyk
Uniwersytet Ekonomiczny w Poznaniu
e-mail: ryszard.barczyk@ue.poznan.pl
ORCID: 0000-0002-9875-4403

Zuzanna Urbanowicz
Uniwersytet Ekonomiczny w Poznaniu
e-mail: zuzanna.urbanowicz@ue.poznan.pl
ORCID: 0000-0002-2701-6390

MORPHOLOGY OF BUSINESS CYCLES IN POLAND IN THE PERIOD OF THE WORLD FINANCIAL CRISIS AND COVID-19 PANDEMIC

Abstract. The occurrence of business cycles is a feature of every economic system, so they were also observed in Poland. The article is an attempt to assess the structure and most important morphological features of the business cycles in Poland's economy, taking into account how they were influenced by the consequences of the financial crisis 2007+ and COVID-19 pandemic. In the study the authors used the concept of deviation cycles which makes it possible to characterize the components of the business cycle's structure, i.e. identification of its turning points, particular phases and most important morphological features (i.e. duration of phases and the whole cycle, amplitude of fluctuations). The most significant empirical indicators which characterize the real cyclical processes, i.e. GDP, consumption and investment, were the subject of statistical analyses.

Keywords: morphology of business cycles, Poland, financial crisis, COVID-19 pandemic.

1. Modern business cycle and its morphology

The observation of economic processes in different economic systems shows that they are subject to change. This is caused by the impact of frequently heterogeneous factors, among others, economic, political or social, which cause specific fluctuations in economic activity. The total of those fluctuations can be divided according to various criteria. One of the most well-known and generally accepted is their duration. When adopting this criterion, it is possible to distinguish business fluctuations, periodic and

random, apart from the general development tendency (trend) (Zając, 1976, p. 400). According to a definition proposed by Kowalczyk (1982, p. 44), business fluctuations are changes in economic activity manifested in expansion or contraction of that activity around the trend line. A discussion is still going on in the related literature which conditions should be fulfilled in order to classify those fluctuations as oscillations of cyclical nature. In this regard, some economists emphasize the formal elements of the formation of fluctuations, i.e. a relative regularity of their occurrence over time (Basler, 1987, p. 103). Another group is of the opinion that a specific regularity alone, manifested by alternating periods of growth and decline, cannot be regarded as the only condition and that the oscillations should additionally be generated by endogenous factors belonging to a given system, i.e. during a period of a more rapid growth there should appear objective reasons for a slowdown in this rate in the following period, and vice versa (Gruszczyński & Kołodko, 1975, p. 429).

The system of successive upward and downward economic fluctuations, which are of cyclical nature, forms the business cycle. The related literature contains the most well known definition of the business cycle in the market economy, formulated by Burns and Mitchell (1946). In their opinion "Business cycles are a type of fluctuation found in the aggregate economic activity of nations that organize their work mainly in business enterprises. A cycle consists of expansions occurring at about the same time in many economic activities, followed by similarly general recessions, contractions, and revivals which merge into the expansion phase of the next cycle (...)" (Burns & Mitchell, 1946, p. 3). This definition is a pragmatic interpretation of the business cycle treated as a sequence of the phenomena occurring in the market economy. However, it does not capture the cycle's most significant features concerning its origins and the shaping mechanism and contains only the most general concepts as regards the sequence of its successive phases. Moreover, this term is not adequate and does not describe the specific features of modern business cycles. Therefore, Mintz (1972) modified that concept, adjusting it (but only in part) to the contemporary conditions. To denote the business cycle, she introduced the concept of "growth cycle" and offered the following definition: "Growth cycles are fluctuations in aggregate economic activity. A growth cycle consists of a period of relatively high growth rates occurring at about the same time in many economic activities, followed by a period of similarly widespread low growth rates which merges into the high-growth phase of the next cycle" (Mintz, 1972, p. 41). The concept of growth cycle adjusted to contemporary conditions differs formally from the classic original version by

Burns and Mitchell: the words "revival" and "expansion" were replaced by terms "period of relatively high growth rate" and the "phase of contraction and recession" by the "period of relatively low growth rate". Therefore, according to Mintz (1972), a modern business cycle consists of only two phases and the basic difference between that cycle and the classic cycle concerns the criterion according to which its particular phases are distinguished. In the classic cycle the basis for periodization is a general direction of change in economic activities. As regards the growth cycle, the phase periodization criterion is the relation between a given rate of change in economic activity and the adopted, adequate normal rate or average rate (Mintz, 1972, p. 45).

