Banking Union's impact on financial stability – holistic approach

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Klaudia Zielińska-Lont

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For D., J. and P.

Contents

List of Acronyms

AMC – asset management company
BAC – Banking Advisory Committee
BCBS – Basel Committee on Banking Supervision
BIS – Bank for International Settlements
BRRD – Bank Recovery and Resolution Directive
CAD – Capital Adequacy Directive
CDO – Collateralised-Debt Obligations
CEBS – Committee of European Banking Supervisors
CEIOPS – Committee of European Insurance and Occupational Pensions Supervisors
CESR – Committee of European Securities Regulators
CET 1 – Common Equity Tier 1
CMU – Capital Markets Union
CRD – Capital Requirements Directive
CRR – Capital Requirements Regulation
DGs – Deposit Guarantee Schemes
DIF – Deposit Insurance Fund
EBA – European Banking Authority
EC – European Commission
ECA – European Court of Auditors
ECB – European Central Bank
ECOFIN – Economic and Financial Affairs Council
ECU – European Currency Unit
EDIS – European Deposit Insurance Scheme
EFSF – European Financial Stability Facility
EFSM – European Financial Stabilisation Mechanism
EIOPA – European Insurance and Occupational Pensions Authority
EIOPIC – European Insurance and Occupational Pensions Supervision Committee
EMCF – European Monetary Cooperation Fund
EMI – European Monetary Institute
EP – European Parliament
ERM – Exchange Rate Mechanism

ESAs – European Supervisory Authorities
ESBC – European System of Central Banks
ESC – European Securities Committee
ESFS – European System of Financial Supervision
ESM – European Stability Mechanism
ESMA – European Securities and Markets Authority
ESRB – European Systemic Risk Board
EU – European Union
FED – Federal Reserve System
FRTB – Fundamental Review of the Trading Book
FSAP – Financial Services Action Plan
FSB – Financial Stability Board
G-SIBs – Global Systemically Important Banks
G-SIIs – Global Systemically Important Institutions
LCR – Liquidity Coverage Ratio
LOLR – Lender of last resort
LTRO – Long Term Refinancing Operation
MBS – Mortgage-Backed Securities
MCA – Multivariate Comparative Analysis
MREL – Minimum Requirement for own Funds and Eligible Liabilities
NBP – National Bank of Poland
NRA – National Resolution Authority
NSFR – Net Stable Funding Ratio
P&A – Purchase and Assumption
ROE – Return on Equity
RORAA – Return on Risk-Adjusted Assets
SEA – Single European Act
SRB – Single Resolution Board
SRM – Single Resolution Mechanism
SSM – Single Supervisory Mechanism
TLAC – Total Loss Absorbing Capacity

Introduction

The financial crisis of 2008 was a difficult lesson for the European Union (EU) that uncovered the deficiencies of its internal market setup. The insufficient integration of the financial markets proved to be a major weakness, particularly of the euro area, depriving it of a mechanism that could effectively mitigate external shocks (cf. Ingram, 1973, pp. 11–12). The consequences of disharmonised financial markets were particularly severe for the banking sector of European countries (Janicka, 2007, p. 103; Jaworski & Szelągowska 2014, pp. 20–21; Marcinkowska et al., 2014, p. 10; Gostomski, 2016, pp. 72–76), as this was the channel through which the financial shock from the United States was transferred.

The need for financial integration was not a new concept, particularly in considerations around establishing currency areas, yet it was not promoted much at the political level inside the EU, as the Member States were not willing to enhance integration in this respect. After the euro area was established, the European Commission made several attempts to better harmonize the regulatory environment of the national financial markets, but they largely failed (Hertig & Lee, 2003; Quaglia, 2007). National protectionism has frequently been quoted as the main reason for these failures, as the Member States were keen to maintain barriers for financial institutions for the benefit of national entities (Hertig & Lee, 2003, pp. 9–14).

The fact that the internationally coordinated supervision of credit institutions has been overlooked for many years deserves particular attention. It may come as a surprise, especially when considering that the involvement of the largest and most important supervised entities in cross-border activities has been substantial for many years and has kept growing. These activities were beyond the jurisdiction of national supervisors, and there was no legislation to mandate their cooperation in regulatory oversight. The resistance to giving up national authority in supervising the domestic banking sector weakened only in the aftermath of the financial crisis, as countries had to resort to public funds to prevent bank failures. With the right motivation, a project to establish a banking union based on three pillars was agreed upon in a relatively short time.

The first pillar of the banking union to be established was the Single Supervisory Mechanism (SSM). From the perspective of this book, this was a key reform,

centralising the responsibility for regulatory oversight of the euro area banking sector under the auspices of the European Central Bank. The second pillar was the Single Resolution Mechanism, which facilitated a supranational body called the Single Resolution Board tasked with coordination of restructuring or resolution of failing credit institutions. The third pillar of the banking union, the European Deposit Insurance Scheme, had still not been established at the time of preparing this monograph, leaving the banking union incomplete. The project to establish a common deposit insurance scheme, however, has not been abandoned by the European Commission.

Evaluating the banking union project from an economic perspective has generally led to positive conclusions (Gros, 2012; Szpunar, 2012; Tchorek, 2014; Schoenmaker, 2015). Establishing coordinated supervision and a common bank resolution mechanism for the entire euro area was seen as an important reform that was already long delayed. It needs to be noted here that these reforms were not implemented without opposition from the Member States, and that the general motivation to improve the level of financial integration was still insufficient to establish a common deposit insurance scheme (Krahnen, 2013b; Donnelly, 2018). Strict regulatory oversight and prudential requirements have for many years been seen as a major threat to the competitive position of European banks, whereas further integration was expected to strengthen the potential contagion effect between different countries.

There was a great deal of speculation around what changes the banking union would bring to the financial sector in Europe, but the net impact that the Single Supervisory Mechanism actually has had on the banks falling under its jurisdiction remains largely unknown. The aim of the study is to assess this impact in the context of the credit institution's profitability, risk exposure, and liquidity. To achieve this goal, a dedicated synthetic indicator was designed to quantify the net impact of harmonised prudential supervision on the stability of credit institutions. The use of a synthetic measure was deemed necessary, as the actual impact of the reform on financial stability could not be directly quantified.

The study on the impact of harmonised prudential supervision began with a critical literature review of the concept of financial stability and its safeguards. It was then followed by an analysis of the financial markets' integration inside the EU. Special attention in this context is dedicated to the process of establishing a banking union, given the significance of this project for financial integration. At this stage, the problem of identifying the net impact that the reforms had on credit institutions became apparent. On the one hand, meeting increased capital and liquidity requirements is costly and affects the profitability of credit institutions. This may also be seen as an opaque incentive for banks to engage in more profitable, and often riskier, activities to defend the interest of their shareholders. On the other hand, the increased resilience of credit institutions benefits financial stability and protects the interests of the bank customers, although, at the same

time, they are the ones who may end up having to bear the cost of adjusting to the new prudential requirements. The result of the impact of the forces affecting banks is difficult to estimate; therefore, it was deemed prudent to create a synthetic measure that would enable a comprehensive assessment of the changes caused by the implementation of the new banking sector safety net.

The monograph consists of four chapters. **The first chapter** is dedicated to financial stability and the related tasks of conducting financial oversight. Regarding the responsibility for financial stability, particular attention is given to the role of the central bank. This chapter also discusses the recommendations of the Basel Committee on Banking Supervision in the context of efficient prudential requirements.

The second chapter reviews the legal acts related to constructing the common financial market in the European Union until the beginning of 2021. The chapter emphasizes that the outbreak of the financial crisis of 2008 was a turning point in Europe's financial integration.

The third chapter describes the process of establishing the banking union, from the project until the design of individual pillars. Special attention is paid to the first pillar of the banking union – the Single Supervisory Mechanism – as it is the pillar that enables reliable comparative analyses of credit institutions that are now subject to the homogenous set of prudential requirements under its jurisdiction.

The last chapter is dedicated to empirically verifying the consequences of establishing the banking union for selected credit institutions. It explains in detail the design of the dedicated research tool and discusses the study results achieved through its application. Finally, the study summary is presented along with recommendations for further analyses.

Chapter 1

Financial stability and its safeguards

The term "financial stability" was first used in the context of the banking sector by Holland in 1975 (see Urbanek ed., 2012, p. 19). However, it was not until the 1990s that the Bank of England first referred to the phrase to present the concept as one of its aims as a central bank that was unrelated to ensuring price stability (Allen & Wood, 2006, pp. 152–153). Nevertheless, financial stabilisation was an issue of interest even before the Bank of England and Banque de France took financial stability as one of their aims at the end of the 19th century.

The subject of financial stability has been raised frequently since it was first introduced, yet no single definition has been established or agreed upon. In the literature, two groups of definitions can be distinguished – one that focuses on financial stability, the other on financial destabilisation. The stability of the financial system is very often understood as the stability of the banking system.

Technological development and globalisation have contributed to the dynamic growth of credit institutions and the range of services they offer. This required a parallel expansion of their surveillance networks to protect both their clients' funds and the stability of the economy as a whole.

The aim of this chapter is to present the chosen range of definitions proposed in the literature, with a focus on those referred to by financial supervision authorities. As financial stability is frequently quoted as the main goal of exercising prudential supervision, understanding this concept is of key importance to this book.

1.1. The definition of financial (in)stability in the literature

The presentation of the definitions of financial stability will start with those that focus on stability directly. One such definition is presented by Crockett (1997, p. 8), who states that a stable financial system does not permanently lose liquidity or insolvency. Kaufman (1998, pp. 45–46) conditions financial stability on the resilience of the banking system that needs to be capable of absorbing the losses it might incur when asset price bubbles burst. Although this is a broad definition, he points to the active role of financial supervisors and the central bank in ensuring the responsible behaviour of commercial credit institutions. Similarly, Macfarlane (1999, p. 34) states that: "Financial stability is the avoidance of a financial crisis", indicating that this crisis is a direct consequence of bank failures.

For Trichet (2000, p. 197–199) and Duisenberg (2001), financial stability is when all financial institutions work harmoniously, and at the same time, the international exchange rates are stable and predictable. Meanwhile, Jaworski and Zawadzka (eds., 2008) defined financial stability by the concept of banking system stability, understood as the ability of the banking system to maintain financial liquidity and the solvency of the institutions it consists of.

The definition presented by Padoa-Schioppa (2002, p. 20) states that financial stability is a state in which the financial system is resistant, experiences no disruptions in the payment settlement system, allows for the optimal allocation of resources in the economy, and is capable of absorbing external shocks. Wellink (2002, pp. 1–2) expanded this definition by indicating that the value of money remains a relevant factor for financial stability, and hence the central bank has a major role in keeping the economy stable and capable of further growth.

Foot (2003) stated that financial stability can be observed when the unemployment rate is close to its natural level, public opinion is convinced of the stability of financial institutions and markets, and there are no price fluctuations that could threaten the stability of the currency, or employment level. Large (2003) presented a similar opinion, stressing that trust in the financial system is the main condition for maintaining financial stability. Issing (2003) considers the financial system stable if it can permanently ensure the proper performance of its functions, enabling the transfer of funds from holders of excess capital to investors.

The definition presented by Schinasi (2006, p. 82) states that a stable financial system, in addition to transferring funds, provides information that enables the correct assessment of investment risk, and its general condition enables the stabilisation of the economy in the event of a financial shock. A more "hands-on" definition is provided by Cihák (2006, p.7) following a survey among central banks on the concept of financial stability in general. He concluded that although the definitions vary, this concept is analysed in the context of situations that distort

the functioning of the financial system and weaken its general resilience and efficiency, thereby adversely affecting the entire economy.

In his speech at a conference in Tokyo, Svensson (2010) clearly indicated that the financial crisis proved that neither inflation containment nor interest rate policy alone can ensure financial stability, and that dedicated policy is needed to ensure the resilience of the banking sector. Koleśnik (2011, p. 54) considers the financial system to be safe when the banking sector enjoys the trust of its participants despite the risk associated with its operations. Meanwhile, Smaga (2013, p. 19) stated that the financial system can be considered stable if it works properly, is resistant to internal and external shocks, and is able to restore its functions when they become affected by such shocks. Pietrzak and Wasiak (2017, p. 122) believe that the stability of the financial system determines its security. Preserving a stable financial sector is currently a particularly difficult task due to the advancing globalisation of financial markets.

