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Leszek Leśniewski*
ORCID: 0000-0002-2994-5900
leszek.lesniewski@sopocka.edu.pl

Comparative analysis of the banking sector in Poland and Sweden during the crises of the 1990s, global financial crisis and COVID-19 pandemic

Abstract

The article concerns a comparison of the situation of the banking sector in Poland and Sweden. Three periods of downturn were adopted: the crises of the 1990s, the global financial crisis and the economic slowdown associated with the occurrence of the COVID-19 pandemic. The choice was determined by a review of literature on the mechanisms of financial crises in European Union countries. The aim of the article is to assess to what extent the three crises affected the Polish and Swedish banking sectors. The analysis carried out for the Polish and Swedish banking sectors for the years 1990–2022 under study confirmed a continued sound financial condition. In Poland, the changes in the banking sector took place more during the COVID-19 pandemic than during the global crisis. In Sweden, on the other hand, these changes occurred to a greater extent during the global crisis than during the pandemic. Sweden has learnt lessons from the Nordic crises that have been experienced, resulting in a better response of the surveyed sector to subsequent crises. These lessons would set a good example for overcoming the crisis for Poland in the years to come.

Keywords: banking sector, Poland, Sweden, crisis

JEL Codes: G21, E63, N24

* Leszek Leśniewski – Sopot Academy of Applied Sciences in Sopot.

Komparatywna analiza sektora bankowego w Polsce i w Szwecji w czasie kryzysów lat 90. XX w., globalnego kryzysu finansowego oraz pandemii COVID-19

Streszczenie

Artykuł dotyczy sytuacji sektora bankowego w Polsce oraz w Szwecji w trzech okresach dekoniunktury tj. kryzysów lat 90 XX w., globalnego kryzysu finansowego zapoczątkowanego w Stanach Zjednoczonych w 2008 r. oraz pandemii COVID-19. Celem artykułu jest ocena wpływu kryzysu nordyckiego oraz kryzysu państw transformacji z lat 90. XX w., a także globalnego kryzysu finansowego i spowolnienia gospodarczego związanego z wystąpieniem pandemii COVID-19 na sytuację polskiego i szwedzkiego sektora bankowego.

Analiza potwierdziła dobrą sytuację sektorów bankowych w Polsce i w Szwecji w latach 1990–2022. Wybrane mierniki ekonomiczne nie odbiegały znacząco od wartości przeciętnych, porównując do sytuacji ogólnoświatowej. W Polsce zmiany miały miejsce w większym stopniu w okresie pandemii COVID-19, niż w okresie globalnego kryzysu finansowego. Natomiast w Szwecji odwrotnie.

Słowa kluczowe: sektor bankowy, Polska, Szwecja, kryzys

Kody JEL: G21, E63, N24

Introduction

The banking system plays an important role in the economies of individual countries. By acting effectively, it improves the socio-economic situation (Mishkin 2001; Sepp 2011). The literature is dominated by articles focusing on the mechanisms of financial crises. On the one hand, they only refer to studies of the banking sector relating to one country, e.g. Poland or Sweden, against the background of a group of countries at a similar level of socio-economic development. On the other hand, they refer only to a comparison of one or two crises, e.g. the Nordic crises versus the global crisis. The changes associated with the onset of crises in the 1990s in Poland and Sweden were local – or more accurately, regional – phenomena. In contrast, the crisis initiated in the United States in 2008 was global[1] (Anderton and Tewolde 2011; Bernanke 2018; Miklaszewska 2023). In contrast, the outbreak of the COVID-19 pandemic was non-economic in origin[2] (Aldasoro et al. 2020). All of these downturns affected to a greater or lesser extent the situation and the taking of actions related to the functioning of the banking sectors. The Nordic crises are

[1] For the purposes of this article, this crisis has been defined as a global crisis. By virtue of its origins, this crisis has created a series of challenges and threats facing financial markets. The global nature of the crisis meant that its scope – comparable to the Great Depression – covered the entire world economy and most of its areas.

[2] In line with the literature and for the sake of simplicity, the article assumes that the period following the outbreak of the COVID-19 pandemic is referred to as the economic downturn. The banking sectors in each country were negatively affected – despite the non-financial nature of the pandemic – compared to other sectors, and also compared to previous crises.

considered to be the first systemic crises that affected Denmark, Finland, Norway and Sweden in the 1980s and 1990s. In contrast, the 1980s and 1990s saw crises of an economic nature in the countries of Central and Eastern Europe, which are referred to in the literature as crises in transition states. In addition, the sequence of events that contributed to the global crisis started in the second half of the 1990s – after or during the Nordic crises and the crises in the transition countries. From yet another angle, it is argued that Europe has been in a 'permanent crisis' since 2007, which goes beyond the COVID-19 pandemic[3]. Therefore, the selection of two distinct national banking sectors – Poland and Sweden – and three distinct downturn periods was determined by the diversity of the responses of the countries studied to the individual crises, as well as the recurrence of patterns of crisis occurrence in European countries in the twentieth and twenty-first centuries.[4]

Filling such a research gap, this article attempts to answer the research question: Did the crises of the 1990s, post-2008 and post-2019 affect the Polish and Swedish banking sectors, and to what extent?