The morphology of business fluctuations determines the structure, shape and forms in which individual elements of the dynamic economic processes are manifested. In the related literature, the external aspects of the oscillations are described by means of morphological features, i.e. the properties which characterize the formation of turning points, as well as the course taken by particular phases and whole business cycles. The most frequently used features to describe business activity-related processes include: character of the upper and lower turning points, length of particular phases and whole cycles, their amplitude and frequency, intensity of the oscillations, symmetry and asymmetry of the cycles, their subject matter and time structure.

The business cycle interpreted as a dynamic economic process is built of two basic elements: turning points and phases. From a cognitive point of view, the turning points which mark the start of individual phases are especially significant. The total number of turns occurring in the course of a business cycle can be divided into two groups, according to the functions they perform: the upper turning points which mark the end of prosperity phase in business activity and, at the same time, the start of decline phase; the other group includes the lower turning points which mark the end of decline and, at the same time, the moment at which an economy enters the period of growth. When applying the criterion of reasons why the turns occur in business-related processes, endogenous and exogenous turning points can be differentiated. The endogenous turning points result from internal economic mechanisms existing in the analyzed system, whereas the exogenous turns in the fluctuations are an effect of the impact of factors from outside (Pawłowski, 1982, pp. 119–120).

Another significant element in the structure of cyclical fluctuations is their phases. Assuming that each business cycle covers a certain time interval between two turning points that are identical in nature, it can be said by

analogy that the phase of a cycle comprises a certain period lying between consecutive, but different turning points (Stock, 1979, pp. 77–78). Therefore, the business cycle consists basically of two phases: the phase of prosperity, lying between the lower and the upper turning point, and the phase of economic decline, between the upper and the lower turn. Identification of the phases is determined by the adopted concept of turning points, i.e. it depends on the approved definition and method of identifying particular turns (Tichy, 1972, p. 35).

An important morphological feature characterizing both phases and the whole business cycles is their length. When analyzing business activity processes, it is assumed that this property is determined by the periods lasting between particular turning points. Most frequently the length of the cycle's phase is identical with the time interval between two consecutive, different in nature, extremes of the analyzed time series. The length of the business cycle is equal to the duration of its two consecutive phases, i.e. the phase of prosperity and the phase of economic downturn.

Another morphological feature connected with the cycle's length and describing its properties is frequency. The frequency informs about the number of cycles, or which part of the cycle takes place in the adopted time unit. An important morphological feature of the business cycle is also the amplitude of its phases or the amplitude of the whole cycle. In order to analyze the cyclical processes, a definition of amplitude formulated for meteorology is sometimes adopted. In such an approach, the amplitude is a difference between the extreme values of elements occurring in a given period of time. Therefore, the concept of phase amplitude is understood as an absolute value of the difference between extreme values belonging to a given phase of the business cycle. The cycle's amplitude, in turn, is the difference between the amplitude of growth phase and the amplitude of downturn phase.

The intensity of business fluctuations indicates the force of upward or downward tendencies in individual phases (Kowalczyk, 1982, p. 55). Therefore, the analysis of business cycle intensity involves studying the intensification of growth or decline in particular phases. The business cycle is more intensive when a dispersion of empirical magnitudes representing cyclical fluctuations around the adopted values becomes bigger and bigger.

The feature of symmetry or asymmetry in cyclical fluctuations (in the cycle) informs about the relation between the amplitudes of individual phases and mutual dependencies concerning length. It may be said that fluctuations are symmetrical when two conditions are fulfilled at the same time:

- amplitudes of individual phases are equal,
- duration of growth phases is equal to that of decline phases.

When those conditions are not fulfilled, the cyclical fluctuations are asymmetrical. In particular, when only the first condition is fulfilled, the cyclical fluctuations are symmetrical as to their duration. On the other hand, when the periods of cyclical fluctuations are equal, then the fluctuations are asymmetrical as regards their amplitude.