Among the researchers trying to define unstable financial systems, one can distinguish Davis (2001, p. 2), for whom financial instability is the increased risk of a financial crisis. In turn, he defines a financial crisis as a collapse of the financial system, when it becomes unable to service payments and grant loans. Similarly, Chant (2003, p. 3) states that financial instability is any situation on the financial markets that may lead to disturbances in how the financial system functions. In light of these definitions, in a crisis, the stability of the financial system (including the banking system) becomes particularly important.

For Ferguson (2003), financial instability is when the valuation of assets is disrupted and access to financing becomes limited. Nelson and Perli (2007, p. 1) suggested that that financial instability can also stem from monetary and fiscal policy decisions themselves. In an attempt to arrive at a single definition of financial stability, the Central Bank of Bahrain analysed different definitions and concluded that a financial system is stable if the financial institutions can continue their operations in times of financial turbulence (Alawode & Al Sadek, 2008, p. 6). Their conclusion also points to the fact that a shock's potential (positive or negative) to impact the day-to-day operation of banks, without any reference to the severity of that disturbance, is symptomatic for the evaluation of stability.

Mishkin (2011, p. 11) perceives financial instability as a disturbance in the flow of information, as a result of which the financial system is unable to transfer funds to profitable investment opportunities. Thus, this definition also points directly towards the financial institutions and their role in channelling funds. The financial sector provides capital and is a stabiliser of the economy that must remain operational to maintain its basic payment functions and granting loans (Alińska, 2012, p. 89). Adrian et al. (2014, pp. 3–6) point to the specific feature of a vulnerable, potentially unstable financial system that is characterised by a high price of risks at times of economic instability and low price of risks during steady times. This results in a high build-up of exposure by credit institutions and

a maturity mismatch between their assets and liabilities that may threaten their liquidity at times of adverse shocks. This definition implies the need to establish targeted prudential supervision that can prevent excess risk accumulation by credit institutions and ensure that they hold the capacity to incur losses.

It is also worth looking at the definitions of financial stability presented by selected central banks. As suggested by many of the abovementioned authors attempting to define stability or instability, the condition of the banking system is of key importance for the resilience of the financial system, and hence it has become a significant issue for the national banks of many developed countries. According to a study by Jajuga et al. (2017), 48 out of the 52 central banks they studied had maintaining financial stability explicitly defined as one of their main goals. Another study of 114 national banks by Jeanneau (2014) shows that 82% of the analysed institutions mentioned financial stability objectives as part of their goals. He further divided these definitions between those that point to certain specific tasks of a bank in this respect and those that apply to all its activities in general.

The European Central Bank (ECB) defined financial stability "as a situation where the financial system including financial intermediaries, financial markets and financial market infrastructure is able to withstand shocks and emerging financial imbalances. This limits the possibility of disturbances in the financial intermediation process that would be so severe as to disturb the profitable allocation of savings" (ECB, 2021a).

The Federal Reserve System (FED) (2021) – the central bank of the United States – has financial stability set as one of its six goals, stating that a financial system is stable when its institutions are able to offer its products, resources, and services to the households, communities, and businesses they need for the benefit of economic growth. The National Bank of Poland (NBP) (2018, pp. 5-6) defines the stability of the financial system as "[…] a state in which it performs its functions continuously and effectively, even in the event of unexpected and unfavourable disturbances of a significant scale". For the Bank of England (2021), financial stability is also considered a public good and links it directly to the resilience of its banking sector, including, in particular, its loss-absorption capacity, the quality of credit portfolios, and accumulated exposure to the financial markets.

A stable financial system for the Reserve Bank of Australia (2021) is "[…] one in which financial institutions, markets and market infrastructure facilitate the smooth flow of funds between savers and investors". The Australian bank also indicates that maintaining this stability through preventing financial disturbances and responding to them once they occur is one of its long-standing goals. Similarly, the Bank of Japan (2021) plays an active role in maintaining financial stability through off-site monitoring and on-site examination of credit institutions to ensure that participants in the financial system have confidence in the soundness of their operations.

Many central banks use the definition of financial stability to define their own responsibilities in terms of ensuring the sound operation of the financial system.

Such an approach was also taken under the Swiss National Bank Act, obliging the national institution to ensure the smooth functioning of the financial system and to cooperate with the respective supervisory authority (SNB, 2021). This way, the Act recognizes that the central bank is frequently not the only institution with rights and obligations to ensure financial stability. The division of responsibilities vis-à-vis ensuring financial stability between different institutions deserves special attention and will be discussed in detail in subchapter 1.3 of this book.

Despite the multitude of definitions of financial stability, the general perception of the phenomenon is not fundamentally different in different parts of the world. These definitions often refer to features that may not be easily quantified, yet as Jeanneau (2014, p. 48) rightly noted, this is not much different to price stability objectives, and any attempts to come up with strict measures of an "unstable" financial system would only multiply the definitions and further add to the complexity of the problem.

1.2. The financial safety net

According to the definitions found in the literature, financial stability needs to be supported by different instruments, which are collectively referred to as a financial safety net (see Capiga et al., 2008, p.15). A safety net is defined by Demigrüc-Kunt and Huizinga (1999) as a set of regulations and institutions that seek to limit depositors' losses in the event of a bank's insolvency. Walter and Weinberg's (2002) short definition says that a financial safety net comprises all the governmental measures that protect the private funds held in financial institutions. This is a narrow definition that refers primarily to measures undertaken by the state that ensure the pay-out of the money kept in the accounts of a defaulting financial institution to prevent bank runs. In the opinion presented by Ingves (2006), a financial safety net should be based on four pillars that include a deposit guarantee scheme, the institution of a lender of last resort, prudential supervision of credit institutions, and a framework for insolvent bank resolution (see Figure 1).

The broad definition of a financial safety net understands it as the entirety of regulations, supervisory institutions, and interactions between them, working together to improve the stability of the financial system (Alińska, 2012, p. 92). The very same definition of the safety net proposed in the literature can attribute the responsibility for maintaining financial stability to various institutions. Masłowska-Joakinen and Matysek-Jędrych (2016, p. 36) indicate that these may be entities responsible for guaranteeing deposits and performing the function of the lender of last resort (LOLR) (more in section 1.5.2.), as well as authorities that coordinate the resolution of insolvent financial institutions. Therefore, the financial safety net is a concept that goes beyond

the institutional aspect of exercising supervision, including legal and organisational solutions, jointly intended to ensure the smooth functioning of the financial system.

The existence of supervisory institutions is important not only because of the need to maintain fair competition between credit institutions, but above all because banks are institutions of public trust, and any distortion to the liquidity of one of them may have very serious consequences for the entire banking sector and also for the national economy (Jakubowska, 2013, pp. 66–68).

Figure 1. Financial safety net
Source: own elaboration based on Ingves (2006)

The immediate goal of supervisory bodies is to control the risk that commercial institutions bear in their operations. Supervision must ensure that this risk cannot jeopardize the safety of funds deposited in banks, but at the same time, its orders should limit the freedom of operation of the entities of the banking system as little as possible (Szustak, 2008, pp. 41–55). The second statutory goal for supervisors is to make sure that banks' activities comply with the applicable law.

Control over the functioning of the sector is typically organised in the form of separate offices, and due to the extensive catalogue of services offered by banks, their supervision often falls within the competence of several supervisory bodies established for the financial system, including capital and insurance market

supervisors. Due to the high interdependence of these markets, many countries decide to integrate the supervisory authorities of individual subsystems of the financial system into one large supervisor (Mwenda, 2005, pp. 57–98). It needs to be noted that even in those countries, certain powers remain within the hands of, e.g., the finance ministry, and ultimately, efficient prudential supervision requires collaboration (Lumpkin, 2002). The appropriateness of the institutional structure was a subject of heated debate, particularly in Europe during the financial crisis and the years that followed (CEPS, 2009).

1.3. Financial market supervision models

The literature on the subject distinguishes various financial market supervision models. This division is based on the scope of institutional integration of supervisory authority over the different segments of the financial market and the degree of the central bank's involvement in supervising the banking sector (which will be discussed in more detail in subchapter 1.4). Many factors influence the choice of the financial market supervision model. The literature on the subject mentions, inter alia, the level of economic development, the size of the financial sector and its structure, and the political and historical background (Halme et al., 2000, pp. 95–128).

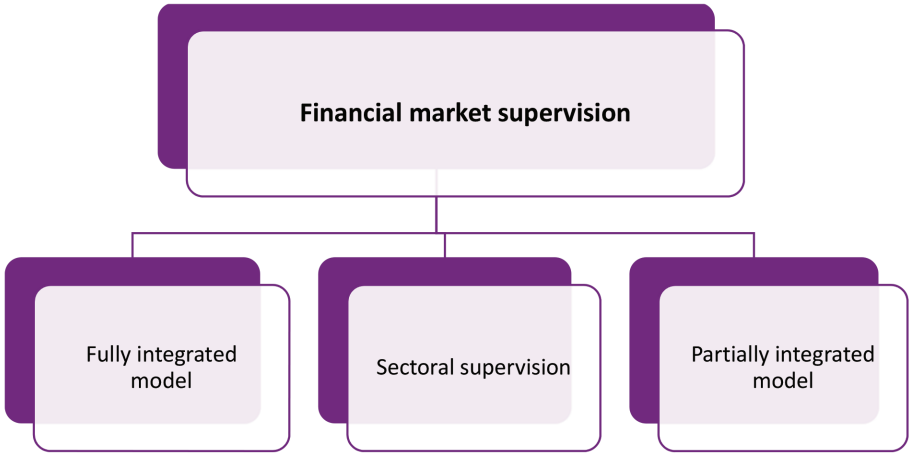

Figure 2. Different institutional models of financial supervision
Source: own elaboration

Two basic models of financial market supervision can be distinguished following the integration scope criterion – the integrated model (also known as the

single-institutional model) and the sectoral supervision model. In addition to the two basic models of supervision, there is also an intermediate variant, organised under the functional approach – see Figure 2 (Taylor, 1995).

Under the **integrated model**, one institution supervises all segments of the financial market (banking, capital, insurance, as well as life assurance and pensions). This model was developed first in Singapore, then in Scandinavia, and many more countries followed towards the end of the 20th century (Hryckiewicz & Pawłowska, 2013, pp. 9–11).

The adequacy of the integrated supervision model is supported by the fact that with the development of large financial conglomerates, the boundaries between individual segments of the financial market tend to blur. This supervision model is also practical for the financial holdings themselves, which are obliged to report to a single institution. Zaleska (ed., 2013b, pp. 36–37) also indicates that this model makes it possible to avoid overlaps in competencies and increases the transparency of supervision. This solution also enables greater regulatory flexibility, which helps it adapt to the rapid development of the products and services on the financial market. The fact that supervision is concentrated "under one roof" also allows for economies of scale, leading to a reduction of institutional costs. However, it should be remembered that large financial institutions' strong capital ties most often go beyond the borders of a single country, and in this case, effective consolidated supervision requires appropriate agreements to organise international cooperation.

Opponents of integrated supervision indicate that each segment of the financial market is different and requires an individual approach. In markets where the segments are unevenly developed, an increased risk of shifting the supervisor's focus towards more developed areas is believed to exist. This can lead to further discrepancies in the development level of the segments and hence be harmful to some market participants. Llewellyn (2006, pp. 5-9) points out that an integrated supervisor may become too large to operate effectively, and that a wide range of activities may be difficult to manage. The existence of one supervisory institution may lead to the so-called Christmas tree effect, when the authorities tend to impose more and more obligations on supervisory institutions, causing them to gradually lose efficiency.

In the **sectoral supervision model**, each segment of the financial market is supervised by a separate institution – in the case of the banking sector, it is usually the central bank (Gromek et al., 2009, p. 3). In the literature, this model is often referred to as "traditional" – the organisation of supervision separately for each sub-sector of the financial system was justified in the past, when the securities market, and the banking and insurance sectors were not interconnected as strongly as they are today, and each was governed by a separate set of regulations (Zawadzka, 2017, pp. 107–108). It should be noted, however, that such a model of supervision still functions today, e.g. in Lithuania, France and Portugal. The

supporters of dedicated supervisory institutions for each sub-sector include Abrams and Taylor (2000, pp. 9–21), who indicate that this is the way supervised institutions organise their works internally; hence the risk of asymmetry of control over the financial system is small. Stocka and Kołacz (2009, pp. 66–68) also point out that differences between the segments of the financial system still exist, and they may not be properly accounted for by an integrated supervisor.

