



BUDGET REVENUES IN POLAND DURING THE FINANCIAL CRISIS OF 2007 AND THE COVID-19 PANDEMIC

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JEL Classification: H20, H61.

Key words: budget revenues, taxes, crisis.

Abstract

Maintaining sound public finances is a key aspect of the proper functioning of a country's economy and its future development. This condition depends on the level of expenditure and revenue generated. Effective management of state revenues is therefore of the utmost importance. Importantly, the level and structure of government revenues depend on many factors, including exogenous factors such as crises. The global financial crisis of 2007 and the crisis caused by the COVID-19 pandemic had a significant impact on the level of budget revenues in Poland. The aim of the study was to assess the level and dynamics of changes in the state budget revenues in Poland in the years 2007-2021. Research shows that the financial crisis of 2007 had a much stronger impact on the level of budget revenues in Poland and the structure of revenues than the crisis caused by the COVID-19 pandemic. The research hypothesis, which assumed that the outbreak of the COVID-19 pandemic caused a stronger impact on the level of budget revenues in Poland than the global financial crisis of 2007 was thus negatively verified.

**DOCHODY BUDŻETU PAŃSTWA W POLSCE W OKRESIE KRYZYSU FINANSOWEGO
Z 2007 ROKU ORAZ PANDEMII COVID-19*****Wioletta Wierzbicka***Wydział Nauk Ekonomicznych
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Kody JEL: H20, H61.

Słowa kluczowe: dochody budżetu państwa, podatki, kryzys.

A b s t r a k t

Utrzymanie dobrej kondycji finansów publicznych jest kluczowym aspektem prawidłowego funkcjonowania gospodarki danego państwa oraz jego przyszłego rozwoju. Kondycja ta zależy od poziomu realizowanych wydatków i uzyskiwanych dochodów. Niezmiernie ważne jest zatem efektywne zarządzanie dochodami budżetu państwa. Co istotne, poziom oraz struktura dochodów budżetu państwa zależą od wielu czynników, w tym czynników o charakterze egzogenicznym, takich jak kryzysy. Na poziom dochodów budżetowych w Polsce istotny wpływ miały w ostatnim czasie światowy kryzys finansowy z 2007 roku oraz kryzys wywołany pandemią COVID-19. Celem badań stała się więc ocena poziomu oraz dynamiki zmian dochodów budżetu państwa w Polsce w latach 2007-2021. Z przeprowadzonych badań wynika, że kryzys finansowy z 2007 roku wywarł znacznie silniejszy wpływ na poziom dochodów budżetowych w Polsce i strukturę osiągniętych dochodów niż kryzys wywołany pandemią COVID-19. Hipoteza badawcza, w której założono, że wybuch pandemii COVID-19 wywołał silniejszy wpływ na poziom dochodów budżetowych w Polsce niż światowy kryzys finansowy z 2007 roku została więc zweryfikowana negatywnie.

Introduction

Public finances have become increasingly important in social and economic terms in recent years and are reflected in the actions of households, businesses, local governments and, above all, in the activities of the state. The state budget plays a key role in ensuring the soundness of public finances and the proper running of the financial economy in the country (Wójtowicz (Ed.), 2017, p. 87). It serves to implement the intended economic and social plans by the state authorities in a given year (Alińska & Woźniak (Eds.), 2015, p. 115).

The budgetary system of a country contains legal provisions on revenue and expenditure and methods of planning and implementing the state budget. State budget revenues, i.e. the key instruments of state financial policy, are defined as the explicit amounts included in the budget. They are public-law revenues

belonging to the State Treasury and civil-law revenues that are collected by other entities on its behalf (Ostaszewski & Malinowska-Misiąg (Eds.), 2021, p. 45). State budget revenues are classified according to various criteria. Their general and simplest division distinguishes tax revenue, non-tax revenue, as well as funds from the European Union and other non-refundable sources (Alińska & Woźniak (Eds.), 2015, p. 140). A fundamental element for achieving the social objectives of the state is stable sources of revenue to finance the intended plans. The primary and most important source of revenue for the state budget in general is tax revenue.