The structure of cyclical fluctuations determines an arrangement and mutual relationships between individual elements which constitute the cyclical process. This feature defines either cause-effect dependencies between the analyzed magnitudes appearing in the course of business cycle, or the periods of time lags/leads between their turning points. The first remark concerns the subject matter structure of the business cycle, the latter – its time structure.

2. Factors determining the formation of modern business cycle in the Polish economy

Among the factors determining changes of the economic activity in our country, a significant role was played by an outbreak of the global financial crisis in 2007, leading to a recession in the USA and in the Eurozone, which exerted an impact on the situation in Poland. In quarter III of 2007, a gradual slowdown in the dynamics of GDP growth began[1]. In that period stabilization activities were undertaken, with the main role being played by Stabilization and Development Plan prepared in 2008. That that plan was to involve both monetary and fiscal policy elements. The main aim of monetary policy implemented in the years 2008–2009 was to achieve increased liquidity of the banking system. For that reason in October 2008 the NBP (National Bank of Poland) introduced the so-called confidence package consisting of the following elements:

- introduction of the open market strengthening operations in the form of repo operations with maturity of up to three months,
- introduction of currency SWAP operations,
- acceptance of foreign currency deposits as a collateral for refinancing loans,
- reduction of security level and expansion of the list of assets to be used as lombard loan guarantees,
- continuation of the emission of 70-day cash vouchers as the main instrument for sterilizing excess liquidity,
- increased frequency of open market operations in order to improve flexibility of response to changes in the liquidity of commercial banks.

As results from the experience so far, the measures undertaken in the area of monetary policy did not play any spectacular role in the process of stabilizing the real sphere of Poland's economy. Their main aim was to reduce negative consequences of the financial crisis, i.e. to calm down the banking sector and possibly to offer economic entities an easier access to credit money. The NBP's confidence package was a sort of supplement to stabilization activities which were undertaken in the area of fiscal policy an played the main role. In the years 2008–2009, among others, a reduction of tax and para-tax burdens was introduced, which in 2009 was assumed to leave in the taxpayers' pockets about 35 billion more as compared with 2007. Moreover, introduction of changes to accelerate investments financed from the EU funds was planned, as well as investment reliefs for the newly established firms (Stability and Development Plan, 2008, pp. 7–12).

The COVID-19 epidemic started in November 2019 in Wuhan (China), and the Sars-Cov-2 virus rapidly spread all over the world. At the beginning of March 2020 the first infections appeared in Poland. The pandemic involved multi-dimensional consequences, particularly visible in the sphere of economy which experienced a deep decline. Although the origins of that breakdown were exogenous and resulted from biological-medical conditions, the undertaken stabilization measures were to be convergent with those introduced when the factors stemming from the economic system generate change in economic activity. Therefore, those activities required an application of adequate fiscal and monetary instruments.

Stabilization activities undertaken in our country under those conditions mainly comprised the preparation of the so-called anti-crisis shields. The first one, adopted in March 2020 in the form of parliamentary act (Journal of Laws of 31.03.2020, item 568) was based on the following five pillars: job and workers' security protection, financing of businesses, health protection, strengthening of the financial system, and support for public investments. The solutions adopted within the frameworks of that shield were to stabilize the whole economy and, at the same time give, it an investment impulse. As individual economic entities received Shield 1.0 with a certain dose of distrust, especially as regards the scope of assistance and amount of cash benefits, in April 2020 the government prepared Shield 2.0 whose regulations were still insufficient, so further work was undertaken to improve them. New solutions were prepared and introduced in May and June 2020 as Shields 3.0 and 4.0. In such conditions, the Financial Shield was adopted at the same time, being implemented by the Polish Development Fund as part of the anti-crisis shield. The Financial Shield was directed to micro-