The intermediate variant between both models is the **partially integrated model** (also called the Twin Peaks model), which involves a functional separation of duties between supervisory bodies in accordance with the scope of their tasks. In this model, there are two supervisory institutions responsible for various aspects of controlling the activities on the financial market (EBC, 2010). Currently, this solution is used in the Netherlands, Belgium and Great Britain, for example. One institution is responsible for the prudential supervision of all financial institutions; in countries that have implemented this model, this role is typically performed by the central bank. A second supervisory institution is responsible for the legal aspects of the financial institution's activities, particularly customer protection. Another form of such a hybrid model is a setup under which cross-segment issues are managed by dedicated teams from both supervisory institutions (Volcker & Frankel, 2008, p. 14). The semi-integrated model brings together many advantages from both the traditional and the integrated models. An interesting view was expressed by Lannoo (2002, p. 5), who stated that coordinating the supervision of the financial system's sub-sectors may bring synergies resulting from the specialist knowledge of cooperating authorities, whereas fully-fledged organisational integration may make it more difficult to bring together the right people. Nonetheless, Lumpkin (2002, p. 4) emphasized that the functional integration of supervision alone does not guarantee good coordination between the supervisory bodies, just as the existence of a single supervisory institution does not imply the discrimination of any specific sub-sector of the financial system.

In the sectoral supervision model, which until recently was the dominant approach to financial supervision, the problem of overlapping competencies is not uncommon, particularly in the context of the oversight of large universal banks. Integrating these institutions into one large supervisor makes it possible to eliminate this disadvantage, providing clarity over the scope of competencies and strengthening the supervisor's position vis-à-vis large entities. The information presented in Table 1 demonstrates that the integrated approach to supervision has gained popularity in many countries in Europe, although it should also be noted that it also has downsides. Dedicated sectoral supervision is undoubtedly better adapted to the characteristics of individual subsystems, and reorganising these institutions into a single body requires significant modifications of the goals set for the new supervisor, as well as extensive adaptation of its IT systems (Capiga, 2008, pp. 67–71).

Table 1. Supervision models in selected European Union countries

Supervision models	Countries
sectoral supervision model	Bulgaria, Luxemburg, Slovenia, Spain, Portugal
partially integrated model	Belgium, Greece, France, the Netherlands, Italy, the United Kingdom
integrated model	Austria, the Czech Republic, Denmark, Estonia, Finland, Germany, Hungary, Ireland, Island, Latvia, Norway, Poland, Slovakia, Sweden, Switzerland

Source: based on Calvo et al. (2018, p. 36)

In recent years, the partially integrated model has also gained popularity. Schoenmaker and Véron (2017, pp. 1–9) directly indicate that the separation of responsibility for prudential supervision and business conduct should become the target model of supervision in the European Union. Finally, Nadolska (2014, p. 59) pointed out that supervisory bodies' independence from external pressures and their well-defined scope of responsibilities are often more important for ensuring financial stability than the institutional setup of oversight itself.

1.4. Micro- and macro-supervision models

A different way of categorising financial market stability has also been presented from the perspective of the scale at which it is being considered. Due to the special structure of the banking system and its importance for the entire financial system, as well as the complexity of connections between individual credit institutions, its stability needs to be safeguarded both at the level of the entire financial system, as well as its individual subsystems (Hanson et al., 2011, pp. 3–28). The fact that the division into macro- and micro-prudential supervision should be distinguished is a relatively new concept, with first references in the literature on the subject appearing at the end of the 20th century in the works of Crockett (2000) and Borio (2003).

According to Crockett (2000), both supervision types have a different approach to exercising oversight. In the case of micro-prudential supervision, the bottom-up approach is applied, where the analyses of the condition of individual institutions are the starting point for evaluating stability, which, when aggregated, can represent the condition of the entire sector. Conversely, macro-prudential supervision applies a top-down approach, where the analysis focuses on estimating the probability and size of systemic risk, which is then disaggregated into the problems of individual financial institutions.

The European Systemic Risk Board (ESRB (2011) defines the aim of macro-prudential policy as to protect the stability of the financial system as a whole. In this case, however, this also encompasses ensuring that the system contributes to achieving economic growth in a sustainable manner. In turn, the micro-prudential policy aims to focus on individual sectors of the financial market, i.e. the banking, insurance, and capital markets. Quite naturally, with different goals defined, supervision at the micro- and macro-level needs to be equipped with different tools (see Figure 3).

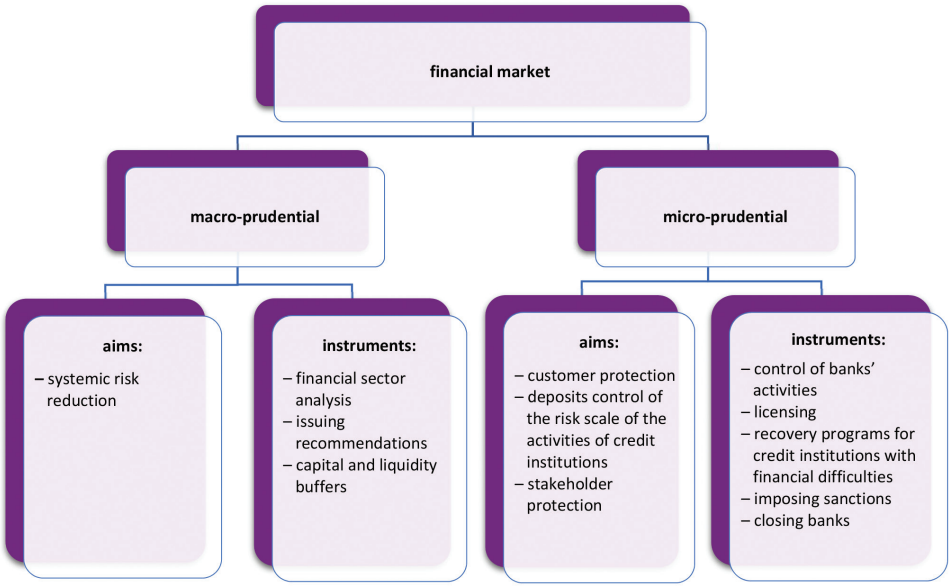

Figure 3. Micro- vs Macro-prudential supervision
Source: own elaboration based on Borio (2003)

Discussions around reinforcing macro-prudential supervision became particularly intense after the outbreak of the last financial crisis. However, according to Galati and Moessner (2011, pp. 7–8), a consensus on all aspects of macro-prudential policy implementation was never reached. As the subject has attracted much attention over the past 13 years, major changes have been made to the way macro-prudential supervision is performed in different parts of the world.

1.5. Statutory and implied responsibilities of the central bank in terms of ensuring financial stability

A Central Bank is a special kind of institution that is an integral part of the entire modern economy, and at the same time, it is a special type of credit institution. By definition, it is the bank of the state, the body responsible for the monetary policy, and at the same time, it is the bank for all commercial banks (the "bank of the banks") (Daniels & Van Hoose, 2014, p. 172). This is a very general definition of the functions performed by the central bank, which has undergone many changes over the years (Singleton, 2011, pp. 5–9). Most of today's central banks are state institutions with a special legal position. As the state bank, the central bank is responsible for servicing the state's debt and maintaining the accounts of the government and other state bodies. Additionally, central banks typically hold a degree of responsibility for supervising the banking sector, and that degree typically stems from the implemented supervision model. The central bank's involvement in supervision will be discussed in more detail further down in this section.

The most important goal pursued by the central bank in most cases is the direct inflation target, i.e., maintaining price stability. Price stability is most often understood as maintaining a low inflation rate, which since the beginning of the 21st century has been understood as in the range of 1–4% (Bordes & Clerc, 2007, pp. 275–276). Usually, this goal is achieved by adjusting the interest rate levels, which serves as the reference value for the cost of credit. Changes to the interest rate level signal an increase or decrease in the gross demand for money and impact the rates at which commercial banks lend money to customers and the interest they pay for their deposits.

According to Cecchetti and Schoenholtz (2011, p. 416), it is the role of the lender of last resort that is the most important task for the central bank beyond the responsibility for maintaining price stability. In their opinion, by performing this function, the central bank contributes to ensuring the financial system's stability. Some economists, such as Volcker (1984, pp. 547–557), believe that it is an even more important goal than price stability because it is the security of the financial system that allows prices to be kept constant. Increasingly, one can meet the view that both goals are equal and complement each other (Icart, 2003). The central bank's role as a LOLR in the context of financial stability will be further discussed in section 1.5.2.

Acting as the bank of the banks, the central bank is a provider of liquidity and a source of financing for commercial banks. It also implements the regulatory policy for the banking sector and is often directly or indirectly responsible for the security of the funds deposited in commercial institutions, which is inextricably linked with ensuring the stability of the financial system.

The independence of the central bank can have a major impact on the efficiency of its operations and can therefore impact the financial system's stability as well. On the one hand, it ensures the freedom to make decisions, which is crucial given the importance of the central bank's statutory tasks. Such independence is of particular importance from the perspective of price stability, since decisions to contain inflation may often contradict the needs and expectations of different authorities. This independence also means the inability to appeal against, suspend, or annul its decision once it has been taken. The greater the independence of the central bank, the more credible it is to market players and the lower the concerns about a sudden collapse in the value of the domestic currency. National law must, therefore, provide the management board of the central bank with the freedom to set goals as part of the pursued monetary policy and to select the tools by which these goals are achieved (Matthews & Thompson, 2007, pp. 238–263).

1.5.1. The central bank's involvement in financial market supervision

Returning to the degree of involvement of the central bank in supervising the banking sector, three basic models can be distinguished (ECB, 2010, p. 2):

- the central bank is solely responsible for the supervision of the banking sector;
- the central bank is responsible for overseeing the financial system;
- the central bank is not involved in financial supervision at all.

In the literature on the subject, there is no dominant view on the optimal form involving the central bank in supervising the financial system (Ingves, 2007). Authors point to the advantages and disadvantages of each of the abovementioned models while expressing the opinion that the choice of supervision structure must be made individually for each country (Lumpkin, 2002, pp. 3–5). The degree to which the central bank should be involved in supervision is a sticking point in the literature.

It can be argued that the central bank's active participation in supervising the financial system is necessary, given that maintaining financial stability is typically one of its goals (Zielińska, 2016). Mayer (1999, pp. 1–6) stated that the combination of the supervisory function and monetary policy is immanent – in order to effectively ensure financial stability, a central bank needs both quantitative and qualitative information to make the right decisions. Much of this information can be found in the reports submitted to the supervisory authority. Therefore, the issue of information flow is an argument in favour of entrusting supervision to the central bank. As a supervisor, the central bank has greater knowledge of commercial banks' activities and financial condition, while as the institution responsible for the monetary policy, it has a good overview of the macroeconomic condition of the economy.

Incorporating supervision into the competence of the central bank also makes it possible to avoid competence disputes and enables the more effective use of the resources at the central bank's disposal. The central bank, which also supervises the banking sector, no longer has to commission analyses that are performed anyway as part of its supervisory tasks.

The literature on the subject also raises the role of the central bank during a financial crisis (ECB, 2010, p. 5). When liquidity problems arise, the central bank is the institution that can swiftly react to such problems. As the recent financial crisis has shown, it was the central banks (e.g., the FED, the Bank of Canada, the Bank of England, etc.) that were the first to react to the liquidity problems, immediately providing the banking sector with funds (Gromek et al., 2009, p. 6). In times of crisis, it is important for the central bank to quickly have complete and reliable information on the financial situation of both individual credit institutions and the entire banking sector. Availability of information is also important to address the issue of moral hazard – a better informed central bank will be in a better position to deny financial support to credit institutions that are not struggling with liquidity issues but are highly likely to fail. A central bank that does not have the relevant information and is under pressure to prevent the spread of a crisis is more likely to provide unjustified financial aid and thus weaken market discipline.

There are also opponents of entrusting the central bank with supervisory functions (e.g., Di Noia & Di Giorgio (1999, pp. 361–378) and Copelovitch & Singer (2008, pp. 663–680)), who argue that it has a negative impact on monetary policy. Their empirical research indicated a negative impact on inflation in countries where the central bank remained responsible for supervising the banking sector. They explained that the willingness to pursue a restrictive interest rate policy could be hindered by the fact that it might negatively impact the condition of credit institutions, while the desire to increase the banking sector's liquidity could be in conflict with the pursued monetary policy. Nevertheless, this argument was criticised by Goodhart and Schoenmaker (1995, pp. 556–557), who perceived the suggested conflict of supervisory interests and monetary policy as insufficiently motivated. In later studies, Lima, et al. (2012, pp. 16–17) presented an extended model of Di Noia and Di Giorgio, which found no evidence of the weakening impact of the supervisory function on the monetary policy.