Public finances, including budget revenues, depend on the economic situation of a country. Economic crises, especially those that are sudden and unforeseen phenomena, can significantly affect the state budget revenue situation. Such crises certainly include the global financial crisis of 2007 and the crisis caused by the COVID-19 pandemic. The global financial crisis that began in 2007 in the United States caused instability and a significant deterioration in the state of public finances in many countries, including Poland. The bankruptcy of Lehman Brothers and subsequent events triggered a crisis not only in the real estate market, but also in the financial markets of many countries around the world, including European Union Member States. The state of public finances in many countries was also negatively affected by the outbreak of the COVID-19 pandemic and the subsequent recession in the economy, as well as growing public expenditure to counter the effects of the pandemic.

In the light of the above, the aim of the study became the assessment of the level and dynamics of changes in state budget revenues in Poland in 2007-2021. The study formulated the following research question: *To what extent did the financial crisis of 2007 and the outbreak of the COVID-19 pandemic affect the level of state budget revenues in Poland?* An attempt to answer this question was formulated in the form of the following research hypothesis: *The outbreak of the COVID-19 pandemic had a stronger impact on the level of state budget revenues in Poland than the global financial crisis of 2007.*

The following research methods were used in this study: the literature analysis method, the data analysis method, including vertical comparative analysis, quantitative methods, including the structure index and the dynamics index, and the induction method.

The structure index was used to examine the percentage share of individual revenue categories in the value of total budget revenue. The dynamics index, or more precisely the relative chain index, referred to as the rate of change, was in turn used to show the changes taking place over the period under review in the level of individual categories of state budget revenue. The dynamics index was calculated according to the following formula (Ręklewski, 2020, p. 135):

$$I_{t/t-1}^z = \frac{y_t}{y_{t-1}} \cdot 100,$$

where:

- y_t – value of the attribute from a given period,
- y_{t-1} – value of the attribute in the previous period.

Secondary data from the Central Statistical Office, the Macroeconomic Data Bank, as well as state budget execution reports were used to conduct the empirical research. The research was conducted on the basis of data from 2007 to 2021. The chosen research period starts in 2007, the year of the outbreak of the global financial crisis in the United States, and extends to 2021, which is determined by the desire to analyse the impact of the COVID-19 pandemic on the level of budget revenues in Poland.

Literature Review

The state budget serves to implement the intended economic and social plans by the state authorities in a given year (Alińska & Woźniak (Eds.), 2015, p. 115). „The budget is the basic financial plan of a state or local authority, which is directive in nature and includes revenues and expenditures of an essentially non-recurring nature, adopted by parliament for a future period, usually one year” (Brzeziński *et al.*, 2017, p. 87). Pursuant to the provisions of article 110 of the Public Finance Act of 27 August 2009, the state budget determines, inter alia, the total amount of income and revenue, expenditure and expenditure and the amount of the budget deficit together with the sources of its financing (Ustawa o finansach..., 2021).

The basis for realising the social objectives of the state is stable sources of income to finance the intended plans. According to S. Owsiak (2017, p. 582) sources of public revenue include revenue collected from other entities. More specifically, “state budget revenues are all public revenues, the use of which has not been reserved for budgets of local government units or units of the public finance sector, as well as revenues from organisational units linked to the state budget” (Kosikowski, 2011, p. 320). These revenues definitely and non-refundably contribute to the state budget (Kluzek *et al.* (Eds.), 2021, p. 40).

