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STUDIES IN LOGIC, GRAMMAR AND RHETORIC 68 (81) 2023

DOI: 10.2478/slgr-2023-0020

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THE SOCIO-ECONOMIC SITUATION DURING THE CRISES IN POLAND AFTER 1989, WITH PARTICULAR REFERENCE TO THE COVID-19 PANDEMIC

Abstract. The Polish economy has been transformed for more than three decades by diverse crises. The beginning of the changes was brought by the political transformation, which modified the model of the functioning of the State in almost all areas. To some extent, its continuation was the accession to the European Union, which opened not only markets for sales, labor, but also new sources of technological and scientific development. Economic development did not protect the economy from the negative effects of change, which occurred in the form of rising public debt, unemployment rates and reduced spending on important public sectors. Sudden breakdowns, in turn, forced changes in social needs, as exemplified by the explosive demand for e-services during the covid-19 pandemic. The article analyzed selected indicators that allowed analysis of the degree of differentiation of socio-economic development in Poland against the background of crises.

Keywords: history of crises, polish economy, on-line services, digitalization, covid-19.

Introduction

The beginning of the process of changing: economic, political and social in Poland was marked by the political transformation begun in 1989. The rejection of the socialist society model and centrally planned economy, and the introduction of democracy and a capitalist economy instead, was to be the beginning of economic growth. It also meant institutional reconstruction, privatization, transformation of society, opening up to new markets, new technologies and unlimited access to knowledge. However, the extent of the changes made and the high speed of implementation of new development directions with the liquidation of subsidies and state-owned enterprises has caused a number of negative effects. Among these were: the rise in unemployment, the decline in production in the early 1990s (Łazor, 2017, p. 285). Another economic shock was Poland's admission to European Union structures. In contrast, the impact of the global financial crisis has been felt by most countries around the world (Nazarczuk, 2012, p. 75), however, the Polish economy has proven to be quite resilient in this regard. In turn, the pandemic of the coronavirus covid-19 outbreak initiated a new era of uncertainty for the sustainable development of economies – not only for Poland, but for the whole world. The objective of this study is to review and analyze the factors determining the development of Poland's socio-economic situation after 1989, with a special focus on the situation in 2020–2022 which includes the time of the covid-19 pandemic.

The analysis included indicators illustrating the socio-economic situation, such as the public debt or unemployment rate, state spending on the basic areas of the national economy, and the digital services sector in terms of the pandemic period. The article was based on statistical sources, reports and literature.

1. Changes in Poland's socio-economic area after 2000

In 2000, a new stage of Poland's functioning in Europe symbolically began caused by its acceptance as a candidate country to the European Union. Accordingly, foreign policy aimed to strengthen its position in the international arena. On the other hand, internally, the country was struggling with many problems. The labor market in 2000 was characterized by a high – 15% unemployment rate due to the demographic highs, low labor mobility, high labor costs and labor laws unfavorable to employers (Szulc, 2008, p. 21). High public debt (37.7%) led to the need of reducing

Table 1
Selected indicators depicting the socio-economic situation in 2000–2021

Year	Public debt in a percent of GDP	Public expenditure in million zloty	Unemployment rate in percent
2000	37,7	151 055	15,1
2001	38,8	172 885	17,5
2004	46,9	197 698	19,1
2005	48,3	208 133	17,7
2008	47,1	277 893	9,5
2009	50,9	298 028	12,1
2019	46,1	414 273	5,2
2020	57,2	504 776	6,2
2021	54,2	521 217	5,4

Source: own elaboration based on CSO data.

budget spending (tab. 1), and its growth was related to the resultant of relatively high borrowing needs of the state budget, declining privatization income and changes in the zloty exchange rate (Połomka, Zalesko, 2015, pp. 166–177). In 2001, the unemployment rate increased to 17.5%, public debt and state budget expenditures increased.

The year 2004 was an important year for the Polish state due to Poland's accession to the European Union. It significantly influenced economic development, and the situation in the labor market also improved, through the opening of European labor markets and the inflow of foreign direct investment enabling the development of entrepreneurship in the country. However, the unemployment rate in both 2004 and 2005 remained high.