According to many authors (e.g., Lastra (1996), Goodhart (2000, p. 43), Crockett (2001, p. 4), Goodhart and Tsomocos (2007, p. 10)) the involvement of the central bank in supervising credit institutions is necessary. Mayer (1999) explicitly stated that separating banking supervision tasks from the central bank is dangerous and must be avoided. Typically, the proponents of integrated financial supervision emphasise the risk of at least a partial overlap of tasks performed by the central bank and the supervisory authority on issues related to financial stability. This conflict may lead to increased supervisory costs and disrupt the flow of the information necessary to exercise monetary policy and supervisory tasks.

Ĉihák and Podpiera (2006, pp. 13–15) are of the opinion that organising supervision outside the central bank does not affect its efficient operation on condition that the institution responsible is free from political pressure. It is important to indicate in this context that the issue of independence is often quoted as an argument in favour of entrusting the supervisory role to the central bank – an institution that by default must be free from external pressures to operate efficiently (Quintyn & Taylor, 2004). Whelan (2012, p. 12), on the other hand, pointed out that simply because the central bank's decisions have major consequences for the economy does not guarantee that it will be free from political pressure. Interestingly, the unpopularity of the decision to resolve a failing credit institution was considered a potential argument against incorporating supervision into the structures of the central bank (Freytag & Masciandaro, 2005, p. 15). A loss of reputation in the public's eyes as a result of closing an insolvent bank could weaken confidence in the central bank in its role as guarantor of the value of money (Gronkiewicz-Waltz, 2016, pp. 15–17). However, Vardy (2015, p. 11) indicates that this argument does not warn against entrusting supervisory tasks to central banks but indicates the need to communicate and explain his actions to the public.

The various forms of central bank involvement in supervision in the European Union member states are presented in Table 2. Traditionally, banking supervision of individual institutions was organised individually in the country in which a given unit operated.

Table 2. Organization of supervision in selected European Union countries

Responsibility for banking sector supervision	**Country**
Organized in the central bank	Czech Republic, Denmark, Greece, Hungary, Italy, Ireland, the Netherlands, Portugal, Slovakia, Spain
Central bank responsible to a limited extent	Austria, Belgium, Finland, France, Germany, United Kingdom
Responsibility attributed to a separate institution	Estonia, Latvia, Poland, Sweden

Source: based on Montanaro (2016a, p. 32)

Nowadays, there are few large financial entities that operate only in a single country, and institutions of key importance for the economy are often part of vast international conglomerates. In the new reality of financial conglomerate domination, the integrated nature of supervision seems to be most appropriate to avoid the risk of competence disputes between individual supervisors and to effectively assess the condition of financial groups. However, entrusting central

banks with supervisory tasks is a more complex issue. On the one hand, central banks have extensive knowledge of the country's financial institutions, and by default, they should enjoy a high degree of independence. On the other hand, their primary task is to stabilise inflation, and expanding the scope of their tasks may hinder the performance of their basic functions. At the same time, concerns about the central bank losing its reputation should not prevent it from making decisions that are perceived as necessary to preserve the stability of the financial system.

1.5.2. The central bank as a lender of last resort

The term "lender of last resort" appeared for the first time in 1797 in a publication entitled *The Observation on the Establishment of England and on the paper circulation of the country* by Sir Francis Baring (1797) in relation to the Bank of England. However, Thornton (1802) and Bagehot (1873) are considered to be the actual authors of this concept. Thornton defined the objective of taking on the role of lender of last resort by stating that central banks should actively prevent panic on the financial market caused by a slowdown in economic activity, which would lead to a significant reduction in the amount of money in circulation. In this spirit, he also raised the issue of the central bank's social responsibility. He argued that, unlike other credit institutions, every action of the central bank had consequences for the entire national economy that need to be taken into account. This observation also provides an argument in favour of the central bank's independence.

The second author of the approach to the classic LOLR function, Bagehot, noted that central banks differ from commercial banks in their ability to lend funds to individuals during times of reduced liquidity in the financial markets. He saw this capability as their duty and believed that their readiness and willingness to take action on the financial market during a crisis should be broadly advertised to the public. Such behaviour should reduce uncertainty among market participants and effectively reduce the scale of bank runs and all their consequences.

Bagehot believed that during a crisis, the central bank should grant loans with higher interest rates. He argued that a higher interest rate would put pressure on commercial banks to seek funds primarily in the markets and treat the central bank as the worst alternative to obtaining funds (Zygierewicz, 2008, pp. 49–50). The "penalty" interest rate would also motivate commercial banks to repay their loans more quickly.

The last issue raised by Bagehot concerned the unjustified expectations of commercial banks that they could expect the central bank to always secure their liquidity. He insisted that the banks first focus on improving internal risk management procedures, which he saw as the source of strength and stability of the entire banking system. In other words, good management and an appropriate level of reserves in commercial banks would ensure the efficient operation of the entire

banking system. This approach still has many supporters, for example, Domanski et al. (2014, pp. 20–22) and Cohen and Edwards Jr. (2017, pp. 53–54). Since the potential consequences of credit institutions' irresponsible behaviour can threaten the entire economy, the obligations for them to actively manage risk portfolios and liquidity are nowadays typically formally laid down in legislation. The correct scope and severity of these regulations, however, is a very complex issue (De Haan & Van Oordt, 2016, pp. 1–16).

The contemporary literature still lacks a dominant view on the role of central banks as lenders of last resort. According to the proposal of Goodfriend and Kinga (1988, pp. 3–5), the central bank should intervene in the market through the use of open market operations to provide liquidity to the entire banking sector simultaneously. They pointed out that entities with temporary problems with liquidity will be able to take advantage of additional funds on the market, and at the same time, the central bank will not provide assistance to entities that have become insolvent. Freixas et al. (1999, pp. 157–158) contested this idea as they believed that open market operations were not an instrument that would effectively restore the liquidity of credit institutions, as not all of them could become a side to such transactions. Meltzer (1985, pp. 79–96) stated that a central bank should allow insolvent banks to collapse, as this will prevent financial institutions from taking excessive risks in hopes of a bail-out in case of failure.

An alternative approach to performing the LOLR function was proposed by Solow (1982) and Goodhart (1985), among others, who stated that financial aid should be dedicated to credit institutions struggling with liquidity problems. Solow pointed out that the central bank, which is responsible for the financial system's stability, cannot allow any credit institution to fail, as this may undermine confidence in the banking sector and cause panic. Meanwhile, Goodhart argued that the central bank cannot immediately assess whether a distressed credit institution is facing temporary liquidity problems or is insolvent, so it is forced to provide assistance in the short term to protect the bank's customers (Goodhart, 1985, p. 35).

1.6. The Basel Committee on Banking Supervision

The banking sector of each country is unique and is governed by different laws and regulations. Today, credit institutions operate in many countries simultaneously, and through transactions concluded with each other, they are closely tied. Recognising the risk related to coordinating the supervision of financial conglomerates and the network of connections between credit institutions, a discussion started on the international forum regarding the need

to develop good practices and standards for the safe functioning of the banking sector, which would be universally accepted by the countries across the world.

The Basel Committee on Banking Supervision (BCBS, the Basel Committee) was established in 1974 under the aegis of the Bank for International Settlements (BIS) and appointed by the governors of central banks of the G10 countries and Luxembourg (Marcinkowska, 2010, p. 47). Currently, the BCBS, apart from central bank representatives, also includes financial regulators from 27 countries around the world.[1] The BCBS is a forum where countries cooperate for the benefit of banking supervision, creating, inter alia, technical standards and best practice recommendations. Although the Committee does not perform supervisory functions, and its recommendations are not legally binding, many countries decide to implement the solutions it proposes into national legal systems. The Basel Committee's proposals are also implemented into the law of the European Union, which is described in more detail in chapter two. The activities of the BCBS are handled by the Secretariat, which is located at the Bank for International Settlements, with its seat in Basel.

The first Basel Capital Accord (also known as Basel I) was established in 1988 (BCBS, 1988). At that time, recommendations were introduced regarding minimum capital requirements, calculated exclusively against the bank's credit risk exposure. The requirements included a definition of regulatory capital (see Figure 4), risk-weighted assets, and a minimum ratio of the bank's own funds to risk-weighted assets. Regulatory capital was divided into two categories (BCBS, 2005). Credit institutions' equity and disclosed reserves are in the first category, while other reserves, hybrid capital[2] and subordinated debt[3] fall into the second group. In accordance with the Basel I recommendations, the amount of capital of the second category could not be higher than the capital of the first. Moreover, to be included in the regulatory capital, the maturity of subordinated debt should be at least five years, and its value cannot constitute more than 50% of the high-quality capital of the first category. The credit institution's regulatory capital value calculated this way had to represent no less than 8% of its risk-weighted assets (i.e., the solvency ratio). In the context of classifying assets in terms of risk, four classes of assets and five classes of off-balance sheet liabilities were assigned arbitrary weights of 0%, 20%, 50% and 100%, respectively. The capital adequacy ratio was to enter into force at the end of 1992.

1 Argentina, Australia, Belgium, Brazil, Canada, China, France, Germany, Hong Kong, India, Indonesia, Italy, Japan, the Netherlands, Luxembourg, Mexico, Russia, Spain, South Africa, South Korea, Saudi Arabia, Singapore, Switzerland, Sweden, Turkey, the United Kingdom and the United States.

2 Hybrid capital is understood to be instruments with the characteristics of both capital and liabilities, which, according to the interpretation of the Basel Committee, can serve to cover incurred losses.

3 Subordinated debt are liabilities whose repayment takes place after the settlement of other liabilities.

The first Capital Accord mainly considered issues related to credit risk, which for a long time was considered the basic type of risk that banks are exposed to. The literature on the subject emphasizes that this solution was characterised by great simplicity, which could be seen as both an advantage and a disadvantage. Ferguson (2003, p. 396) pointed out that the main fault of this simplicity was that assets belonging to the same group were assigned the same risk weight, without the possibility of differentiating between them.

The agreement has been amended several times in order to adjust the Accord's provisions to the changing market conditions. In 1996, an amended capital agreement was released, recommending that market risk exposures are factored into the calculation of the solvency ratios (BCBS, 1996a). The updated provisions allowed banks to use their own risk models in calculating their exposure to market risks, provided that they met the requirements demanded of them. Additionally, a third category of capital was introduced, which consisted of subordinated debt with a maturity of over two years. It contained clauses that made it possible to suspend their repayment if the repayments would jeopardize the bank's compliance with the capital requirement (BCBS, 1996b).

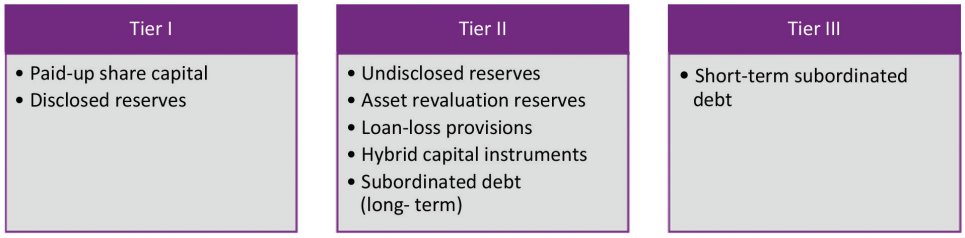

Figure 4. Capital categories under the Basel Capital Accord
Source: own elaboration based on BCBS (1998)

In 1999, the New Basel Capital Accord was proposed, which consisted of three pillars (BCBS, 1999):

- minimum capital requirements;
- supervising capital adequacy and the bank's internal control systems;
- market discipline, aimed at the more efficient exchange of information and encouraging safer banking practices.

The first pillar supplemented the Basel I recommendations and described the procedures for calculating the capital requirement regarding credit and operational risk in more detail. The amended regulations also transferred the obligation to calculate the minimum solvency ratio to the entire capital group level (BCBS, 2001, p. 1). The second pillar defined, above all, the conditions for efficient supervision, thus allowing the supervisory authorities to react early to any market turmoil and to take preventive measures. The third pillar complemented the other two. By obliging banks to publish information on risk exposure, the Basel Committee

wanted to give them a clear signal that they should conduct their activities in a more reasonable and safe manner (Koterwas, 2003, pp. 61–62).

The discussion, which continued after the publication of the New Basel Capital Accord proposal, resulted in the publication of a revised international convergence of capital measurement and capital standards (called Basel II) in 2004 (BCBS, 2004), and then an updated version in 2006 (BCBS, 2006). Basel II was the official consensus established after discussing the 1999 proposal. It introduced updates to credit risk assessment, provided a detailed approach to calculating operational risk, and obliged banks to publish data on risk exposure and capital adequacy (Ferguson, 2003, p. 398).