According to article 111 of the Public Finance Act of 27 August 2009, the tax and non-tax revenues of the state budget include (Ustawa o finansach..., 2021):

- “taxes and charges, in the part which, in accordance with separate acts, does not constitute income of local government units, income of state special purpose funds and other units of the public finance sector,
- customs,

- payments from profit of state enterprises and companies fully owned by the State Treasury and state banks,
- payments from dividends,
- payments from profit of the National Bank of Poland,
- payments of surplus funds of executive agencies,
- income collected by state budgetary entities, unless otherwise stipulated by separate acts,
- income from lease and tenancy and from other contracts of a similar nature, concerning State Treasury assets, unless separate acts provide otherwise,
- interest on funds accumulated on bank accounts of state budgetary entities or public authorities, unless separate acts provide otherwise,
- interest on term deposits established from funds accumulated on the central current account of the State budget,
- interest on domestic and foreign loans granted from the state budget,
- fines and other monetary penalties, unless otherwise provided by separate acts,
- inheritances, legacies and donations in cash to the State Treasury,
- revenues from the sale of property, assets and rights, not constituting revenues, unless separate acts provide otherwise,
- other revenues specified in separate acts or international agreements,
- European funds for the implementation of technical assistance projects (...)."

There are a number of classifications of budget revenue in the literature. The most general and simplest division distinguishes: tax revenue, non-tax revenue, as well as funds from the European Union and other non-refundable sources. Within these three types of revenue, a distinction is made between (Alińska & Woźniak (Eds.), 2015, p. 140):

- „tax revenue: indirect taxes (VAT, excise duty, gaming tax), direct taxes (corporate income tax CIT, personal income tax PIT, tonnage tax, tax on the extraction of certain minerals),
- non-tax revenues: dividends and profit distributions, customs duties, revenues of state budgetary units and other non-tax revenues, payments of local government units,
- non-reimbursable funds from the EU and other sources”.

Taking into account the legal criterion and the finality of revenue collection, another classification of state budget revenue can be distinguished. Based on this classification, repayable and non-repayable revenues are distinguished. Repayable revenues are domestic and foreign loans that must be repaid by the State Treasury after a certain period of time, as they provide a temporary financial boost. Non-repayable revenues, on the other hand, do not provide benefits from the State and are not repayable. These include receipts from taxes, duties and fees. Revenues can also be classified according to their place of origin. A distinction can be made between domestic and foreign revenue.

Foreign revenues are all interest and commissions on foreign loans or credits (Wołowiec, 2021, p. 28, 29). „The most effective source of government revenue is taxes. They are collected compulsorily, non-refundable and free of charge” (Borowiec, 2017, p. 39). Importantly, taxes are also a fairly stable source of state budget revenue, which is crucial for the proper implementation of public tasks (more Wierzbicka, Nierobisz & Sobiecki, 2021, p. 87-100).

Results

State budget revenues are among the main instruments of state fiscal policy. The variation in the level of budget revenues from year to year is mainly due to cyclical fluctuations and changes in the volume of consumption. The variation in the level of revenues in Poland in recent years is largely related to the financial crisis initiated in 2007 and the COVID-19 pandemic.

The value of budget revenues in total and broken down into tax revenues, non-tax revenues and non-refundable funds from the European Union and other sources over the period 2007-2021 is presented in Table 1.

Table 1

State budget revenues in Poland 2007-2021 (PLN million)

Year	Total state budget revenue	Tax revenue	Non-tax revenue	Funds from the European Union and other non-refundable sources
2007	236,367.5	206,385.2	22,448.2	7,534.1
2008	253,547.3	219,499.4	19,308.9	14,739.0
2009	274,183.5	214,878.8	27,433.4	31,871.3
2010	250,302.8	222,552.7	24,501.6	3,248.5
2011	277,557.2	243,210.9	32,274.5	2,071.8
2012	287,595.1	248,274.6	37,143.2	2,177.3
2013	279,151.2	241,650.9	35,975.9	1,524.4
2014	283,542.7	254,781.0	27,231.9	1,529.8
2015	289,136.7	259,673.5	27,710.2	1,753.0
2016	314,683.6	273,138.4	40,131.3	1,413.9
2017	350,414.7	315,257.4	33,671.7	1,485.6
2018	380,048.1	349,353.8	28,887.9	1,806.4
2019	400,535.3	367,290.7	31,379.0	1,865.6
2020	419,795.7	370,261.8	47,401.9	2,132.0
2021	494,843.5	432,170.4	60,521.2	2,151.9

Source: own elaboration based on Bank Danych Makroekonomicznych (2022).