The effects of the 2008 global financial crisis reached Poland with some delay. During this period, a decline in business activity could be observed due to declining foreign demand, temporary outflow of foreign capital and depreciation of the national currency (Nazarczuk, 2013, p. 80). The negative effects of the crisis were felt only by certain industries, that is, mainly: energy, banking (to a lesser extent than in other countries), finance, as well as the construction, real estate and transportation sectors (Nazarczuk, 2013, p. 80). The year 2008–2009 also noted a 1.6% slowdown in GDP growth, a 3.6% increase in the unemployment rate and a rising public debt.

Another global crisis was caused by the pandemic outbreak of covid-19 brought with multidimensional consequences both economically and socially

(Czech, et al., 2020, p. 27). There has been a decline in GDP, an increase in inflation, an increase in the unemployment rate and negative developments in the labor market. The introduction of support programs for the Polish economy in the form of anti-crisis shields or credit vacations directly affected the state of public finances (Czech, et al., 2020, p. 27). The covid-19 pandemic caused an increase in unemployment (to 5.4%) and public debt – 54.2% of GDP.

Despite the constant deficit of public funds in almost every sector, in the years under review, state budget expenditures on higher education and science, public administration (2004 was the exception) and culture and national heritage protection gradually increased. This trend also continued in the area of social welfare, but in 2009 state budget expenditures for this purpose were decreasing (tab. 2).

Table 2

Expenditure from the state budget [in millions of zloty]

Year	Total	Higher education and science	Public administration	Social welfare	Culture and heritage protection
2000	151 055	8 243	6 655	11 978	631
2001	172 885	6 371	6 150	14 635	938
2004	197 698	8 867	8 047	16 704	1 062
2005	208 133	9 714	8 335	20 734	1 032
2008	277 893	14 953	10 160	12 958	1 486
2009	298 028	16 321	10 743	12 500	1 592
2019	414 273	27 993	28 325	144 427	3 226
2020	504 776	30 484	13 868	178 999	4 123
2021	521 217	32 921	17 249	156 607	4 221

Source: own elaboration based on CSO data and yearly reports about the state budget implementation.

In 2000 and 2004, expenditures on public administration accounted for 4% of total expenditures and were realized at 96%. A similar situation applied to expenditures of all analyzed areas, whose share in total state expenditures did not change. In 2000, in the field of culture and national heritage protection, 0.41% of total expenditures were spent, and this was related, among other things, to the modernization of the Wroclaw Opera House, the Philharmonic Hall in Lodz, or the construction of the Theater and Philharmonic Hall in Lublin. In the case of higher education and science

(5% of total expenditures, budgeted separately), material aid for students, teaching activities and the construction of the Jagiellonian University Biological Sciences Complex in Cracow or the expansion of the Adam Mickiewicz University campus in Poznań were financed. After Poland's accession to the European Union, expenditures on higher education and science increased, increasing the mobility of students and academics. Social assistance, which includes family, nursing and child care benefits, subsidies to the Labor Fund and the Veterans Fund, accounted for 8% of expenditures from the state budget. Social policy financed family benefits and contributions to social insurance, family, nursing and child care benefits, the operation of social welfare homes or a subsidy to the alimony fund. In the following year, 2005, expenditures on public administration amounted to 4% of total state expenditures and were lower than expected due to the lower cost of the elections held for the country's President and the Sejm and Senate. Expenditures on culture and national heritage protection were low, accounting for only 0.49% of total expenditures. In contrast, 4.6% in total expenditures was spent on higher education and science. Nearly 10% of total expenditures were expenditures in the area of social policy, the amount of which depended on the amount of payments of family benefits and allowances and lower expenditures on paying health insurance premiums for recipients of family benefits.