Despite their much more detailed form, the recommendations contained in Basel II were not implemented swiftly and broadly, and did not protect the European Union from the financial crisis of 2008. Criticism of the Basel II recommendations has focused on several areas. The first concerned the proposed standard model of risk exposure assessment, which was perceived as inappropriate for capturing the specificity of the activities of particular entities (Jarrow, 2006, pp. 8–9). The second area regarded difficulties with assessing operational risk; it was pointed out that insufficient information is made available for a proper valuation and modelling of bank exposures in this context (Daníelsson et al., 2001, pp. 4–5). The third frequently raised concern regarded the pro-cyclical nature of the requirements introduced by Basel II, which can lead to the strengthening of fluctuations in the business cycles (Repullo & Suarez, 2008).

The capital agreement itself provided for a certain safety margin in relation to the new requirements. Their implementation started with a transitional period, during which the solvency ratio was calculated according to the old and new rules in parallel. This was done to ensure comparability and to allow national supervisory authorities to intervene if the solvency parameters fell (OFS, 2009, pp. 2–4). A set of specific provisions and detailed recommendations have been left to the discretion of the national supervisory authorities.

The outbreak of the financial crisis in 2007 revealed the weaknesses of banks, particularly in Europe, and the Basel Committee announced measures to fill the identified regulatory gaps the following year (BCBS, 2008). The proposed changes included an updated approach to treating complex credit products and instruments that were previously mistakenly treated as low risk. The updated capital requirement was also intended to better reflect the new structure of banks' assets, where trading assets (held for resale) began to play a significant role. Even then, it was understood that the scope of changes necessary was much broader, and work on the next package of solutions lasted two years.

In 2010, the BCBS announced a global regulatory framework for strengthening banks and banking systems (called Basel III), which included new guidelines for capital and liquidity (BCBS, 2010). The aim of Basel III was to ensure a better quality of bank capital, reduce systemic risk, and increase bank capital requirements. At the same time,

given the major scope of changes introduced, it was necessary to ensure enough time for banks to adjust to the new regulatory requirements (Caurana, 2010, pp. 4–6). For this reason, it was decided to introduce the new BCBS requirements gradually.

Basel III places great emphasis on hard capital, i.e. common equity (Graczyński, 2011, p. 102). In this context, the following parameters were introduced (BCBS, 2010):

- a higher level of capital ratios in relation to core capital (Common Equity Tier 1, CET 1) and readily available capital of the credit institution (Tier 1). By 2015, these ratios had to reach 4.5% and 6% of the bank's risk-weighted assets, respectively;
- a capital conservation buffer, which was introduced to enhance the bank's loss absorption capacity during economic shocks. Effectively this is a requirement to maintain an additional 2.5% of the bank's risk-weighted assets in Common Equity Tier 1 (CET1) capital;
- a countercyclical capital buffer, which enables the supervisory authority to adjust the level of regulatory capital requirement to the business cycle of the economy. The level of the buffer ranges from 0% to 2.5% of risk-weighted assets, and the level should be set to counteract cyclical fluctuations;
- a financial leverage ratio, calculated as the ratio of the Tier 1 capital to the credit institution's on-balance sheet and off-balance sheet liabilities, less the value of any specific provisions. It was agreed that the value of the leverage ratio should be at least 3%.

In addition to addressing the solvency of banks and the losses they could cover in the event of difficulties, the BCBS also introduced new liquidity requirements. In the short term, credit institutions are required to maintain highly liquid assets capable of covering liquidity disruptions lasting up to thirty days (BCBS, 2013b). This ratio is known as the Liquidity Coverage Ratio (LCR), and its value had to reach at least 100% by 2019. In the context of long-term liquidity, the Net Stable Funding Ratio (NSFR) was introduced, calculated as the ratio of the value of stable funding sources in the coming year to the required value of funds to cover liabilities for that year. The value of the NSFR cannot be lower than 100% (BCBS, 2014, p. 2).

Implementing the Basel III recommendations improved the quality of prudential regulation and made it much more difficult for credit institutions to bypass the obligation to raise the level of capitalisation. After revising the recommended capital and liquidity requirements, work began on verifying the adequacy of banks' risk-weighted asset value estimations. The initial analyses showed that credit institutions' internal risk assessment models often underestimated the actual value exposed to risks, thus lowering the value of the capital requirement. Therefore, the BCBS initiated a consultation on proposed changes to the way market risks should be treated (Fundamental review of the trading book, FRTB) (BCBS, 2013a). This consultation was followed by another update of the rules introduced by Basel III (called Basel IV by some), which significantly limited the freedom of the intra-bank approach to risk valuation (BCBS, 2017). The introduced restrictions harmonised

the approach to risk by banks in such a way that the solvency ratios of individual credit institutions became more accurate and comparable (Laurent, Sestier et al., 2016, pp. 211–213).

The recommendations made by the Basel Committee on Banking Supervision gradually increased the stability of the banking system and the ability of credit institutions to independently cover losses they may incur under their business activities. A brief overview of the changes introduced by the successive Basel Agreements is provided in Table 3.

Table 3. Own funds of credit institutions according to Basel I, II and III

Buffer type	Requirement under Basel I	Requirement under Basel II	Requirement under Basel III
Solvency ratio	8%	8% (incl. 2% for CET1 capital)	8% (incl. 4.5% for CET1 capital)
Capital conservation buffer	0%	0%	2.5%
Countercyclical capital buffer	0%	0%	0%–2.5%

Source: own elaboration based on BCBS (1988, 1999, 2001, 2004, 2006, 2008, 2010)

The recommendations of the Committee were largely incorporated into the legal orders of many developed countries around the world. The amendments were widely promoted and supported, particularly in view of the bank bailout costs borne by several EU Member States as a consequence of the financial crisis of 2008. Over time, however, the discussions around the strict capital requirements have shifted towards the impact they have on the financial condition of the credit institutions. The net impact of the revised prudential requirements on credit institutions will be analysed in more detail in chapter four.

Summary

When analysing the various definitions of the financial system's stability and instability, it should be stated that they largely focus on disruptions to the provision of basic banking services, primarily in the field of deposit taking and lending activities. Considering the role of credit institutions in the economy, this approach

seems reasonable – the banking sector is an inherent element of a modern economy, and the economy cannot function without a resilient banking sector.

The regulation and supervision of credit institutions are key for the banking sector's stability, yet there is no universal model to organise the oversight of credit institutions. The choice of the form of supervision is influenced by many factors, and the decision to centralise supervisory powers over the financial market should reflect the degree of development and links between its sub-sectors. Regardless of the form of supervision chosen, however, it is imperative that supervisors are free from political pressure.

The scope of a central bank's involvement in ensuring financial stability is a contentious issue, and the debate over its active involvement in supervising financial institutions remains unsolved. Nevertheless, in view of the increasingly dominant position of financial conglomerates, the involvement of the central bank in supervision seems a necessity.

The cross-border nature of credit institutions' activities has, on the one hand, diversified the assets in the banking portfolios, but on the other hand, it has strengthened the ties between individual economies. In this context, ensuring the stability of the financial system has become particularly difficult for national institutions, which have access to only some of the information that could impact their decisions. International coordination of both the regulatory standards and the supervisory activities has therefore become necessary. The recommendations of the Basel Committee successively increase credit institutions' ability to absorb losses, but they cannot ensure the efficient coordination of oversight across borders. This is why enhanced cooperation between countries characterised by strong economic ties is particularly important for the future prevention of financial crises.

Chapter 2

Creating a single EU financial market

Over the years, the economic integration between the western European countries has reached an unprecedented scale, binding several well-developed economies (also from outside that region) with a common currency. This was beyond doubt a bold step that has paid off through increased trade and a general welfare boost. However, the process of tightening economic integration has gradually lost momentum, and while the monetary union became a fact, it remained far from the economic definition of an optimum currency area (see Mongelli, 2002 for further reference). Major discrepancies in the way national financial markets are regulated have prevailed over the years of integration in Europe and seem to have completely ignored the fact that in the meantime, the activities of many of the supervised credit institutions have reached a truly global scale, overwhelmingly outgrowing the jurisdiction of any national regulator.

The consequences of this state of integration within the EU, but also within the EU in general, are widely known today (2021), as they were revealed by the financial crisis that began back in 2008. Although painful, the outcomes of the financial crisis also delivered the necessary impulse to make countries engage in further work to integrate the national markets, particularly within the currency area.

This chapter is dedicated to the work that has been done over the years to integrate the national financial markets of the EU to ensure the efficient supervision of the financial conglomerates and, through that, safeguard the financial stability of the economies of the region.

2.1. Early steps towards financial market integration

The beginnings of European integration after the Second World War were primarily motivated by the will to prevent further conflicts in Europe. The process formally started in May 1950 with *The Schuman Plan* (also called the Schuman Declaration), which aimed to create an international organisation to control coal mining and steel production, and raw materials used mainly by heavy industry. This way, mainly two countries – Germany and France – were tied more closely together.

The Schuman Plan laid the foundations for further cooperation in Europe, starting with the five founding countries – France, Germany, and the Benelux countries (Belgium, the Netherlands, and Luxembourg) – the signatories to the Paris Treaty, which created the European Coal and Steel Community (*Treaty establishing the European Coal and Steel Community*). The treaty also established the first Community institutions that supervised the functioning of the single market.

In 1955, at a conference in Messina, the Dutch Minister of Foreign Affairs, Johan Beyen, presented a proposal to create a common market. In the same year, a committee headed by Paul-Henri Spaak, was entrusted with the task of drawing up a plan for establishing a common market. That plan was presented in a report in 1956 (Spaak, 1956). In 1957, two Treaties of Rome were signed, establishing the European Economic Community (EEC) and the European Atomic Energy Community. These two treaties marked the beginning of the integration between six countries (Benelux, Germany, France and Italy) aimed at creating a common market based on the free movement of four things – capital, goods, services, and labour (*Treaty establishing the European Economic Community*, 1957). Chapter four of the treaty contained provisions on the elimination of barriers to capital flows – in practice, however, these provisions obliged the signatories to remove restrictions on capital transfers to an extent that would not threaten the functioning of their own markets. Art. 61 also stated that the liberalisation of banking services within the Community would occur along with the gradual liberalisation of capital flows. The conservative approach to financial integration was motivated by the fear of a sudden outflow of capital towards regions perceived as more profitable or stable (Zombirt, 2011, pp. 134–135).

The treaty that established the EEC initiated the construction of a common market and a customs union, as well as a common agricultural, trade and transport policy (Treaty establishing the European Economic Community, 1957). It was a milestone towards economic integration, which paved the way for further economic policy coordination. It was a time-consuming process, and the regulations introduced in subsequent years had to detail many aspects of the future common market (Zapadka & Niemierka, 2003, p. 25).

In the context of financial integration, two directives were instrumental in establishing a minimum degree of liberalisation regarding the free movement of capital. Directive 921/60 – the First Capital Directive – introduced a list of transactions that should not be subject to any restrictions if their sides are residents of the Community, and it specified the flows that may be subject to certain local restrictions (*First Directive for the implementation*..., 921/60). However, these restrictions had to be justified and consulted with the European Commission (EC). This directive was modified and supplemented two years later by the Second Council Directive (63/21/EEC).

In October 1962, the European Commission presented the Marjolin Memorandum – a lecture that emphasised the importance of monetary integration and proposed, among others, establishing the Committee of Governors of Central Banks of the European Economic Community (Scheller, 2004, pp. 15–16). The Committee became responsible for coordinating cooperation in the field of monetary policy of the Member States, and it is also considered to be a predecessor of the ECB.

Another breakthrough in the process of expanding international cooperation took place in The Hague in December 1969. Following the presentation of the Barre Plan, a decision was made to develop a detailed proposal for monetary and exchange rate cooperation. This task was entrusted to the Prime Minister of Luxembourg, Pierre Werner, who prepared a detailed plan in 1970. The plan outlined three stages through which the Economic and Monetary Union (EMU) was to be established by the end of 1980. The creation of the Union was to take place through complete liberalisation of capital flows and complete convertibility of the currencies of the Community's Member States at irrevocably fixed exchange rates. In view of the unfavourable economic situation on the global market related to the collapse of the Bretton Woods system in 1971 and releasing the US dollar exchange rate, work on implementing the Werner plan was delayed. An attempt was made to resume the process of monetary integration at the Paris summit in 1972 (Delivorias, 2015, p. 3). However, the outbreak of the oil crisis of 1973 and the weakened USD exchange rate led to a collapse of the agreed exchange rate mechanism.