In the years 2007-2021, total state budget revenues increased more than twice. In 2007, they amounted to PLN 236.4 billion, while in 2021 they will amount to PLN 494.8 billion. Such a significant increase in the level of revenue was mainly due to an improvement in the economic situation in Poland. A slight decrease in budget revenues was recorded only in two years (2010 and 2013). The decrease in the value of total revenue in 2010 is mainly the result of the financial crisis that began in 2007. The decrease in revenue in 2013 is the result of fiscal tightening and the recession occurring in 2011-2012, which led to a strong economic slowdown in the country. Significantly, in 2020, despite the outbreak of the COVID-19 pandemic, the level of government revenue did not decrease compared to the previous year, but it was lower than planned.

Importantly, the value of tax revenues more than doubled in the analysed period. An increase in this type of income occurred from year to year, with the exception of 2009 and 2013. The decline in tax revenues in 2009 was the result of the slowdown in the economic growth rate that occurred then. The slightly lower level of tax revenues in 2013 is the result of changes in personal income tax. During the period under review, non-tax revenues also increased by more than 2.5 times. However, this category of budget revenues did not show a constant upward trend and alternately increased and decreased. Dynamic changes also occurred in the level of funds from the European Union. The values of the dynamics index on a variable basis calculated for the years 2008-2021 for individual categories of budget revenues and total revenues are presented in Figure 1.

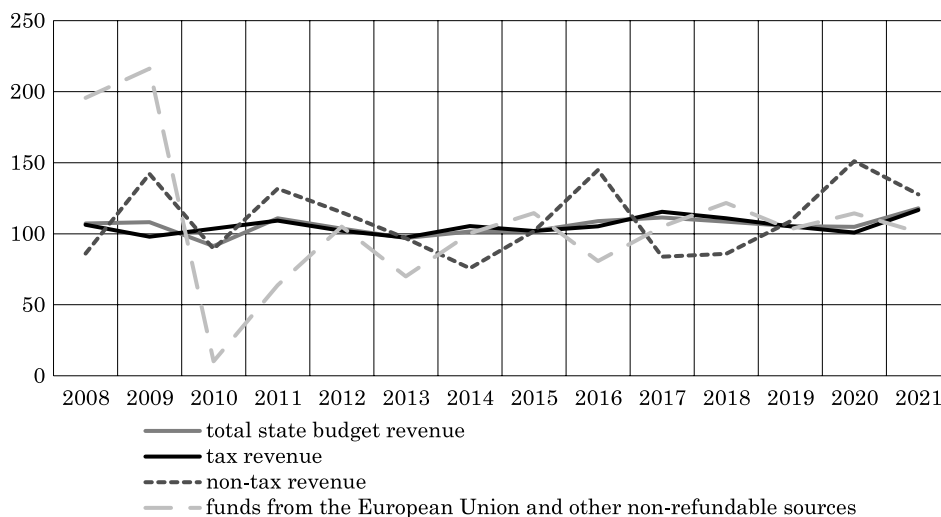


Fig. 1. Dynamics of state budget revenues in 2008-2021

Source: own elaboration based on Bank Danych Makroekonomicznych (2022).

From the data presented in the chart it can be concluded that the most diversified and variable category of total state budget revenues were funds from the European Union and other non-refundable sources. The greatest disproportion can be seen in 2009-2010. The growth rate in 2009 compared to the previous year was 116.2% and was caused by a large inflow of funds from the EU resulting from the cohesion policy implemented at that time. In 2010, the value of funds from the European Union decreased by almost 90%. Importantly, in the years 2012-2021 the dynamics of funds from the European Union was no longer as diversified as in previous years. In 2020, when the COVID-19 pandemic was announced, the growth rate compared to 2019 was 14.3%. Poland then received additional funds to counteract the effects of the pandemic. The data presented in the chart also show that the dynamics of changes in total state budget revenues is very similar to the dynamics of changes in tax revenues, which show the most stable dynamics of all categories of budget revenues.

Revenues from various sources supplying the state budget vary in terms of their value, which is reflected in the structure of total state budget revenues. This structure for the years 2007-2021 is presented in Figure 2.