The main objective of the paper is to assess to what extent the crises of the 1990s, the global financial crisis and the economic downturn associated with the COVID-19 pandemic affected the Polish and Swedish banking sectors. The main objective of the paper has been formulated in this way in order to achieve the adopted specific objectives, i.e.: to examine the economic conditions in Poland and Sweden after 1990; to compare similarities and differences characterising the Polish and Swedish banking sectors; to assess the situation in the banking sector in Poland and Sweden in the years 1990–2022.

Based on the literature, the thesis of the article is that the Swedish banking sector's response to the global crisis and the COVID-19 pandemic downturn was better than that of Poland. This response was due to the Swedish banking sector's experience gained after the Nordic crisis of the 1990s.

The research methods used to realise the objective formulated in this way and to verify the thesis formulated in this way are: analysis of the literature on the subject, statistical comparative analysis and case study analysis – using indicator analysis.

The first part presents the conditions of the economic situation in Poland and Sweden in the years 1990–2022. The second part is devoted to the characteristics of the Polish and Swedish banking sectors. The third part presents the results from a survey of the banking sector carried out with the modified Du Pont method, using selected financial measures.

[3] It is appropriate to both compare the three post-1990 downturn periods separately and to adopt the full 1990–2022 research period. Both approaches are presented in this article.

[4] Cf. with Laeven and Valencia (2020), Barik (2022), Ozili (2023), Shamshadali, Abdul Gafoor and Daimari (2024), among others.

1. Economic conditions in Poland and Sweden after 1990

The period from 1990 to 2022 was a period of a worldwide, strongly growing trend in terms of GDP generated, halted only in periods of crises. Therefore, from the point of view of the countries analysed, it is important to present the economic conditions surrounding the banking sector in Poland and Sweden. These countries differ in terms of socio-economic development. Based on selected rankings, this is confirmed by international indices. *The Global Competitiveness Index* in 2019 for Poland was 68.9, while for Sweden it was 81.2. Macroeconomic stability was rated highest in both countries, while the lowest: Poland's ability to innovate and Sweden's market size. *The International Institute for Management Development* indicated a competitiveness index value for Poland in 2022 of 60.48 (employment level was rated highest, business regulations lowest), while for Sweden it was 91.86 (health and environment was rated highest, tax policy lowest). According to *the United Nations Development Programme, the Human Development Index* value in Poland increased from 0.716 (in 1990) to 0.876 (in 2021) and in Sweden from 0.810 (in 1990) to 0.947 (in 2021). In Poland, *the Index of Economic Freedom* in 2022 reached a value of 67.7, while in Sweden it reached 77.5. In turn, according to the *Better Life Index* in 2021. Poland was ranked 25th and Sweden 4th. And *the Global Findex* in 2021 for Poland and Sweden reached a value of 1.45 and 1.44 respectively.

Macroeconomic conditions at the threshold of market transformation were characterised by: lack of foreign debt servicing capacity, galloping inflation, low GDP *per capita* (Feldstein 2011). The scale of difficulties in Poland was related to determining the appropriate 'mix' of fiscal, monetary and exchange rate policy implementation. The implementation of stabilisation programmes was accompanied by unfavourable external conditions, including the collapse of the Soviet Union (Belka 2013; Kowalski 2013). The recession in Poland was relatively mild compared to other CEE countries[5]. After 2000, the trade creation effect, investment in human capital and a focus on the development of the service sector became strongly visible in the Polish economy. Nevertheless, the lack of a target model of capitalism is evident in the case of Poland (Schweiger and Magone 2017). Currently, the basis of the economic system, is a social market economy based on freedom of economic activity, private property and solidarity, dialogue and cooperation between social partners. Unlike in other EU countries, the need for a strong state rather than market and family is articulated (Reichardt 2011).