Despite the unfavourable conditions in 1973, work on integration within Europe continued. Directive 73/183/EEC was introduced, ensuring freedom to provide financial services within the Community on a non-discriminatory basis. Pursuant to this document, all enterprises operating in a given country would be subject to the same regulations, and any rules targeted against hosted entities had to be eliminated (Council Directive (73/183/EEC)). The directive listed specific provisions in national legislation that were to be understood as discriminatory against foreign financial institutions. Nonetheless, even after the directive was transposed into national law, it was difficult to speak of the freedom of financial services in all Member States just yet. There was no uniform control over the banking sector of the Community, leaving room for interpretation.

In 1977, Directive 77/780/EEC, known as the *First Banking Directive*, was introduced, which aimed to harmonize the rules governing the commencement and conduct of business by credit institutions (First Council Directive (77/780/EEC)). The directive defined a "credit institution" as an entity that takes deposits and other repayable funds and grants loans for its own account (First Council Directive (77/780/EEC, art. 1). Articles 3 to 9 of this Directive also introduced a degree of harmonisation in licensing credit institutions in each Member State. If the authorised body refused to issue a license to an entity from another Member State, it became obliged to provide justification. According to the Directive, eligible entities could only be rejected if their activities on the market could not be economically justified. An economic viability test had to prove the negative impact on the safety of deposits, the profitability of the sector, as well as competition and universal access to banking services. Even this restrictive criterion was only to apply during the transition period, not longer than 11 years after the notification of the First Banking Directive.

Directive 77/780/EEC clarified the scope of the rights and obligations of home and host supervisory authorities in relation to credit institutions operating in the EEC Member States. The first formal forum of national regulators, central banks, and ministries of finance was also created in the form of the Banking Advisory Committee (BAC). The task of the forum was to support the European Commission in creating new legislation for the financial sector, and to promote the cooperation and exchange of information between national authorities (EC, 2000). The First Banking Directive promoted the principle of home country control, entrusting the supervision of a credit institution that operated in more than one country to the authorities of that institution's country of origin (Dermine, 2002, p. 5).

In parallel to the new rule, host country control rights were also outlined, stating that the process of establishing and operating branches of credit institutions in the other Member States was under strict control of the host country (First Council Directive (77/780/EEC)). The host country had to consent to a credit institution's market entry, and it could also restrict the bank's activities under its own law (including the application of a minimum capital requirement for new entities). Art. 8 also stated that as soon as a credit institution's license was revoked in its home country, the licenses of all its branches in different Member States were also revoked. Such powers of the host country allowed for the protection of the national financial market and allowed the national supervisory institutions to control the market entry process (Grosse, 2012, p. 4). Although the division of responsibilities between host and home supervisors was formalised in the First Banking Directive, the European Commission obliged national supervisors to closely cooperate and exchange all information to ensure efficient supervision.

The attempts to strengthen monetary integration were resumed in 1978. During the summit in Brussels, the European Monetary System (EMS) was established to ensure the stability of the exchange rate relations of the Member States. The

mechanism, which began operating in March 1979, consisted of three elements (European Council Resolution (EC) No 12). The foundation of the EMS was the creation of the European Currency Unit (ECU). The ECU was an accounting unit calculated as the weighted average of a basket of all currencies participating in the mechanism. This virtual currency served as a reference value for the currencies of individual Community countries (European Council Resolution (EC) No 12). All the currencies of the Member States (except the British pound) were integrated into the Exchange Rate Mechanism I (called ERM I). Each national currency had a calculated exchange rate relative to the reference value represented by the ECU. The permissible band of mutual fluctuations of domestic currencies was set at ± 2.25% (the exception was the Italian lira, for which the fluctuation band was 6%) (European Council Resolution (EC) No 12). The European Monetary Cooperation Fund kept its coordination function under ERM I – the central banks of the community transferred 20% of their own gold and dollar reserves in exchange for their equivalent in ECU (European Council Resolution (EC) No 12). The transfer of reserves to the EMCF was to ensure the coordination of activities on the foreign exchange markets and the amount of reserves held by individual central banks.

In 1985, a White Paper on creating a single internal market of the Community (Commission of the European Communities, COM (1985)) was announced. The White Paper emphasised the need to complete the process of liberalising the flow of services, including financial services, and indicated that the free movement of factors of production is essential for the economic growth of the Community (Janicka, 2002, pp. 19–20). The European Commission proposed the introduction of the mutual recognition principle and home country supervision. Both principles, although already promoted earlier, gained strong support after the announcement of the judgment in the famous Cassis de Dijon case of 1979 (Judgment of the Court of 20 February 1979, Case 120/78).[1] The Cassis de Dijon ruling highlighted the market barriers that may result from the lack of harmonisation, which could be both extremely difficult to overcome and time-consuming. At the same time, the White Paper emphasised that entrusting the supervisory powers to the home country authority does not deprive the host institutions of any rights and that control over a credit institution needs to be exercised through cooperation. In this case, however, the Commission called for the rapid harmonisation of the fundamental supervisory standards, the introduction of which was very late already. In retrospect, it is not difficult to conclude that the shortcomings in the implementation of common standards resulted in inefficient supervision and that

1 The European Court examined the case of Germany. The Germans banned the import of the Cassis de Dijon liqueur, which was legally produced in France, because according to German law it did not contain enough alcohol to be sold in Germany as a liqueur. The Tribunal then stated that goods legally manufactured and marketed in one EU Member State may be admitted to other EU markets.

the lack of a formalised framework for cooperation between national authorities significantly impeded the flow of information between them.

In 1987, the Single European Act (SEA) entered into force, which formalised the intention to create an internal EU market (*Single European Act*, L 169/1, 1987). The amendment to the Treaties of Rome not only set the creation of a single market as the Community's goal, but it also imposed a deadline (31 December 1992, in accordance with art. 13) for the removal of barriers to the flow of factors of production between the Member States.

2.2. EU regulations harmonising the financial markets until 2008

The gradual integration and limitation of exchange rate fluctuations started to bring tangible benefits, encouraging further tightening of economic cooperation. A group chaired by Jacques Delors was established in 1988 at the Hannover summit to present another plan to construct an economic and monetary union (EP, 2016, p. 2). In 1989, *The Delors Plan* was published.

The Delors Plan envisaged three stages of building an economic and monetary union. The first stage was to complete the single market of the European Community. The second stage focused on the creation of the European System of Central Banks (ESCB), which would bring together all the competencies related to coordinating the Community countries' monetary policies. In the third stage, a monetary union was to be created by irrevocably freezing the mutual exchange rates between the Member States.

The limited harmonisation of the banking sector and the legally sanctioned derogations from the established rules slowed down the integration into a single banking market. The problem of reaching a consensus on the capital requirement also showed how strong the tendencies to protect the national interests were, leading to measures that interfered with market mechanisms and negatively affected the entire Community. For the same reasons, few powers were transferred to the EU level (Mügge, 2011, pp. 383–402).

In 1989, Directive 89/646/EEC (i.e., *The Second Bank Directive*) was introduced, and its provisions were much in the spirit of the White Paper of 1985 (Second Council Directive (89/646/EEC)). Pursuant to the directive, only licensed entities would be engaged in deposit-taking and credit issuance activities. The annexe to the Directive provided a list of services that could only be provided by credit institutions, and it made it clear that the activities permitted under the license issued to an entity in its home country may be performed on the same terms in other countries of the Community, without the need to apply for a separate

license (the mutual recognition principle). Nevertheless, the Directive left many exceptions, whereby some of the competence regarding detailed rules on the provision of specific services remained within the competence of the Member States. Regarding the First Banking Directive, the amendment also introduced a precise, common minimum capital requirement for all credit institutions, in the amount of 5 million ECU (Second Council Directive (89/646/EEC), art. 4). In art. 10, however, it was noted that existing institutions' failure to meet the capital requirement did not have to result in the withdrawal of their license by default. However, existing entities could not reduce their capital below the maximum value recorded by the Second Banking Directive coming into force.

The Second Banking Directive also regulated the issue of supervision. It was agreed that a credit institution operating within the Community would be supervised by the authorities of the home country, while the host country may only intervene on matters related to protecting public interest (this rule applies to the operation of branches) (Second Council Directive (89/646/EEC), art. 13). It was also emphasised that the new rule does not in any way interfere with the obligation of national supervisory authorities to cooperate in order to effectively exercise control over financial institutions. Problems related to ensuring financial stability or the safety of deposits were not part of the discussion (Grosse, 2012, pp. 5–6).

The numerous shortcomings of the Second Banking Directive should not lead to the conclusion that this document was not an important step to establishing market conditions for competition in the field of financial services in future EU countries. The exceptions and deviations built into the structure of the document do not diminish the importance of the rules that organise the supervision of the banking sector. The newly adopted capital requirement became obligatory for all credit institutions of the Member States and constituted an important step towards the actual harmonisation of the laws regulating the activities of credit institutions.

From the perspective of supervising credit institutions, two other directives from 1989 are important. The first introduced a uniform definition of a credit institution's own funds to ensure uniform competition rules for entities operating on the single market (Council Directive (89/299/EEC)). In turn, Directive 89/647/EEC introduced a credit institution's solvency ratio, defining its ability to cover its liabilities from its own funds (Council Directive (89/647/EEC)). The minimum solvency ratio was to be 8% from 1993 (Council Directive (89/647/EEC), art. 10).

In 1992, EU Council Directive 92/30/EEC was adopted, which regulated the overall supervision of credit institutions belonging to large financial groups. Due to the strength of financial ties within such groups, it was decided that their supervision should be conducted on a consolidated basis to properly assess the risk they undertake in their activities. The information provided to supervisory institutions would at least make it possible to correctly assess the capital adequacy and solvency of a credit institution within such a capital group (Oręziak, 1999, pp. 85–87).

Another important step in creating the common market was the 1992 Treaty on European Union (more commonly known as the *Maastricht Treaty*), which entered into force in November 1993 (*Treaty on European Union*, 1992). The Treaty on European Union extended the Treaty establishing the European Economic Community, transforming it into the *Treaty establishing the European Community*, 1992. Pursuant to the Maastricht Treaty, the European Monetary Cooperation Fund became the European Monetary Institute (EMI) (*Treaty on European Union*, 1992, art. 109f). The EMI also took over the powers of the Committee of Governors of Central Banks of the EEC and dealt with the preparations for the issuance of a common currency and the coordination of the monetary policies of the national central banks (Delors, 1989, p. 30). The treaty also obliged the Member States to remove barriers to the movement of capital by the end of 1993 (*Treaty on European Union*, art. 73c) and introduced the Maastricht convergence criteria (see *Treaty on European Union*, 1992, art. 109).

The Exchange Rate Mechanism II (ERM II) replaced the operation of ERM I on 1 January 1999. The goal of ERM II was to maintain stable exchange rates between the euro and the national currencies that joined this mechanism. The mechanism set a euro central rate for each national currency included in ERM II. Like under ERM I, a uniform fluctuation band was introduced, limiting the volatility to ± 15% of the central rate (European Central Bank, (2006/C 73/08)).

In 1998, 11 countries created the first group that would adopt the euro as their common currency. It was also the year when the ECB began its operations, replacing the EMI. The European System of Central Banks (ESCB) was also established, consisting of the ECB and the central banks of all the EU Member States, including those that did not adopt the euro. The purpose of the ECB was to conduct the monetary policy of the Union, while the ESCB was responsible for coordinating the monetary policies of the ECB and the national central banks. However, the new authorities were not entrusted with any supervisory competencies, with this responsibility remaining within the individual Member States.

In 1999, the Financial Services Action Plan (FSAP) was presented (Commission of the European Communities, COM (1999)). The Plan outlined the actions to be taken to deepen the integration of financial markets. Among them were the provisions pointing to the need to tighten cooperation in the field of supervision at the supranational level. In this context, the need to harmonize the requirements for the publication of financial statements was also emphasised. The introduction of a single currency was seen as an important catalyst for the integration of the EU financial markets (Janicka, 2002, p. 22).

In the following year, by Directive 2000/12/EC, the legal acts relating to the operation of credit institutions were consolidated. In this way, all provisions relating to the licensing and operation of credit institutions, along with the detailed provisions governing capital requirements or the supervision of financial groups, were included in one document (Directive 2000/12/EC). Figure 5 offers a short graphic overview of the financial market reforms before the financial crisis.