In 2008, expenditures on public administration accounted for 3.6% of total expenditures, while expenditures on culture and national heritage protection did not exceed 0.5% of total expenditures. The year 2008 was also a period of reform of the system of financing and operation of scientific units in order to improve the competitiveness of Polish science. At that time, the research infrastructure of universities was financed, as well as the tasks of the program for the development and maintenance of information and computer infrastructure of science and its digital resources for 2006–2009 or the program for the development of information infrastructure of science for 2007–2013. In the area of higher education and science (accounting for 5.3% of total expenditures), tasks related to the universality of education, material assistance for equalization of opportunities, raising the level and quality of education and support for international cooperation were implemented. Expenditures in the area of social policy accounted for 4.6% of total outlays and were related to financing, among other things, family benefits and allowances, care, psychological and living services, as well as the implementation of government programs such as state food aid. In 2009, expenditures on public administration accounted for 3% of total expenditures. Expenditures from the public budget for cul-

ture and national heritage protection accounted for 0.5% of total expenditures and included activities such as replenishing museum collections and rebuilding library book collections, improving the standard of services provided to people with disabilities. Expenditures on higher education and science accounted for 5% of total expenditures in the period under review. 92% of expenditures in this regard were allocated to subsidizing the activities of higher education institutions, their teaching activities and increasing the availability of higher education for people in a difficult financial situation and people with disabilities. Within the amount for statutory activities of scientific units and own research of higher education institutions, maintenance of specialized scientific and research equipment was financed, as well as ministerial programs and projects in the development of information and information technology infrastructure of science, work continued on the creation of the Copernicus Science Center, and tasks were carried out within the scope of Operational Programs: Innovative Economy, Increasing the Competitiveness of Enterprises, Human Capital, and the Norwegian Financial Mechanism, the EEA Financial Mechanism. Expenditures on social policy accounted for 4% of total state expenditures and focused on financing active ways of assistance, e.g. increasing the availability of specialized services or social work.

Expenditures of the state budget in 2019 amounted to PLN 414.3 billion and were lower by PLN 2 billion than the amount planned in the Budget Law. Within the amount indicated, PLN 2.19 billion was allocated for the protection and popularization of heritage and national identity at home and abroad (1% of total expenditures), the remaining PLN 1.04 billion financed artistic, dissemination, promotion of culture and intercultural dialogue activities. Within the framework of this function, among other things, portals related to archives were developed and popularized, or library collections were digitized. 6.7% of state budget expenditures were for higher education and science. In this aspect, the goal of raising the level of scientific research results, the level of quality of education and increasing the level of practical application of research and development work was achieved. A significant part of budget expenditures was made in the framework of social policy – 35% of total expenditures. The indicated amount financed, among other things, the extension of the Family 500+ program for the first child or Senior+. 7% of total expenditures were expenditures on public administration. In 2020, expenditures on public administration decreased (they accounted for 2.7% of total expenditures). Expenditures on culture and national heritage increased (they still did not exceed 1% of total expenditures). 7% of total expenditures were allocated to higher education and science. The pan-

demic situation resulted in the extension of the implementation of research projects that were scheduled for 2019–2020 for another year and the possibility of spending unspent funds still in 2021. In addition, the number of foreigners studying at Polish universities decreased significantly, and classes at universities were conducted remotely. During the period under review, the amount of expenditure on social policy increased, accounting for 43% of total expenditures. Within the framework of this function, the following were financed, in a larger number than expected: upbringing benefits, family benefits or the "Maluch" program. In 2021, expenditures on public administration accounted for 3% of total expenditures. Expenditures on culture and heritage protection saw a slight increase (they accounted for 0.8% of total expenditures) related, among other things, to the transfer of activities to the Internet or adjustment to the sanitary regime. Expenditures on higher education and science accounted for 6% of total expenditures, among which we can highlight the financing of the NAWA project and the transfer of additional funds for competitions within the framework of the Intelligent Development Operational Program. Social policy expenditures accounted for 30% of total expenditures. The decrease in expenditures in this area was related, among other things, to the decrease in the number of people receiving non-cash assistance, the resignation of seniors from participation in the Senior+ and Active+ programs, or changes in the income situation of families with children.

2. Selected socio-economic aspects of the covid-19 pandemic

Although we have noticed rapid progress in the digitalization and use of modern technology in recent years, it has been further accelerated by the covid-19 pandemic. By 2020, nearly 60% of the world's population (more than 4.6 billion people) had access to the network, and 4.3 billion were using mobile Internet (Matera, Skodlarski, 2021, p. 371). Pandemic restrictions have forced the transfer of education, work, entertainment and many other aspects of life to the virtual space. Over the past few years, the number of people using the Internet has increased noticeably, from 58.8% in 2010 to more than 85% in 2021 (tab. 3). The increase was caused by a change in the way people communicate and maintain social contacts, as well as perform personal and professional duties. As a result of the pandemic, the percentage of video conferencing users increased (from 20% in 2010 to 56.4% in 2021), as well as Internet users who regularly use social media (28% in 2010 and 56.8% in 2021).