A review of the literature shows that Sweden qualifies as a welfare state – social democratic. The beginning of the construction of the Swedish welfare state model was in the 1930s. The Nordic welfare state model refers to the socio-economic solutions adopted in the Nordic countries (Lesniewski 2020). The model is based on a strong state taking responsibility for the distribution of goods and services and a civil society (Brandal, Bratberg and Thorsen 2013). The Nordic model recognises that society and

[5] According to the International Monetary Fund, Poland experienced an economic crisis between 1981 and 1994.

public authorities are the essential guarantor of a decent standard of living and social security for citizens (Nowiak 2011). Market mechanisms and the role of the family, on the other hand, are less important. The Nordic crises[6] in the 1990s, were a turning point for the Swedish economy and the Nordic model of capitalism. They were not triggered by solutions operating under the previous economic order, but by attempts to modify it. Also in the case of Sweden, the economic collapse followed a general economic recession in Western and Eastern Europe, triggered by the collapse of the Soviet Union (Lesniewski 2019). Recovery plans focused on savings in government spending and the development of a favourable relationship between labour and capital. The changes in the implementation of economic policy had the desired effect. After 1999. Sweden began to recover from the economic and financial crisis (Honkapohja 2012; Buckley, Avgouleas and Arner 2018).

The countries studied have chosen a relatively similar strategy of deepening economic integration within the European Union[7]. Independent – in Poland and Sweden from the European Central Bank – monetary policy, having their own currency, and stabilising prices at the national level, can consolidate an increasingly long derogation. The absolutely required fulfilment of the nominal convergence criteria in the current conditions distances the macroeconomic possibilities of a fast and relatively safe entry into the Economic and Monetary Union. According to *the European Central Bank's Convergence Report* 2024:

- HICP inflation rate (reference value 3.3%):
  - in Poland was 6.1% (criterion not met),
  - in Sweden was 3.6% (criterion not met),
- long-term interest rates (reference value 4.8%):
  - in Poland averaged 5.6% (criterion not met),
  - in Sweden averaged 2.5% (criterion fulfilled),
- general government balance:
  - in Poland, a deficit of 5.1% of GDP (criterion not met),
  - in Sweden, a deficit of 0.6% of GDP (criterion fulfilled),
- general government debt to GDP:
  - in Poland was 49.6% (criterion fulfilled),
  - in Sweden was 31.2% (criterion fulfilled).

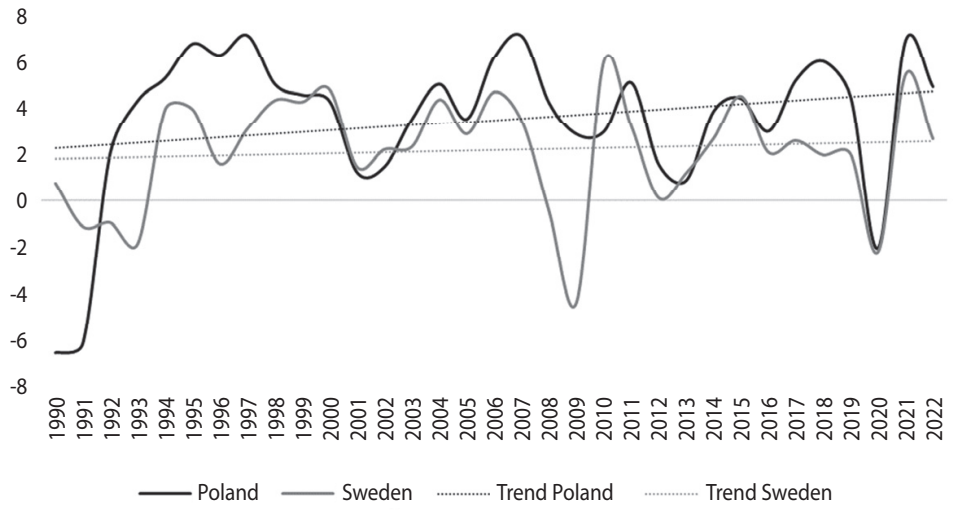
The crisis that began in 2008 in the United States highlighted the weaknesses of the global financial market and its low resilience to shocks (Jonung 2009). An analysis of the literature shows that the impact of the financial crisis on the European economy, proved to be very significant (Claessens and Kose 2013; Berglund and Makinen 2019). Most countries recorded a negative change in GDP growth. Changes

[6] According to the *National Bureau of Economic Research*, Sweden experienced a banking crisis in 1991 and a currency crisis in 1992. In turn, according to the World Bank, Sweden experienced a systemic crisis between 1991 and 1994.