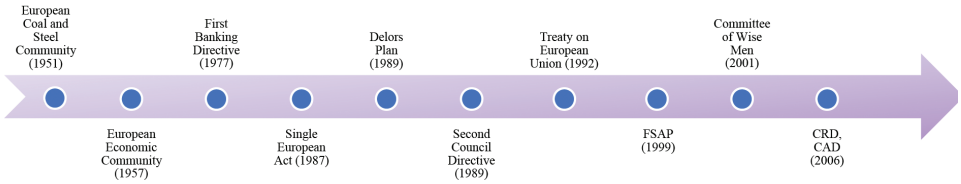

Figure 5. Reforms of the financial market – a timeline, part 1
Source: own elaboration

The further integration of the financial markets was raised once again in November 2000 in the Initial Report of the Committee of Wise Men on the Regulation of the European Securities Market. This report indicated that integrating the financial markets was essential for the proper functioning of the internal market and to increase the pace of economic growth in Europe (Lamfalussy, 2000). The Committee chaired by Lamfalussy also pointed to the suboptimal nature of the fragmented supervision of the European securities market. In the conclusions presented in the Introductory Report, the Committee of Wise Men recognised the inflexibility and slowness of the EU legislative process as the main reason for the low degree of financial market integration (Lamfalussy, 2001).

In the final report published in February 2001, the Committee of Wise Men proposed establishing law-making procedures that would allow the EU authorities to quickly adapt to the changing market environment, allowing for an approach that would better fit the nature of the securities markets. In its report, the Committee proposed a new procedure, known as the Lamfalussy procedure, a four-tier system of creating, implementing and controlling legal provisions governing financial services. As a first step, the European Commission, the European Parliament (EP) and the Council would develop the general legal framework under the co-decision procedure. The improvement introduced by the Committee of Wise Men involved limiting the work at this level to establishing a general legal framework, while the committees at other levels became responsible for agreeing on the detailed provisions (Lamfalussy, 2001, pp. 19-27).

At the second level, executive committees clarified the details of the legal provisions, i.e., the directives and regulations. Work at this level was carried out following the comitology procedure.[2] The European Commission presented the draft after consulting the relevant committees responsible for individual sectors of the financial market. After the official draft was prepared, it was presented to subsequent committees whose opinion was of key importance. Their support for the project ended the second stage, but in the event of a negative opinion or no opinion, the project was referred back to the Council. If the project was approved

2 A procedure which involves the cooperation of the European Commission with specialised committees composed of experts representing the EU Member States.

by the Council, the procedure at the second tier ended. A similar situation arose when the Council did not make any decision within three months. A negative decision ended the legislative process (Lamfalussy, 2001, pp. 37–39).

The third level covered the work of technical committees responsible for introducing new legal regulations related to financial services. The task of the committees at this level was also to control the coherence of national regulations with those established at the EU level. At this level, the most important role was assigned to the supervisory committees, which controlled the correct implementation of Community law into national legislation (Lamfalussy, 2001, pp. 37–39). Representatives of the Member States participated in the second and third levels, enabling their active participation in forming the legislation (Lamfalussy, 2001, pp. 37–39).

The fourth level was the revision and enforcement of the agreed rules. This task was mainly entrusted to the European Commission, but national supervisory institutions also controlled the national legislative process at the end. The creation of the four-tier Lamfalussy procedure required specialised committees to be established that were responsible for individual sectors of the EU financial services market. The structure of committees established for the individual sub-sectors is presented in Figure 6.

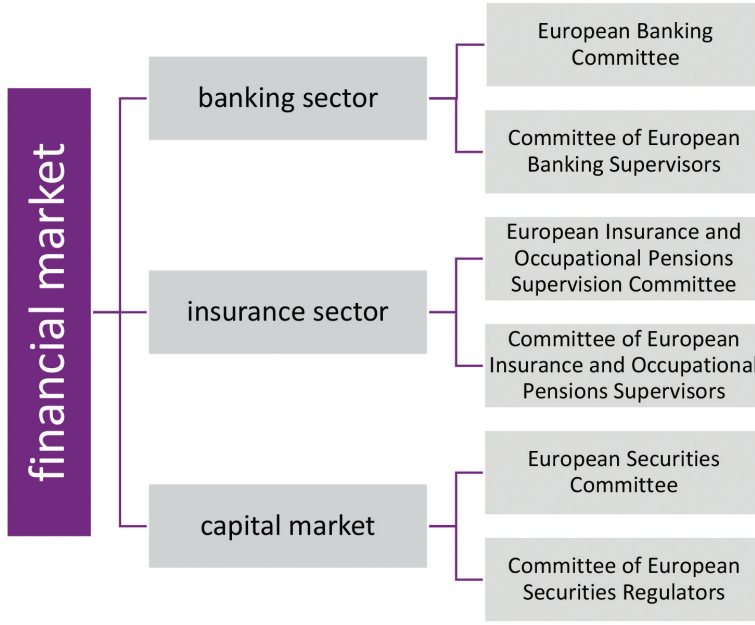

Figure 6. Structure of the committees as proposed under the Lamfalussy report
Source: own elaboration based on Lamfalussy (2001)

For the capital market, the European Securities Committee (ESC) and the Committee of European Securities Regulators (CESR) were established. Both

Committees were tasked with supporting the work of the European Commission in drafting securities market regulations and supporting the cooperation and exchange of information between national institutions dealing with the supervision of the securities market.

When it comes to the insurance sector, two bodies were established – the European Insurance and Occupational Pensions Supervision Committee (EIOPIC) and the Committee of European Insurance and Occupational Pensions Supervisors (CEIOPS). The committees supported the work of the European Commission in preparing legislation governing the insurance services sector. EIOPC was established as the regulatory committee, and CEIOPS was the supervisory team, ensuring that the laws of the Member States were consistent with European law. It was also a platform for the exchange of information between national supervisory authorities.

The bodies established for the banking sector were the European Banking Committee and the Committee of European Banking Supervisors (CEBS). The European Banking Committee was established in 2003 by a decision of the European Commission, replacing the Banking Advisory Committee (Commission Decision (2004/10/EC)) established by the First Banking Directive. Its task was to support the European Commission in work related to the banking services regulation. The European Banking Committee was composed of representatives of the Member States and was chaired by a representative of the Commission. A representative of the ECB also participated in the Committee. As an advisory body, however, the European Banking Committee had no supervisory powers.

The second of the Committees – CEBS – was an independent group of experts whose task was to support the work of the European Commission in drafting legal provisions for the banking sector (Commission Decision (2004/5/EC)). CEBS would make sure that national individual Member States' legislation was consistent with EU law. It was composed of representatives of the national central banks of the Member States, representatives of national supervisory authorities, as well as representatives of the ECB, and it was chaired by a representative of the national supervisory authorities elected by the members. Additionally, the Committee could invite experts on a specific topic to cooperate.

The reform of the decision-making process was aimed at strengthening the harmonisation of European regulations; however, according to Quaglia (2007, pp. 269–290), the fact that the Member States could influence the decisions at different stages of the procedure adversely impacted its efficiency. The European Commission and other EU institutions had limited powers in this process. Hertig and Lee (2003, pp. 9–14) criticised the Lamfalussy procedure on the same grounds and stated that in practice, it could not improve the process of creating regulations at the EU level. The reasons they indicated included national protectionism, political disputes, and delays in implementation, to which the proposed committees would not be able to react. On the other hand, as Dragomir (2010, pp. 190–195) noted, the

report of the Committee of Wise Men proposed a pragmatic approach to decision-making that was agreeable to the Member States and offered an opportunity to further integrate the financial sectors.

There is no doubt that, at the time, it was not possible to establish measures and procedures that could free the legislative process from the decisive influence of the Member States. Nevertheless, the newly formed committees facilitated a forum for detailed discussions, allowing the Member States to look at a given problem from different perspectives. The Committee of European Banking Supervisors was established as an international forum of national supervisory institutions, making it possible to negotiate rules that would enable real convergence of national legislation – differences in interpreting the provisions of EU directives constituted one of the important barriers to the creation of the internal market. However, it should be emphasised that it was not a forum for coordinating the supervision of cross-border financial institutions.

The conclusions presented by the Committee of Wise Men did not result in immediate actions to integrate the financial markets. In the Treaty of Nice, signed in 2001, no reference was made to the functioning of the EU's single financial market. Practical solutions inspired by the recommendations of the Committee of Wise Men were introduced gradually by establishing committees whose task was to enhance cooperation in the field of banking, the securities market, and insurance and pension systems (Commission Decision (2004/5/EC); Commission Decision (2001/527)/EC); Commission Decision (2004/6/EC)).

The need to consolidate the financial markets was highlighted again in the European Commission's White Paper on Financial Services Policy 2005–2010 (Commission White Paper, COM (2005)). In it, the Commission proposed four important goals that should be achieved by 2010, including:

- the integration of the EU financial markets;
- removing barriers to the provision of financial services and capital movements throughout the European Union;
- fully implemented legislation governing the financial market in the EU;
- strengthening supervisory cooperation in the EU.

In 2006, two Directives, 2006/48/EC (the *Capital Requirements Directive* (CRD)) and 2006/49/EC (the *Capital Adequacy Directive* (CAD)), amended the requirements for the functioning and capital adequacy of credit institutions.The CRD was an implementation of the second Basel Capital Accord into the EU law.

The outbreak of the financial crisis in 2008 revealed a number of shortcomings in the regulation and supervision of the EU's single financial market. Financial difficulties of different credit institutions in the EU resulted from their different levels of capitalisation, different degrees of risk exposure and different approaches to assessing the security of assets. The following years brought an intensification of work aimed at addressing these problems.

2.3. Early crisis response

One of the first measures to counteract a possible decline in confidence in credit institutions after the outbreak of the crisis was the European Commission's proposal of 2008, calling for a swift increase in the minimum level of bank deposit protection to 50,000 EUR and ultimately up to 100,000 EUR by the end of 2010 (Directive 2009/14/EC). This decision aimed to reduce the risk of bank runs as a consequence of the weak financial results of the credit institutions.

In 2008, the European Commission published two communications on remedial actions. The first was published in October 2008 and presented a general strategy aimed at economic stimulation (EC, COM (2008c)). Among the proposals, the Commission suggested a coordinated response to the crisis and emphasised the need for cooperation in the context of supervisory reform (EC, COM (2008c)). The need to strengthen the supervision of the largest international financial conglomerates was particularly emphasised.

At the end of November 2008, the European Commission announced the "European Economic Recovery Plan" (EC, COM (2008c)). In order to increase the purchasing power, which was intended to stimulate demand and reinforce confidence in the stability of the EU economies, the European Commission proposed a budgetary stimulus of EUR 200 billion, delivered to the economy through increased budgetary expenditures and/or reduced tax rates. The impulse was supposed to both support the national economies in the short term and to stimulate employment. EUR 170 billion would come from the Member States, while the remaining EUR 30 billion would be supplemented from EU funds and the European Investment Bank (EC, COM (2008a), p. 7). The economic recovery plan was, in practice, an ad hoc measure with no proposals for reforming the structure of supervising the financial system. An overview of the reforms implemented as of 2009 has been provided on Figure 7.

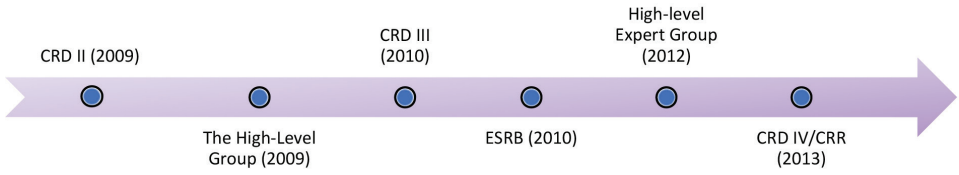

Figure 7. Reforms of the financial market – a timeline, part 2
Source: own elaboration

In 2009, the European Commission amended the Capital Markets Directive by Directive 2009/111/EC (Directive 2009/111/EC). The directive (called CRD II) allowed for the inclusion of hybrid capital when calculating the capital requirements of credit institutions. The most important change, however, was the introduction

of colleges of supervisors created from national supervisory authorities in order to conduct consolidated supervision of financial groups that operate in several countries. The downside of the revised CRD was that it did not specify which countries should be included in the college overseeing a given entity (De Meester, 2014, pp. 280–282). The provisions of CRD II were then modified a year later (CRD III), when credit institutions were obliged to conduct a remuneration policy towards managerial staff in a manner that did not encourage excessive risk-taking (Directive 2010/76/EU).