Table 3

People aged 16–74 using the Internet for personal use

Specification	2010			2015			2021		
	total	cities	villages	total	cities	villages	total	cities	villages
Total	58,8	65,1	48,1	68,0	72,0	60,0	85,4	88,8	80,2
Email users	47,8	55,0	35,5	54,0	60,8	42,8	68,3	74,4	59,4
Videoconferencing, Internet calls	20,0	23,0	15,0	27,6	31,6	21,1	56,4	60,2	50,8
Search for information about goods and services	39,2	44,1	31,0	42,2	45,7	36,6	65,6	68,7	61,1
Purchase of goods and services[a]	20,2	24,0	13,6	24,1	28,4	17,0	48,3	52,8	41,6
Publishing footage on the Internet	11,3	12,4	9,3	12,5	14,0	10,0	16,9	19,3	13,5
Using social media	28,0	30,4	24,0	41,4	43,6	37,8	56,8	58,7	54,0
Using services:									
e-banking	25,3	32,0	13,9	31,2	38,2	19,7	52,2	59,2	42,0
public administration[b]	28,1	33,9	18,0	26,6	32,2	17,1	47,5	53,7	38,3

[a] by placing an order on a website or auction portal;
[b] to obtain information, download or send completed forms

Source: Rocznik Statystyczny Rzeczpospolitej Polskiej, Warszawa 2022, p. 442.

Occupational activity was correlated with Internet use (it was used by 94% of those working and 55% of those not working). Among the employed, relatively the fewest Internet users were in the group of farmers, while among managers and specialists, technicians and middle staff, administrative and office workers, service workers and private entrepreneurs, all or almost all of them use the Internet (CBOS, 2022, p. 7).

Particular growth has occurred in the e-commerce domain. Nearly 40% of the public in the 17–74 age group searched for information about goods and services in 2010, while by 2021 it was already 65.6%. In 2010, 20.2% of users aged 16–74 made purchases of goods and services online, with twice as many people in urban areas as in rural areas (tab. 2). The number of users did not increase significantly in 2015, but in 2021 compared to 2010 – it was more than double. Significant changes took place in rural areas. There, the increase in the level of use of online shopping more than tripled. According to the CBOS survey, in 2022 nearly two-thirds of Poles (64%, or 84% of Internet users) shopped online, and more than one-

Table 4
Enterprises using selected information and communication technologies as a % of total enterprises of a given type of activity

Specification	Broadband access to the Internet		Own website	Social media profiles	Services bought from cloud computing (SaaS)
	total	including at least 100 mbps speed			
Total					
2010	69,0	.	65,5	.	.
2015	91,9	7,9	65,5	22,2	7,3
2020	98,6	42,8	71,3	.	24,4
2021	98,5	48,4	71,4	45,6	28,7
Information and communication					
2010	92,9	.	91,3	.	.
2015	98,2	2,5	89,2	61,3	29,7
2020	100	77,6	89,6	.	63,5
2021	99,3	83,0	91,3	80,5	67,7
Professional, scientific and technical activities					
2010	82,2	.	80,6	.	.
2015	96,8	13,4	78,2	28,0	12,8
2020	98,8	59,6	79,3	.	43,0
2021	99,8	63,3	81,3	57,6	46,3
Administration and support activities					
2010	69,5	.	66,4	.	.
2015	85,8	11,5	61,9	26,2	10,3
2020	96,4	48,9	67,3	.	26,9
2021	97,3	51,5	66,8	40,3	33,0

Source: own elaboration based on CSO data.

third of all adults (36%, or 46% of Internet users) made at least a single sale online (CBOS, 2022, p. 10). The number of people using the Internet for personal use has grown steadily. While the change in 2015 compared to 2010 can be described as quite evolutionary – the percentage of total Internet users rose from 58.8% to 68%. In 2021, this figure rose to 85.4%. During this period, the gap between urban and rural residents narrowed noticeably – it was 8.6% in favor of urban residents (correspondingly, in 2010 – 17% fewer rural residents than urban residents used the Internet, and in 2015 – 12%).