[7] Sweden joined the European Union on 1 January 1995, while Poland joined on 1 May 2004. In 2003, Sweden held a referendum on joining EMU – more than half of the population voted against the introduction of the euro. In Poland, there has not yet been a referendum on joining EMU.

in Sweden were more pronounced than in Poland. In 2009, GDP growth rate values (in %) for Poland were recorded at 2.83, while for Sweden it was -4.34. 2010 saw a recovery from the crisis. The socio-economic situation in the countries under study began to stabilise. Another clear collapse occurred with the outbreak of the COVID-19 pandemic (Miklaszewska and Kil 2023). The economic downturn of late 2019 and early 2020 was felt globally and regionally – also in Poland and Sweden. The macroeconomic situation was not improved by the escalation of the Ukrainian-Russian armed conflict. The data shows that there was an upward trend for GDP growth rates in both countries between 1990 and 2022. The lowest values occurred in the 1990s, as well as during the global financial crisis and during the COVID-19 pandemic. The largest changes (a decrease followed by an increase) covered the years 1991–1992 and 2020–2021 in Poland, while in Sweden the years 2009–2010 and 2020–2021 (cf. Figure 1).

Figure 1. Average GDP growth rates (in %) in Poland and Sweden from 1990 to 2022



Source: own compilation based on International Monetary Fund data (accessed 10.01.2025).

Summarising the macroeconomic determinants, it can be concluded that, on the one hand, there was an 'economic revolution' in the countries studied in the 1990s. In the case of Poland this was due to the systemic transformation, while in the case of Sweden it was due to the aftermath of the Nordic crises. On the other hand, these countries learned lessons (Sweden to a greater extent, Poland to a lesser extent) by introducing solutions to improve or maintain their level of economic development. Poland and Sweden joined the European Union in due course, but for institutional reasons remain outside the Economic and Monetary Union. It is worth noting that the countries analysed have been affected differently by the global crisis, but to a similar extent by the slowdown associated with the outbreak of the COVID-19 pandemic.

2. Characteristics of the Polish and Swedish banking sectors

For more than decades, the building of banking systems to meet the needs of the Polish and Swedish economies has been underway. These systems have gone through a change from a monopoly model to a competition model. This was associated with the streamlining and unification of the institutional environment of the banking sector (Świderska 2013; Kopiński 2016). The two-tier banking system adopted required the central bank (in Poland – the National Bank of Poland, in Sweden – the Riksbank) to focus its activities on monetary policy, geared towards price stability and maintaining the value of money[8]. The transformation has led to the fact that these systems are no longer constituted only by national banks, and are now largely constituted by international institutions in addition to country-specific financial institutions (Edvinsson, Jacobson and Waldenstrom 2020).

The contemporary banking systems of Poland and Sweden have been shaped by a variety of factors influencing their structure and functioning (Mannasoo and Mayes 2009; European Banking Federation 2022). On the one hand, these systems are based on the universal nature of banks, the functioning of banks within groups and a high concentration of banking activities. On the other hand, in the Swedish case, commercial banks are the only financial institutions authorised to accept deposits from customers[9], while in Poland banks are the only institutions authorised to grant loans[10]. This makes the Polish and Swedish banking sectors to some extent limited in their ability to compete freely in the financial market.

A characteristic element of the Swedish banking system is the high level of activity of home banks outside the home country (Chojecki and Matysek-Jędrych 2003). At the same time, Swedish banking largely limits the inflow of foreign capital. In the case of Poland, the capital structure in the banking sector is of a different nature – with foreign capital predominating. Taking into account the indices listed on national stock exchanges (in Sweden – OMX STOCKHOLM BANKS PI; in Poland – WIGBANKI), Swedish, Icelandic, Finnish and Norwegian capital dominates in Sweden[11], while in Polish, Spanish, German, Dutch and French in Poland capital predominates[12]. Therefore, in the countries studied, the position of financial institutions contributes differently to the income crowding out of service areas by foreign banks. The allocation of funds through foreign banks does not necessarily coincide with the methods used by domestic banks, and consequently leads to changes in economic development that are different than planned (Havrylchyk 2004; Guibourg and Segendorff 2007; Pawlowska 2016).

[8] In Poland, an inflation target of 2.5 per cent was set in 2004, with a permissible fluctuation range of +/- 1 percentage point. In Sweden in the 1990s, the inflation target was set at 2 per cent (+/- 1 per cent). In comparison, the European Central Bank has set a medium-term inflation target of 2 per cent in 2021.

[9] Cf. from Lag (2004: 297) om bank- och finansieringsrörelse.

[10] Cf. with the Act of 29 August 1997. – Banking Law.

[11] Cf. from Company Fact Sheet Nasdaq Stockholm AB 2024.

[12] Cf. from the Financial Supervision Commission's Banking Sector Data 2023.