firms, small, medium size, and large enterprises and its aim was to protect jobs. During the so-called second wave of the coronavirus, further stabilization solutions were adopted: the sectorial shield of the Ministry of Development, Labor and Technology and anti-crisis Shields 5.0, 6.0, and 7.0, implemented respectively in October 2020, December 2020, and January 2021. Moreover, in January 2021 the Polish Development Fund implemented Financial Shield 2.0 which comprised 38 sectors and the amount of funding (mainly for micro-businesses and enterprises) reached 35 billion. In February 2021 Shield 8.0 was implemented and in April 2021 – Shield 9.0. Besides, from the beginning of May 2021 applications for the exemption from paying contributions for March and April could be submitted. This regulation also provided for additional benefits for job protection and subsidies to cover the running costs of activity. As reported on the government websites, within the frameworks of anti-crisis shields, 212 billion were spent on job protection and support of the economy during the pandemic and an extra 100 billion was spent under both Financial Shields (Anti-crisis shield, 2023).

During the struggle against the pandemic mainly the fiscal instruments, linked with budget expenses, were applied in Poland's economy, while activities in the sphere of taxes were of much lesser importance. This type of fiscal policy led to the growth of budget deficit and public debt. Unfortunately, the activities on the side of taxes mainly determined the dynamics of consumption and to a much lesser degree – investment outlays. Practically, the state bodies did not offer any favorable conditions for the growth of public sector investments by creating the circumstances to curb economic, political or social risks. This, in the long run, may mean that Poland, having combated the negative consequences of the coronavirus pandemic, will have to face the "pandemic of debt". The instruments of monetary policy played a much smaller role in the period of COVID-19 pandemic. Although the NBP had been striving to facilitate the lending activities of commercial banks by reduction of interest rates, increased money supply in the market, or extension of credit guarantees, it still paid relatively insufficient attention to the implementation of anti-inflation policy (Barczyk & Urbanowicz, 2021a, pp. 56–57).

The stabilization policy implemented in Poland's economy during the COVID-19 pandemic was convergent with the steps taken in the period of changes in individual phases of the business cycle. Unfortunately, although the decisions were similar, the anticipated effects were not identical. The similarity is fragmentary because fiscal or monetary tools did not exert a direct impact on the exogenous origins of breakdown in the economic situation. The activities were focused on the mitigation of negative economic

effects resulting from the COVID-19 pandemic (Barczyk & Urbanowicz, 2021b, pp. 10–11).

The stabilization aims adopted at that time concentrated on striving for balance in the labor market, i.e. a reduction of unemployment growth, including indirectly a fair distribution of the GDP (guarantees of income for consumers, especially those who lost their jobs). The state authorities were first of all struggling to suppress the dynamics of decline in business activity, while the reduction of dynamics of inflationary processes, a proper development of economic relations with foreign countries and maintenance of ecological balance were not of prime importance (Barczyk & Urbanowicz, 2022, p. 150).

3. Analysis of the morphological features of business cycles in Poland's economy in the years 2005–2022

To analyze the morphological features of business cycles in the Polish economy, the following statistical data were used:

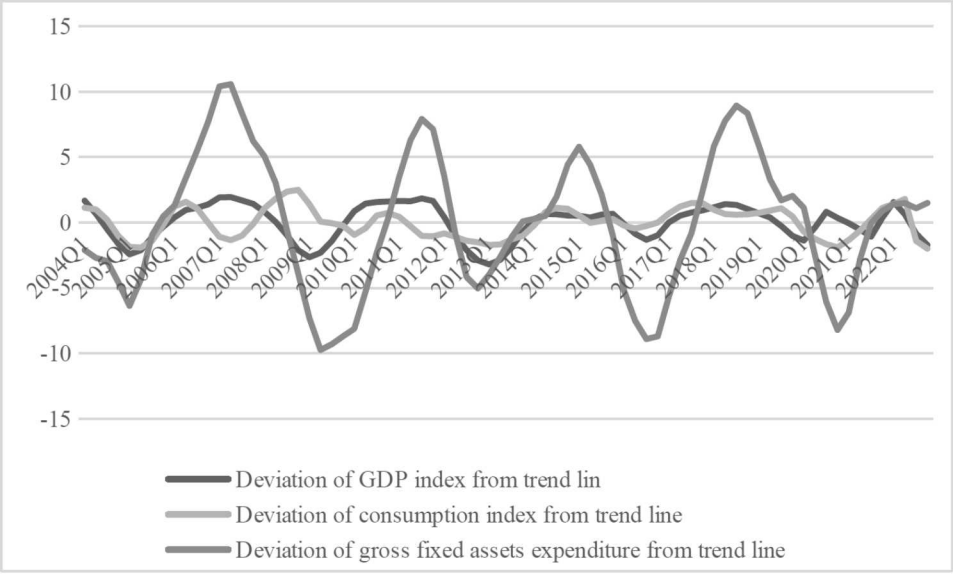
- indexes of the GDP dynamics in fixed prices (2010 = 100), calculated on a quarterly basis with a variable base (analogical period of the previous year = 100); their values represent the final result of the activity of all economic entities. They are a sum of gross value added, increased by taxes on products and services minus subsidies,
- indexes of consumption dynamics in fixed prices (2010 = 100), calculated on a quarterly basis with a variable base (analogical period of the previous year = 100) which include households' private consumer spending and public spending of the government and local governments' institutions,
- indexes of gross expenditure on fixed assets in fixed prices (2010 = 100), calculated on a quarterly basis with a variable base (analogical period of the previous year = 100) which inform about the outlays to raise the value of fixed assets and maintenance-related expenses.