According to the CBOS survey, as of 2021, the largest increase in user groups was among those aged 45–54 and over 75. Compared to 2021, in 2022 their number increased by 10% and 9%, respectively (CBOS, 2022, p. 6).

One of the most valuable benefits of using the Internet was the ability to administer one's finances remotely – by using e-banking services. The number of e-banking users, which in 2010 in Poland amounted to slightly more than ¼ of the population (25.3%), rose to 31.2% in 2015 as a result of the development of these services successively introduced by banks. The crisis caused by the covid-19 pandemic caused the number of e-banking customers to exceed half of the population (52.2%). Online government services were used by 47.5% of Poles in 2021 (up from 28.1% in 2010 and 26.6% in 2015).

As recently as 2010, about ¾ of all Polish enterprises could demonstrate access to broadband internet and a website. In 2015, nearly 92% of enterprises were connected to broadband internet, but only 7.9% of them had a connection speed of at least 100 mbps. Their own websites were unchanged from 2010 – 65.5% of businesses operating in Poland, social media profiles were maintained by more than 22% of companies at the time, and only slightly more than 7% used cloud services.

Even before the pandemic, micro, small and medium-sized enterprises ("MSMEs") were raising the value of using information and communication technologies (ICT). This was confirmed by the results of a survey conducted by the Polish Economic Institute (PIE) in the last quarter of 2019. At that time, entrepreneurs appreciated the importance of using ICT, pointing to the following features: more efficient communication with suppliers and customers; improved brand awareness, corporate image and customer relations; increased competitiveness of the company; and reduced employment, which is a direct result of the automation of company processes. According to the 2019 PIE survey, nearly one-quarter of the companies surveyed said their enterprises had increased their use of modern technology compared to 2018. The group was dominated by large enterprises in the information and communication section. The use of information and communication technologies was seen by the respondents as a competitive advantage and even a condition of the company's operation (Dębkowska et al., 2020, p. 6).

The PIE report indicates that in 2019. 47% of Polish enterprises highly rated their degree of use of modern technologies in production or services, 54% rated their use of modern technologies in communicating with their customers, 48% rated their use of multi-channel sales of their products or services provided, and 73% did not invest in modern technologies

(Dębkowska et al., 2020, p. 5). Business entities during the pandemic sought to support their sales and marketing activities with e-commerce, and to transform customer service to remote channels. Examples of such changes in business models could be seen, for example, in entities in the automotive industry (e.g., dealerships or dealers of car brands) and business-related leasing, insurance companies or banks with supporting financial services on offer. From these partnerships were born already in the first months of the pandemic sales platforms, where one could choose a car and ask the commissioner/dealer to bring the chosen vehicle to one's home for a test drive, and then after making a choice – be guided through the process of obtaining financing and insurance in a completely remote manner. Entities that failed to implement online sales and customer service for various reasons often lost the battle for survival. Many industries were affected – restaurants or entertainment in the broadest sense. However, here, too, there were entrepreneurs who switched to customer service on social media platforms and remote delivery (the press reported on neighborhood grocery stores with door-to-door delivery even).

According to the PIE report, 91% of companies used at least one modern technology during the pandemic, 70% used modern forms of communication with customers, and 10% of large companies implemented systems to manage remote work during the pandemic (without having used them before) (PIE, 2020, p. 5). The growth of ICT usage in Polish enterprises can be clearly seen in the 2021 statistics. They show increases in the use of broadband internet compared to 2015 by as much as 6.5% (from 92% to 98.5%), access to a connection with a speed of at least 100 mbps increased by more than 40% (from 7.9 to 48.4%. Our own website was owned by 71.4% of companies, an increase of almost 6%, the number of companies with social media profiles doubled (from 22.2% to 45.6%), which for some MSMEs companies could be an alternative to having a website. Meanwhile, the use of cloud computing by Polish companies more than quadrupled (from 7.3% to 28.7%). Just the so-called "cloud" (PIE, 2020, p. 42) which facilitates file sharing or simultaneous work on a document open at the same time on multiple devices, became an indispensable technology during the covid-19 pandemic. The benefits it brought to day-to-day work led to an intensification of project implementations, which before the pandemic would have reached only the pilot phase in MSMEs.