As a result of the crises and economic downturns at the turn of the 20th and 21st centuries, the banking sector was forced to improve its credibility and image (Ferreira 2023). To this end, institutional solutions were introduced in Poland and Sweden in terms of regulations relating to the financial sector and defining the target banking model. Deposit guarantee schemes were established in Poland in 1994. – Bank Guarantee Fund, while in Sweden in 1996. – Swedish National Debt Management Office (sw. *Riksgälden*). In the case of supervision and monitoring of institutions operating in the financial market, the bodies set up to do so were in Sweden the Financial Supervisory Authority established in 1991 (sw. *Finansinspektionen*), while in Poland the Financial Supervisory Commission established in 2006. (Tropeano 2018). Maintaining a stable financial system characterised by high trust, a properly functioning market and a high level of consumer protection, as well as sustainability, have become a priority for the above institutions in both Poland and Sweden (Baszyński 2014; Leśniewski 2015; Tran, Nguyen and Nguyen2022). This confirms that the Polish and Swedish banking systems are characterised by high stability and security[13].

In the banking sectors of Poland[14] and Sweden[15], the progressive stabilisation of the economic situation was particularly evident in the growth of so-called lending, the improvement of banks' financial results and the reduction in the amount of provisions created to cover credit risk (Harasim 2009; Kluza and Walczyk 2020). In Poland until 2021, and in Sweden until 2020, commercial banks operated in a very low interest rate environment (Black et al. 2016; Hedstrom et al. 2024). However, due to rising inflation, central banks began the process of raising interest rates (Kristiansen and Cotten 2020). This led to a change in the dynamics in bank lending (Katz and Chmiel 2019). This was influenced by changes in the size of the interbank rates STIBOR (*Stockholm Interbank Offered Rate*) and WIBOR (*Warsaw Interbank Offered Rate*).

During the years under study, the values of lending as a percentage of GDP in the countries studied followed a similar trend – an upward trend. In addition, there was variation in the sizes of the banking sectors in these countries. Sweden had

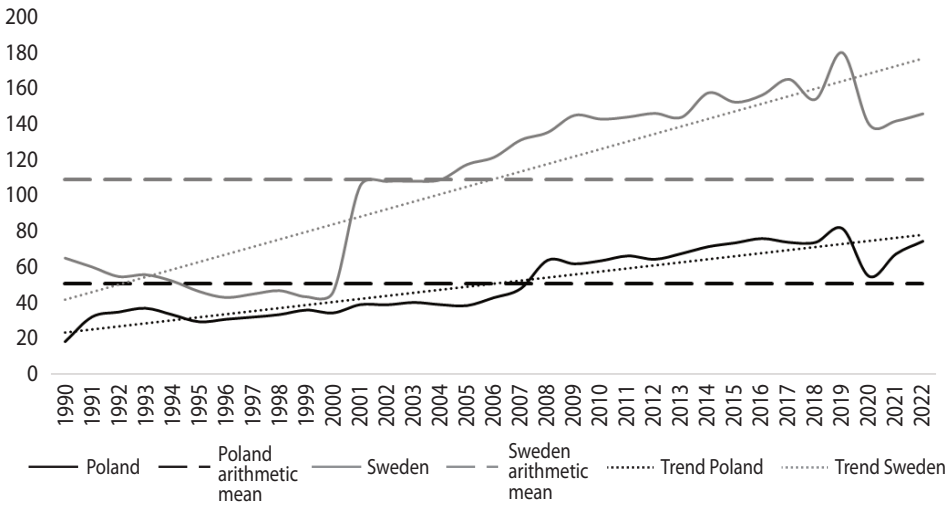
[13] Cf. from Fitchratings for Bank 2023.

[14] Banks in Poland mainly focus on the following areas: cooperative retail banking, retail banking, corporate banking. The structure of the banking sector included in 2023. 574 banks, consolidated assets amounted to over EUR 697 trillion. The deposit guarantee scheme amounted to EUR 100,000. The market share of the three largest banks was in 2023: Powszechna Kasa Oszczędności Bank Polski S.A. 15.70%; Bank Polska Kasa Opieki S.A. 10.25%; Santander Bank Polska S.A. 8,68%. In Poland in 2023, there were approximately 21 bank branches and 68 ATMs per 100,000 inhabitants. For more on this subject, see the Association of Polish Banks 2024.

[15] Banks in Sweden mainly focus on the following areas: regional retail banking, retail banking, corporate banking and investment banking. The structure of the banking sector included in 2023. 162 banks, consolidated assets amounted to more than EUR 1.425.15 trillion. The deposit guarantee scheme amounted to SEK 950000. The market share of the three largest banks was in 2023: Skandinaviska Enskilda Banken AB 18.46%; Svenska Handelsbanken AB 14.93%; Swedbank AB 11.42%. In Sweden in 2023, there were approximately 10 bank branches and 29 ATMs per 100,000 inhabitants. For more on this, cf. from Svenska Bankföreningen 2024.

a relatively higher percentage of the value of loans granted as a percentage of GDP, compared to Poland. This indicator in Sweden, exceeded the value recorded for the Polish banking sector by more than 40%. Over the period under review, a significant increase in this ratio occurred in Sweden after 2000, while in Poland after 2007. The data shows that after 2008, there was no collapse in the Polish and Swedish banking sectors. Only the downturn related to the COVID-19 pandemic contributed to the decline in lending to GDP. There was a change for Poland from 81% of GDP in 2019 to 54% of GDP in 2020, for Sweden from 179% of GDP to 139% of GDP respectively (cf. Figure 2).