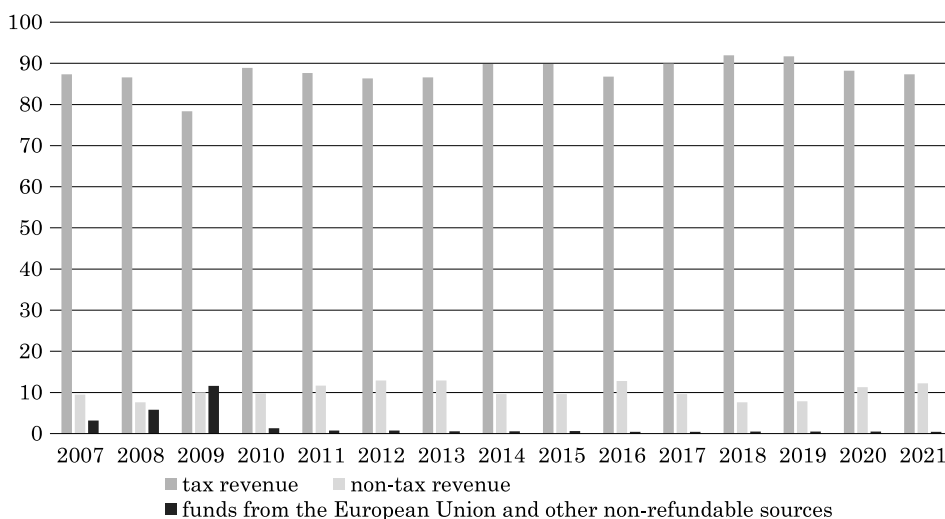


Fig. 2. Structure of state budget revenues in 2007-2021

Source: own elaboration based on Bank Danych Makroekonomicznych (2022).

In all years covered by the analysis, tax revenues have the largest share in the total state budget revenues. Over the years examined, the share of tax revenues varied. Their average share in total state budget revenues in 2007-2021 was 87.8%. The smallest share was recorded in 2009 and amounted to 78.4%, while the largest share was 91.9% and was recorded in 2018. This was due to efficient tax policy, improved tax collection efficiency and good economic situation in the country.

The share of non-tax revenues in the total state budget revenues is much smaller. Over the years examined, the share of non-tax revenues increased by only 2.7 percentage points. In 2007 it was 9.5%, and in 2021 it was 12.2%. Its smallest share of 7.6% was recorded in 2018, and this was mainly due to the lack of payment from the profit generated by the National Bank of Poland.

The basic and most important source of total state budget revenues are tax revenues. Table 2 presents the value of tax revenues in Poland in 2007-2021 from the most important types of taxes.

Table 2

Tax revenues of the state budget in 2007-2021 (in PLN million)

Year	Tax revenues, including			
	from tax on goods and services (VAT)	from excise tax	from corporate income tax	from personal income tax
2007	96,349.8	49,025.5	24,540.2	35,358.5
2008	101,782.7	50,490.1	27,159.7	38,658.5
2009	99,454.7	53,926.9	24,156.6	35,763.7
2010	107,880.3	55,684.5	21,769.9	35,592.6
2011	120,831.9	57,963.7	24,861.9	38,074.9
2012	120,000.7	60,449.9	25,145.7	39,809.4
2013	113,411.5	60,653.1	23,075.3	41,290.5
2014	124,262.2	61,570.4	23,266.2	43,022.0
2015	123,120.8	62,808.6	25,813.4	45,040.0
2016	126,584.1	65,749.3	26,381.4	48,232.4
2017	156,801.2	68,261.3	29,758.5	52,668.8
2018	174,947.1	72,108.5	34,640.9	59,558.7
2019	180,891.8	72,395.9	39,984.7	65,444.9
2020	184,551.9	71,787.3	41,293.1	63,797.4
2021	215,734.0	75,798.0	52,373.8	73,606.2

Source: own elaboration based on Bank Danych Makroekonomicznych (2022).