While the market for enterprises and private users of virtual space has seen rapid changes compared to previous years, the situation for cultural institutions has been more difficult. On this front, there have been many barriers related to less adaptability to rapid change. A relatively new challenge

in increasing the availability of knowledge was the digitalization of library collections. This was due not only to the growing needs of the public for easier and wider access to books, journals and other publications held in library repositories and lending libraries, but also to adapt to operating in a period of tighter sanitation regime.

The first analysis of the condition of digitization of libraries in Poland was carried out in 2002, initiated by the National Library of Poland (Potrzebnicka, 2005, 66–77). Among the 55 libraries surveyed at the time, 25 had begun digitizing, and 14 were forming their own laboratories. After nearly two decades, this situation has changed significantly, and a particular evolution can be seen in the last two years (2020 and 2021). The number of objects digitized by public libraries in 2021 increased by 16.5% compared to 2020 (from 2028.3 thousand objects to 2362.2 thousand).

Table 5
Selected electronic services of libraries in Poland between 2016 and 2022 [in percent]

Year	Total number of libraries	On-line catalog	Ability to reserve online library materials for borrowing	Ability to remotely place orders for library materials	Ability to register new readers on-line	Social media profiles
2016	7984	63,1	32,6	29,5	–	36,8
2017	7953	66,1	37,1	33,4	–	40,0
2018	7925	68,1	40,6	36,4	–	42,0
2019	7881	71,9	44,9	40,5	–	46,0
2020	7782	74,4	50,8	47,7	–	51,4
2021	7693	78,0	55,8	53,2	16,2	54,4
2022	7638	80,1	58,6	55,9	17,3	55,6

Source: own elaboration based on CSO data.

Due to the lack of reader access to library buildings, new services were introduced or existing ones were expanded. Access to online resources, the use of e-media and e-books were promoted. In March and April 2020, compared to the previous year, statistics on the use of digital platforms related to European library services doubled (Sójkowska, 2020, p. 3). Over the past few years, there has been clear progress in the dissemination of digital offerings of libraries, especially in the case of booking and ordering library materials (tab. 5). Compared to 2016, the number of libraries offering these services has increased by almost a third in 2022. An important

element, significantly improving the use of resources, were on-line catalogs. In 2016, more than half of libraries had them (63.1%). However, in 2022 it was already more than 80%. Having an account on social networks was also an interesting activity. While in 2016 more than a third of Polish libraries had them (36.8%), in 2020 this number exceeded half (51.4%). In 2021, it was also reported that 16.2% of libraries allow remote registration of new readers. Interestingly, the following year, their number increased to only 17.3%.

Summary

Each of the considered crises has significantly affected indicators related to economic development. The opening of the market as a result first of the political transformation period and later of Poland's accession to the European Union enabled economic and technological development. This was associated not only with an infusion of foreign investment and new sources of funds, but also with increasing spending from the state budget, especially on higher education and science. However, it has not eliminated problems such as rising unemployment, expanding public debt and increasing social welfare expenditures. Although the 2008 crisis did not have a significant impact on Poland's economic situation, spending on public administration was reduced during this period. A similar decrease in this regard also took place in 2020. Spending on higher education and social assistance, however, increased. Expenditures on culture and national heritage protection in the period under review did not exceed 1% of total budget expenditures.

The permanent effects of the pandemic on the economy include: accelerated digital transformation or, for example, remote work, which was a rather rare benefit before the pandemic, while during the pandemic it began to be used for all types of work that could be performed by a worker at home. As a result of the pandemic crisis, digitization in Polish companies has increased more rapidly, especially in the financial, transportation, education and health sectors. The use of apps, automatons and robots in production and commerce, bots in communications, e-banking and e-learning and teleconferencing platforms have increased. Work on modernizing the logistics industry has also accelerated, driven in part by the explosive growth of e-commerce. The demand for online activities has also affected cultural institutions, including libraries, which have greatly accelerated the implementation of projects to digitize services and resources.

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