Figure 2. Value of loans granted (% of GDP) in Poland and Sweden 1990–2022



Source: own compilation based on International Monetary Fund data (accessed 10.01.2025).

Within the functioning of the banking sectors, excessive monetary and fiscal burdens have recently become key challenges that banks have had to face (Pawlowska 2015; Rakhmatilla 2021). Opportunities and challenges related to the introduction of innovative e-banking and mobile banking solutions and the growing potential of *Fintech* companies have proven to be important for competitiveness in the sector (Murinde, Rizopoulos and Zachariadis 2022; Iwanicz-Drozdowska and Nowak 2024). Above and beyond this, it seems important to continuously strengthen the IT security of financial entities, such as banks, in order to remain resilient in the event of a major operational disruption, ostensibly linked to the introduction of the *Digital Operational Resilience Act (DORA)*.

Table 1. Analysis of the banking sector in Poland and Sweden using Porter's 5 forces

Determinant	Evaluation	
	Poland	Sweden
bargaining power of buyers	4	4
bargaining power of suppliers	4	3
rivalry within the sector	4	3
threat of new competitors	3	2
threat of new substitutes	4	3

Source: own compilation based on: Copenhagen Economics 2024; European Banking Federation 2023.

Based on the above arguments, the Polish and Swedish banking sectors were analysed using Porter's 5 forces (cf. Table 1). In the first stage, conditioning factors were identified. Each factor was assigned a score on a scale from 1 to 5, where 1 means very low, 2 – low, 3 – moderate, 4 – high, 5 – very high. The analysis shows that the bargaining power of buyers is at the same level in Poland and Sweden. The attractiveness of the sector is least affected by the threat of new competitors. The bargaining power of suppliers, rivalry within the sector and the threat of the emergence of new substitutes in Poland was rated at level 4 – higher than in Sweden, i.e. at level 3. This confirms that the banking sectors in Poland and Sweden, despite some similarities in their functioning, are influenced by different internal and external factors.

3. Analysis of the banking sector using selected metrics[16]

With reference to the above justifications, this part of the article examines the situation of the banking sectors in Poland and Sweden during three periods of downturn – the 1990s, 2008–2010 and 2019–2021. For this purpose, a comparative analysis of selected financial metrics for the banking sectors was used (Kowalski and Staniszewska 1998; Bolt and Humphrey 2010; Abreu, Kimura and Sobreiro 2019). The Du Pont method (modified in this article) involves an integrated examination of the relationship between categories, i.e. net profit, equity, total assets, sales revenue, expenses and total income (Vittas 1991; Sobolewski and Stępień 2015; Bhatia et al. 2018; Corbae and Levine 2019). The following indicators were used in the study:

[16] The analyses carried out can provide a starting point for in-depth research and do not prejudge the situation of the banking sectors in the two countries. The comparative analysis may face limitations affecting the quality of the quantitative study carried out.

– return on equity (ROE), written with the formula:

$$ROE = \frac{\text{net profit}}{\text{equity}} * 100 \quad (1)$$

– return on assets (ROA), as recorded by the formula:

$$ROA = \frac{\text{net profit}}{\text{total assets}} * 100 \quad (2)$$

– return on sales (ROS), written with the formula:

$$ROS = \frac{\text{net profit}}{\text{revenue from sales}} * 100 \quad (3)$$

– the operational efficiency ratio (CI), written with the formula:

$$CI = \frac{\text{total costs}}{\text{total revenue}} \quad (4)$$

– equity multiplier (EM) written with the formula:

$$EM = \frac{\text{total assets}}{\text{equity}} \quad (5)$$

– the asset turnover ratio (AMR), written with the formula:

$$WRM = \frac{\text{sales revenue}}{\text{total assets}} \quad (6)$$

In order to verify the situation of the banking sectors during the three economic downturns in Poland and Sweden between 1990 and 2022, the arithmetic mean, standard deviation and coefficient of variation were compared for the ROE, ROA, ROS, CI, EM and WRM indicators. Of the six countries studied, Sweden achieved the highest values in terms of arithmetic mean for the entire study period 1990–2022 for the ROE, ROA and WRM indicators, with the largest difference between the indicators recorded in Poland and Sweden occurring for ROE and the smallest for ROE. At the same time, it should be noted that for these indicators the same regularity was recorded for the standard deviation. On the other hand, in the case of the size of the coefficient of variation, very similar values were recorded for all indicators in Poland and Sweden. In the countries studied, for the period 1990–2022, the banking sector data did not reach negative values. The desirable relationship ROE>ROA (meaning the presence of leverage in a situation of efficient use of equity) for the period 1990–2022 in the surveyed countries was recorded in all surveyed years. In a properly functioning banking sector, the simultaneous ROE>ROA>ROS relationship for the studied period 1990–2022 was not recorded in any year. In Poland, only one indicator, i.e. profitability of sales, showed an upward trend for the entire period under study. In Sweden, on the other hand, an upward trend was recorded for four ratios, i.e. ROE, ROA, ROS and EM. The increase in the ratios was a phenomenon indicative of an improving banking sector (cf. Table 2).

Table 2. Arithmetic mean, standard deviation and coefficient of variation of ROE, ROA, ROS, CI, EM and WRM ratios of the banking sector of Sweden and Poland for the periods 1990–1994, 2008–2010, 2019–2021 and 1990–2022

Indicator, country	1990–1994			2008–2010			2019–2021			1990–2022		
	kryzys nordycki (SE) transition crisis (PL)			global crisis			pandemic COVID-19			the entire research period		
	m	*σ*	*V*	*m*	*σ*	*V*	*m*	*σ*	*V*	*m*	*σ*	*V*
ROE Sweden	5,17	5,45	1,06	5,56	3,67	0,66	12,70	1,69	0,13	8,72	5,25	0,60
ROE Poland	3,44	10,25	2,98	11,12	4,95	0,45	4,31	1,61	0,37	8,98	5,74	0,64
ROA Sweden	0,28	0,30	1,07	0,33	0,21	0,66	0,67	0,10	0,14	0,53	0,33	0,63
ROA Poland	0,24	0,04	0,19	0,94	0,30	0,32	0,42	0,20	0,47	0,78	0,42	0,53
ROS Sweden	3,26	3,96	1,22	13,34	9,15	0,69	33,12	4,68	0,14	18,56	15,35	0,83
ROS Poland	1,49	1,56	1,05	15,09	4,42	0,29	11,55	3,49	0,30	12,06	6,26	0,52
CI Sweden	11,81	9,17	0,78	1,81	0,56	0,31	0,65	0,06	0,10	3,32	5,21	1,57
CI Poland	7,94	3,19	0,40	1,86	1,17	0,63	0,35	0,02	0,06	2,49	2,64	1,06
EM Sweden	17,83	2,03	0,11	16,98	0,16	0,01	18,90	0,81	0,04	16,78	1,82	0,11
EM Poland	14,07	1,11	0,08	11,65	1,97	0,17	10,87	1,41	0,13	11,44	1,98	0,17
WRM Sweden	0,10	0,2	0,19	0,03	0,01	0,34	0,02	0,001	0,07	0,05	0,03	0,65
WRM Poland	0,15	0,0001	0,0009	0,06	0,008	0,13	0,03	0,006	0,17	0,08	0,04	0,51

m – arithmetic mean
σ – standard deviation
V – coefficient of variation

Source: own compilation based on data from Svenska Bankföreningen, Sveriges Riksbank, Financial Supervision Commission, National Bank of Poland (accessed 14.01.2025).

Compared to the Nordic crisis, the Swedish banking sector performed better for the indicators examined during the global crisis and the downturn associated with the COVID-19 pandemic. The Polish banking sector, on the other hand, performed best during the global crisis, followed by the COVID-19 pandemic and worst in the 1990s.

When analysing in more detail the levels of return on equity, return on assets and return on sales, taking into account the situation of individual banking sectors, it should be noted that the highest levels of standard deviation were recorded in Poland – ROE in 1990–1994, in Sweden – ROS in 2008–2010; while the lowest for return on assets – both, in Poland and in Sweden in all examined periods. The average CI levels generated by the banking sectors examined ranged from about 0.5 (during the COVID-19 pandemic) to more than 7.0 in 1990–1994. For this indicator, the highest standard deviation level was recorded in Sweden during the Nordic crisis, while the lowest level was recorded in Poland during the pandemic. In the three periods compared, the average values of the equity multiplier were at similar levels, i.e. in Sweden around 17, while in Poland around 12. At the same time, the lowest standard deviation for the EM multiplier was recorded in Sweden during the global crisis, while in Poland during the transition crisis. In the case of the EM multiplier, the values assumed similar ranges – both for the standard deviation, the arithmetic mean and the coefficient of variation. In verifying the level of the coefficients of variation for the banking sectors, visibly divergent from the others were ROE and WRM in Poland in 1990–1994, and ROS in Sweden during the Nordic crisis and EM during the global crisis. (cf. Table 2)