From the analyzed time series seasonal and random fluctuations were removed by means of the TRAMO/SEATS procedure, applied and recommended by the Eurostat. The period of analysis comprised quarter II 2005 – quarter II 2022. The choice was dictated by availability of the comparable data published by Central Statistical Office in Poland.

In the process of analyzing the chosen morphological features, the concept of deviation cycle of empirical data from the estimated trend line was adopted, with an assumption that the modern business cycle consists of

two phases: expansion and contraction. The Hodrick-Prescott method was used distinguish the trend and deviations of empirical values from the trend (Hodrick & Prescott, 1997). Graph 1 presents formation of the time series prepared in this way.

Graph 1
Deviation of the indexes of GDP, consumption, and gross fixed assets expenditure from the trend in the period quarter II 2005 – quarter II 2022



Source: Author's own calculations based on the Central Statistical Office data.

The growth phase of the cycle appears between the lower turning point, i.e. the minimum deviation value of a given macroeconomic category from the estimated trend line, and (inclusively) the upper turning point, i.e. the maximum value of deviation from the trend. The decline phase, in turn, covers the period from the upper to the lower turning point, including the latter. It was assumed that the minimum length of the phase is two quarters and that the complete length of one cycle is equal to the sum of lengths of the growth phase and the decline phase. After the individual phases of the cycle had been determined, their amplitude was calculated as an absolute value from the difference between the maximum deviation value of a given variable and its minimum value, whereas the amplitude of the whole cycle was defined as the difference between the growth and the decline phase. The chosen morphological features of business cycles in the analyzed time series for the Polish economy are listed in Table 1.

Table 1

Morphology of business cycles in Poland in the period quarter II 2005 – quarter II 2022

Morphological features	Phases of business cycle											
	growth	decline	growth	decline	growth	decline	growth	decline	growth	decline	growth	decline
GDP												
Duration	2005Q2–2007Q2	2007Q3–2009Q1	2009Q2–2011Q3	2011Q4–2013Q1	2013Q2–2014Q2	2014Q3–2016Q3	2016Q4–2018Q3	2018Q4–2020Q1	2020Q2–2020Q3	2020Q4–2021Q3	2021Q4–2022Q1	2022Q1–
Length:												
– phase	9	7	10	6	5	9	8	6	2	4	2	
– cycle	16		16		14		14		6			
Amplitude:												
– phase	4,372	4,596	4,486	5,035	3,8557	1,977	2,6689	2,7326	2,1985	1,8939	2,6461	
– cycle	–0,22		–0,549		1,8787		–0,0637		0,3046			
Household consumer spending												
Duration	2005Q3–2006Q2	2006Q3–2007Q2	2007Q3–2008Q4	2009Q1–2010Q1	2010Q2–2010Q4	2011Q1–2013Q3	2013Q4–2014Q3	2014Q4–2016Q2	2016Q3–2017Q3	2017Q4–2020Q4	2021Q1–2022Q2	2022Q3–
Length:												
– phase	4	4	6	5	3	11	4	7	5	13	6	
– cycle	8		11		14		11		18			
Amplitude:												
– phase	3,5047	2,9385	3,8561	3,4389	1,6801	2,2905	2,4048	0,7316	1,9394	3,3772	3,6898	
– cycle	0,5662		0,4172		–0,6104		1,6732		–1,4378			
Gross fixed assets expenditure												
Duration	2005Q2–2007Q2	2007Q3–2009Q2	2009Q3–2011Q3	2011Q4–2012Q4	2013Q1–2015Q1	2015Q2–2016Q3	2016Q4–2018Q3	2018Q4–2020Q4	2021Q1–2022Q2	2022Q3–		
Length:												
– phase	9	8	9	5	9	6	8	9	6			
– cycle	17		14		15		17					
Amplitude:												
– phase	16,954	20,3202	17,6539	12,9486	10,8251	14,7037	17,8449	17,1468	9,6971			
– cycle	–3,3662		4,7053		–3,8786		0,6981					