In all years covered by the analysis, the amount of tax on goods and services was higher compared to other types of taxes. This means that the largest cash revenues contributing to the state budget were generated by VAT. During the research period, its average annual value amounted to PLN 136.4 billion. In 2007, the value of VAT revenues amounted to PLN 96.3 billion and was the lowest in the entire period under review. In turn, the highest value of VAT revenues amounting to PLN 215.7 billion was recorded in 2021. During the research period, revenues to the state budget from VAT more than doubled.

Another important source contributing to the state budget is excise tax revenues. In the years 2007-2021, an increase in the value of revenues from this tax was observed in almost all years. The exception was 2020, which saw a slight decline. The lower level of this tax was related to a temporary reduction in excise tax rates on electricity and selected motor fuels.

Corporate income tax and personal income tax are also important sources of tax revenue. Over the period under review, revenues from both taxes more than doubled. The most important source of budget revenues throughout the period under review was personal income tax. Its value increased from PLN 35.6 billion in 2007 to PLN 73.6 billion in 2021 and amounted this year to almost as much as excise tax revenues.

Importantly, in 2007 almost all sources of tax revenues recorded their lowest values. This concerned tax on goods and services, excise tax and personal income tax. However, in 2021, all tax revenue categories reached their highest values. This was mainly due to the introduction of numerous changes aimed at improving the efficiency of the tax system.

Conclusions

The appropriate condition of public finances is a key issue in a given country. The condition of public finances determines whether the state will be able to properly perform all its functions, settle current liabilities and achieve a high rate of economic growth. The global financial crisis of 2007 and the crisis caused by the COVID-19 pandemic had a significant impact on the state of public finances in Poland, including the level of state budget revenues. The aim of the research was to assess the level and dynamics of changes in state budget revenues in Poland in 2007-2021. Based on the research conducted, the following conclusions were formulated.

State budget revenues in Poland more than doubled during the period under review – from PLN 236.4 billion in 2007 to PLN 494.8 billion in 2021. However, the dynamics of changes in budget revenues over the years examined varied. Although in most years there was an increase in revenues, a slight decline was recorded, for example, in 2010, which was mainly the result of the financial crisis that began in 2007. Importantly, in 2020, despite the outbreak of the COVID-19 pandemic, the level of total budget revenues compared to the previous year it increased (Poland received additional funds from the European Union to counteract the effects of the pandemic), but it was lower than planned;

Throughout the period under review, tax revenues were the most important source of financing the state budget. In the years 2007-2021, the level of income increased by over 109% – from PLN 206.4 billion in 2007 to PLN 432.2 million in 2021. A decline in tax revenues was recorded only in two years – 2009 and

2013. In 2009, it was the result of a slowdown in the economic growth rate caused by the financial crisis, and in 2013, it was the result of changes in tax regulations;

Over the years examined, the share of tax revenues varied. Their average share in total state budget revenues in 2007-2021 was 87.8%. The lowest share of 78.4% was recorded in 2009 and was lower than the share in 2008 by 8.2 percentage points. The reduction in this share was the result of a reduction in state budget revenues from both VAT and PIT and CIT during the financial crisis. The share of tax revenues also decreased in 2020 as a result of the COVID-19 pandemic. However, the decline in this share was smaller than during the financial crisis and amounted to 3.5 percentage points. In 2020, Poland recorded smaller revenues from PIT and CIT taxes, but revenues from VAT turned out to be higher.

Therefore, in answer to the research question, it should be stated that both crises had a significant impact on the state of public finances in Poland and the level of state budget revenues, with the financial crisis of 2007 having a much stronger impact on the level of total budget revenues and the structure of generated revenues. Due to the above, the research hypothesis which assumed that *The outbreak of the COVID-19 pandemic had a stronger impact on the level of budget revenues in Poland than the global financial crisis of 2007* was negatively verified. The crisis caused by the COVID-19 pandemic has had a much greater impact on the level of state spending and, therefore, on the level of the budget deficit and public debt. The impact on the level of budget revenues, mainly due to the additional funds received from the European Union budget in this period, turned out to be smaller than during the financial crisis of 2007.

Translated by Authors

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