Between 1990 and 2022, ROE reached a value of around 8% in both countries studied. This means that a net profit of 0.08 PLN or SEK was generated from 1 PLN or SEK of equity capital employed in the banking sector. During the crises of the 1990s and the global crisis, the Polish and Swedish banking sectors were characterised by a lower value of this ratio. From 1 PLN or SEK of equity capital employed in the banking sector, less net profit was generated than during the pandemic. During the pandemic, the volatility of the return on equity was lower than in the other two periods studied. The ownership structure of banks in Sweden reacted to the global crisis and the pandemic "correctly", whereas in Poland such a reaction was felt with a lag. Return on assets in the period under review in Poland declined slightly at the outbreak of the COVID-19 pandemic. In contrast, it was higher during the global crisis than in Sweden, which should be assessed correctly from the point of view of involving assets in net profit generation. The ROS ratios in Sweden and Poland were on an upward trend, implying an increase in generated net profit. Such a situation was a phenomenon indicating a further improvement in the financial health of the banking sectors, despite the crises-related disturbances. In the case of the CI ratio, the higher value in Sweden than in Poland confirmed that the Polish banking sector was able to benefit from economies of scale to a lesser extent in the years under review. The ratio multiplier of total assets to equity in the years studied in Sweden exceeded the value of the ratio recorded for the Polish banking sector. This confirmed the stronger so-called leverage of this sector. The relatively similar value of the asset turnover ratio, confirmed the stable turnover of total assets, including the intensity of their utilisation, despite changes related to the occurrence of individual crises. (cf. Table 2)

The study shows that the effects of the crises on the stability of the banking sectors of Poland and Sweden varied over the three periods studied. The recorded levels of the Du Pont analysis indicators between 1990 and 2022 confirm that the

crises of the 1990s, the global crisis and the economic slowdown after 2019 have significantly affected the financial health of banks in the countries studied. The banking sector in Sweden, after experiencing the banking crisis, has steadily and significantly improved its financial situation. In contrast, the Polish banking sector improved its financial situation to a moderate extent. During the Nordic crisis and the transition crisis, the banking situation was driven by the downturn in the domestic markets. In contrast, after 2008 it was the global nature of the crisis that affected the condition of the Polish and Swedish banking sectors. In contrast, the situation of the sectors surveyed during the COVID-19 pandemic was influenced by non-economic factors. Under the conditions of the respective crises, the situation in Sweden and Poland differed – both among the two countries studied and globally. The lessons from the 1990s in Sweden, comprised overcoming the global financial crisis and the situation after 2019. In contrast, in the case of the Polish banking sector, while the response to the global crisis was better, after 2019 it was similar to the situation in the 1990–1994 period.

Summary

The socio-economic situation requires constant review, due to the downturns associated with the occurrence of crises both locally and globally. In the case of Poland and Sweden, the post-1990 economic conditions used to further analyse their banking sectors were different. Poland after the crisis of the transition countries, and Sweden after the Nordic crisis, reacted differently to the successive crises of the 21st century, adapting the implementation of economic policy to the changing economic conditions. This had a direct impact on the situation in the financial markets, including the banking sector.

The Polish and Swedish banking systems have both similarities and differences. On the one hand, similar: the implementation of national monetary policy, the maintenance of central financial market supervision, the entity structure of the banking sector with so-called key players. On the other hand, different: the consequences related to the resolution of the crises of the 1990s, the so-called admission of foreign capital. In addition, the banking sector in Poland and Sweden has over the years struggled with challenges such as the so-called fight against inflation by central banks, the growing popularity of new technologies among customers. This has had a significant impact on maintaining a good financial situation during the period under review.

The case study of the banking sectors of the countries studied over the period 1990–2022 confirmed the correct level of the selected financial metrics. Individual indicators fluctuated differently after 1990, but did not deviate significantly from average values. In Poland, changes occurred to a greater extent during the COVID-19 pandemic than during the global financial crisis. In Sweden, on the other hand, changes took place to a greater extent during the global financial crisis than during the COVID-19 pandemic. Sweden has learned lessons from the experience of

the Nordic crises, resulting in a better response of the sector to subsequent crises. These lessons would set a good example for Poland in overcoming the crisis in the years to come. Nevertheless, the Polish and Swedish banking sectors can be considered relatively stable when compared to the global situation described in separate literature.

It is important to be aware of the limitations of the assumptions made in the article. The considerations made can serve as a starting point for broader research that could serve market regulators, supervisory institutions as well as banks themselves.

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