Source: Author's own calculations based on data from Central Statistical Office.

Based on the analysis of GDP index development in the period quarter II 2005 – quarter II 2022, in Poland's economy altogether 11 phases were detected which constituted 5.5 full cycles. The average cycle length was approx. 3 years, with one cycle being clearly shorter than the others. The first four of the detected cycles lasted 3.5–4 years, whereas the last one was decidedly shorter, lasting 1.5 years. That cycle comprised the moment when the pandemic started and the period of struggle with its consequences. Its growth phase was decidedly shorter than the decline phase. The phases of individual cycles are of asymmetrical character, especially as regards their duration. The average level of the amplitude of phases decreased over time, which may indicate a progressive process of stabilization of the fluctuations around the trend line. As concerns the amplitude of particular cycles, it can be stated that in the periods before, during, and after the financial crisis this amplitude was negative, i.e. the dynamics of drop in GDP index deviation from the trend was stronger than its growth. A similar situation was recorded in the years 2018–2020, i.e. in the period preceding the onset of the pandemic. In contrast, in the years 2013–2016 and in the course of the pandemic there was a reverse tendency, i.e. the amplitude of the cycle turned out to be positive. This means that the dynamics of GDP growth dominated over the dynamics of GDP decline. The first of the above mentioned periods was a time of favorable business activity, so such a result coincides with the expectations. On the other hand, a positive amplitude of the cycle in the latter of the above mentioned periods, i.e. in the course of COVID-19 pandemic, is a certain surprise because this means that the decline phase, despite the fact that it lasted for a longer time, turned out to be more "shallow" than the growth phase. In other words, its declining dynamics turned out to be weaker than the positive changes in the development of GDP in the growth phase. This may mean that the stabilization policy implemented by the government and the central bank, although unable to prevent the slowdown, perhaps kept away a deep breakdown of economic activity in the course of the pandemic. This is confirmed by the lowest amplitude of the decline phase over the whole period under analysis.

When analyzing the dynamics of household consumption, similar results were recorded as regards the number of phases and cycles. During the period of studies 11 phases were also detected which formed 5.5 complete cycles. The phases of individual cycles are also of asymmetrical character, mainly due to their different duration. At this point, however, similarity to the development of GDP dynamics ends. The cycle's average length was approx. 4 years. The average level of amplitude did not decrease over time,

which in this case does not indicate a progressive process of stabilization of the fluctuations around the trend line. The average duration of individual phases did not coincide whatsoever with the duration of the cycles detected on the basis of GDP. Moreover, for the amplitudes of individual cycles reverse results were recorded as compared with those for the GDP index, i.e. where previously the amplitude was positive, here it was negative (and vice versa). This may result from a lagged response of the households as regards consumer spending decisions in response to the economic situation represented by the GDP index. In the period when the consequences of the financial crisis appeared in Poland's economy, the cycle's amplitude turned out to be positive, i.e. the positive dynamics of households' consumption dominated over its negative records (this concerns the interval of quarter III 2007 – quarter I 2010). It may also mean that this sustained consumption in the initial phase of the financial crisis did not result in an excessive decline in GDP during this period[2]. As a kind of follow-up to that period, consumption in the next cycle reached a negative amplitude. After that the improvement of the economic situation became visible. However, the longest period of negative households' consumption dynamics lasted from quarter IV 2017 until quarter IV 2020. This phase of decline was the longest in the whole period under analysis and comprised the moment when the pandemic started as well as the initial part of its duration. It may be assumed that it is the pandemic which caused the unprecedented lengthening of that decline phase. At the beginning of 2021, the consumption dynamics began to pick up, which probably, similarly to the 2007+ crisis, most likely prevented a deep collapse of GDP. Especially that during this period the stabilization policy of the government and the central bank was focused on sustaining consumption.

As results from analyzing the dynamics of gross fixed assets expenditure, the number of phases detected in Poland turned out to be smaller than in the previously analyzed series, i.e. only 9 phases were detected, forming 4.5 full cycles. Individual phases of the cycle, as well as the complete cycles, were usually slightly longer than before. The average cycle lasted four years. In three out of four of the detected cycles, the growth phases were longer than the decline phases. This does not apply to the last cycle covering the pandemic period. Here it is also probable that the consequences of the pandemic caused the lengthening of negative dynamics phase. Another property of those phases and cycles was their relatively high amplitudes as compared with the GDP and consumption series. It means that this index reacts more intensely in response to alteration of the factors that could trigger changes in the business cycle. The impact of the financial crisis and the pandemic is

clearly visible. The periods when they occurred and the beginnings of their duration coincided with decline phases of the cycles (i.e. quarter III 2007 – quarter II 2009 and quarter IV 2018 – quarter IV 2020).

Conclusion

The presented analysis of business cycles in the current conditions of Poland's economy shows that their structure and morphological features change along with the change of the analyzed index. A certain similarity is noticeable but the results are not fully convergent. Nevertheless, in each case an impact of the consequences of the financial crisis and COVID-19 pandemic on the development of business cycles in Poland can be observed. Their occurrence and duration as regards GDP and gross expenditure indexes, coincide with decline phases of the business cycles, extending their time span in some cases. When studying the series of consumption, the impact of crisis and pandemic is also visible, though lagged in time. Based on the analysis of the dynamics of all the series, it can be concluded that, unfortunately, the implemented stabilization policy did not prevent the declining dynamics of the analyzed macroeconomic categories but probably made it possible to avoid a deep slump in economic activity. This is confirmed by a relatively low amplitude of fluctuations in the phases of the cycles. As concerns expenditure dynamics, although the amplitude in individual phases of the cycles was the highest, for both cycles comprising the crisis and the pandemic this amplitude turned out to be positive. This means that positive changes in the area of gross fixed assets expenditure dominated over their negative dynamics caused by the crisis and pandemic.

When the pandemic started, it turned out again that the monetary policy tools alone would not be able to stop the negative economic effects (especially when combined with the low interest rates). The heads of the largest central banks demanded again that the economies should be supported by higher budget spending. The independence of central banks from political influence was to guarantee that inflation would be kept low. The introduction of the 'inflation-safe' fiscal policy by the governments of individual countries was supposed to ensure the introduced prudential thresholds within the budget deficit and public debt (The Economist, 2020). However, although the struggle with the consequences of the financial and economic crisis in 2007 by means of a strong monetary and fiscal expansion did not result in increased inflation, this risk appeared during the pandemic[3] (Barczyk & Urbanowicz, 2022, p. 140). Moreover, the fiscal policy pursued

during the pandemic led to the growth of budget deficit and public debt. The undertaken activities mainly determined the dynamics of consumption and to a much lesser degree – investment outlays. This, in the long run, may mean that Poland, having combated the negative consequences of the coronavirus pandemic, will have to face the "pandemic of debt", which in the long term may not necessarily be conducive to the stabilization of economic fluctuations.

NOTES

[1] This is confirmed by studies conducted by Warżała (2014).

[2] This result is consistent with the views presented in the literature on the subject, where changes in consumption are considered to be a stabilizer of GDP fluctuations (Lubiński, 2004 after Warżała, 2014).

[3] The pandemic sparked a discussion on its effect on economic theory, including the economic policy. For more information see: Banaszyk et al. (2021), Bonatti, Fracasso & Tamborini (2020).

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