In mid-2010, the Economic and Financial Affairs Council (ECOFIN) decided to create a temporary mechanism to financially support the EU Member States undergoing economic difficulties – The European Stability Mechanism. It was composed of two entities: the European Financial Stabilisation Mechanism (EFSM) and the European Financial Stability Facility (EFSF).

The European Financial Stabilisation Mechanism was established in May 2010. Its aim was to support the EU Member States experiencing economic difficulties with additional funds to help maintain financial stability on the local market and, indirectly, across the entire EU (Regulation (EU) No 407/2010). The assistance of the EFSM was granted in the form of a loan or a credit line. To gather the necessary funds, the European Commission was authorised to borrow up to EUR 60 billion on behalf of the European Union on either financial or capital markets (Regulation (EU) No 407/2010), and these loans were guaranteed by the EU budget.

Certain conditions had to be met in order to obtain assistance from the EFSM. According to the adopted procedure, the applying Member State, with the support of the European Commission and the ECB, assessed the financial needs that would make it possible to safeguard financial stability. The resultant value was then submitted to the European Commission along with a draft economic and financial recovery plan. When granting a credit line to a given Member State, the commitments made under such an adjustment plan became binding. The European Commission carried out regular inspections of the country receiving financial aid to check they were correctly implementing the adjustment program, the positive effects of which were a condition for continuing financial aid. To date, support under the EFSM has been provided to Ireland, Portugal and Greece.

The European Financial Stability Facility (EFSF) was a financial support mechanism designated solely for the euro area countries. When it began, the EFSF had a budget of EUR 250 billion, but its target borrowing capacity was to reach EUR 440 billion upon the consent and guarantee of all the 17 euro area member states (EFSF, 2011). Initially, assistance was to be provided exclusively in the form of loans. However, subsequent decisions of the European Council increased the range of EFSF instruments with the possibility of intervening on the secondary bond markets and granting loans to support financial institutions directly.

The short-term crisis-response solutions implemented inside the EU were largely criticised by economists. Eijffinger (2008, p. 3) criticised the lack of guidelines on

verifying the actual need to grant state aid to credit institutions and the risk that this posed to market competition inside and outside the EU. At the same time, it was also indicated that the proposed budgetary stimuli were too small to adequately counteract the consequences of the financial crisis (Hodson & Quaglia, 2009, p. 943). In the EU Commission's defence, Dąbrowski (2009, p. 15) pointed out that it was the protectionism of national economies that considerably slowed down the work on a common anti-crisis policy.

The need for coordinated macro-prudential supervision was noticed not only in Europe. In April 2009, the leaders of the G-20 countries established the Financial Stability Board (FSB), whose task was to coordinate supervisory activities related to the international financial market and to issue recommendations in the field of legal regulations (FSB, 2018). However, the FSB's recommendations are not legally binding.

2.4. Long-term solution proposals

In early 2009, the group chaired by the former head of the IMF, Jacques de Larosière (The High-Level Group, 2009), published its report. It proposed a wide-ranging reform of macro- and micro-prudential supervision, recognising the difficulties in the exchange of information not only between the Member States, but also between the supervisory authorities, the central bank, and the relevant ministries within each country. According to the report's recommendations, future macro-prudential supervision should also encompass the assessment of the stability of the entire financial sector and develop mechanisms to enable the early identification of threats to financial stability. At the microeconomic level, the group suggested full consolidation of direct supervision of cross-border financial institutions to ensure its effectiveness.

As part of the macro-prudential supervision, the de Larosière report recommended establishing the European Systemic Risk Council to replace the existing Committee for Banking Supervision (The High-Level Group, 2009, pp. 49–51). The newly created body would collect and analyse macroeconomic data and issue recommendations and warnings regarding macro-prudential policy. The work of the Council would be chaired by the president of the ECB, and it would be comprised of members of the General Council of the ECB, the chairs of CEBS, CEIOPS, and CESR, as well as a representative of the European Commission.

As part of the micro-prudential solutions, the de Larosière group proposed creating an integrated network of European regulators (Figure 8). It was proposed that the European System of Financial Supervision (ESFS) should be created in two stages. First, in 2009–2010, the existing third-level authorities of the Lamfalussy procedure

would be replaced by the European Banking Authority, the European Insurance Authority, and the European Securities Authority. The second stage was proposed for 2011–2012, when the European System of Financial Supervision would actually be established.

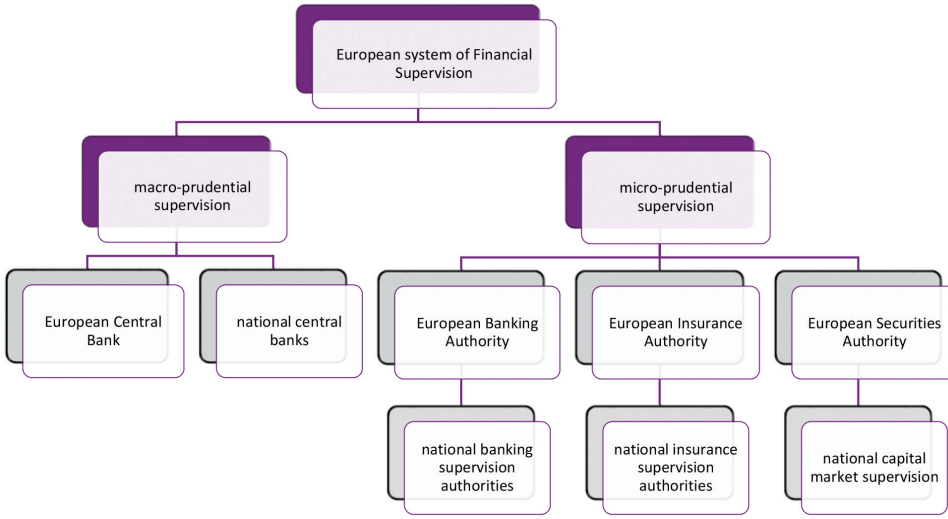

Figure 8. European financial safety net
Source: own elaboration based on The High-Level Group (2009)

The de Larosière group proposed a decentralised model of micro-prudential supervision, still based on national supervisory bodies, but with strong support from the reformed pan-European institutions, for the banking, insurance and securities markets, respectively (The High-Level Group, 2009, pp. 49–51). An important element of the supervisory framework for large financial institutions would be organised around the colleges of supervisors – special groups of supervisory authorities entrusted with oversight of a specific financial institution operating within their jurisdiction. The formalisation of cross-border cooperation in the area of prudential oversight of individual banks was intended to resolve difficulties in the flow of information and to limit the risk of a conflict of interest.

In its report, the de Larosière group also proposed standardising and simplifying derivative instruments, increasing capital requirements, and strengthening the regulations concerning off-balance sheet items, along with a critical review of Basel II-related requirements. The group appreciated the contribution of the existing third level committees to the process of harmonising the laws and the requirements for the EU banking sector, but it stated that their position as an advisory body to the European Commission was too weak regarding the gravity of the tasks assigned to them. The establishment of a centralised ESFS was intended

to solve this problem, while at the same time strengthening the independence of the supranational body from national authorities.

The de Larosière group's proposals referred to various aspects of the supervision of the European Union's financial sector, which made it difficult to identify threats to financial stability. The introduction of solutions referring to the whole sector was very desirable in the face of a serious imbalance in the liquidity of European banks. The establishment of a central institution to support the harmonisation of national banking regulations facilitated a process that for many years was considered almost impossible to set in motion given the reluctance of the Member State to integrate further. The reconstruction of micro-prudential supervision, in turn, served to eliminate difficulties in the flow of information, which significantly weakened the effectiveness of bank control.

An important stage in building a uniform financial system was the Vickers report, published in September 2011 (Independent Commission on Banking, 2011). It was prepared by an independent commission chaired by Sir John Vickers, whose aim was to create a reform plan to increase the stability and competitiveness of the UK banking sector. Following the changes implemented a year earlier in the United States, the authors of the report proposed a formal separation of traditional banking activities from investment activities (Kasiewicz et al., 2013, pp. 22–24). Originally proposed by the Volcker group (2012, pp. 131–135), the reform proposed introducing restrictions on investing in risky assets and on capital ties with investment funds (known as the *Volcker rule*). The Vickers Commission confirmed that the risk profile of investment banking is significantly different from the risk profile of traditional retail banking and that strict policies to limit risk exposure are necessary, since they have a significant impact on clients, even if they have nothing to do with aggressive investing. The authors of the report proposed creating a framework for restructuring and liquidating insolvent credit institutions. The conclusions of the Vickers report were criticised by some researchers, however. Ambler and Saltiel (2011) indicated that the proposed functional separation of investment activities would not reduce the contagion effect, and the proposed framework for the resolution of credit institutions was too narrow.

The following year, a group chaired by Erkki Liikanen, president of the National Bank of Finland, was established to develop a reform plan for the EU banking sector in the spirit of the amendments proposed by the Vickers and Volcker groups. In October 2012, the Liikanen report was published – the final report of a high-level expert group on reforming the structure of the European Union banking sector (High-level Expert Group, 2012). The most important proposals included separating the commercial and investment activities of credit institutions, as well as separating operations undertaken by the banks on their own account. According to the proposal of the Liikanen report, trading entities should become separated from the basic deposit taking and lending activities (High-level Expert Group, 2012). This was both to protect individual customers and to counteract

crises of confidence in banks. The report also pointed to the need for banks to become responsible for their own actions, and that measures had to be taken to ensure that the credit institutions are the first to cover their own losses. Similarly, in the face of a liquidity crisis, it is the shareholders that would become primarily responsible for saving failing banks. The report stressed the need for banks to raise the level of equity and supported the proposals to increase the liquidity thresholds. It emphasised that tightening these requirements is of key importance from the perspective of the aforementioned responsibility for the risk incurred.

The proposals put forward by the Liikanen report were supported by some economists, who saw them as an opportunity to strengthen the position of supervisors regarding credit institutions (Krahnen, 2013a, p. 18). Others, however, were concerned that the proposed separation of investment activities from traditional banking activities would result in many of these activities being taken over by shadow banking institutions (Buckley et al., 2016, pp. 144–145). The proposals were included in a modified form in an EC regulation proposal, although ultimately, they were not implemented (Proposal for a regulation, COM (2014)).

2.5. Legislative changes – as of 2010

The liquidity crisis and the crisis of confidence in credit institutions that stemmed from it motivated the Member States to support tighter integration of the financial markets. At the end of 2009, following the recommendation of the de Larosière report, the European Commission started reforming the EU's institutional setup dedicated to prudential supervision. In 2010, pursuant to Regulation 1092/2010, supervision at the pan-European level was created for the first time under the auspices of the ESRB. The ESRB became responsible not only for the macro-prudential supervision of the EU's financial market, but also for designing measures to enable the identification and prevention of threats to financial stability (Regulation (EU) No 407/2010). When it deems it appropriate, the ESRB may issue warnings and recommendations with a specific deadline for implementation. They can be EU-wide or addressed to a given Member State or specific national supervisory authority (Regulation (EU) No 1093/2010; Regulation (EU) No 1094/2010; Regulation (EU) No 1095/2010).

According to the proposals in the de Larosière report, macroeconomic supervision alone cannot effectively protect the European financial market without effective supervision at the microeconomic level. For this reason, the decision to establish a European System of Financial Supervision should be seen as a step in the right direction. Support for de Larosière's proposals can also be found in the literature on the subject (see Lannoo, 2009; Goodhart & Schoenmaker, 2009;

Mayes, 2009, pp. 7–11). The need to comprehensively supervise large financial institutions conflicted somewhat with maintaining committees that focused on individual sub-sectors of the financial market. Thus, three bodies, which comprised the European Supervisory Authorities (ESAs), were made responsible for micro-scale supervision: the European Banking Authority (EBA), the European Insurance and Occupational Pensions Authority (EIOPA), and the European Securities and Markets Authority (ESMA) (Regulation (EU) No 1095/2010).

In December 2010, the European Council decided that the temporary financial assistance facility, the EFSF, should become a more permanent body – the European Stability Mechanism (ESM). The ESM is designed to financially support euro area countries undergoing or threatened with economic difficulties (*Treaty Establishing the European Stability Mechanism*, art. 3). This permanent institution replaced the two previously established mechanisms – the EFSM and the EFSF. The ESM was established on the basis of the Treaty Establishing the European Stability Mechanism. Each country that joins the euro area automatically becomes a member of the ESM. The European Stability Mechanism functions as an intergovernmental organisation based in Luxembourg; hence it is not an EU institution, as this would require changes to the Treaty on the Functioning of the European Union. The capital of the European Stability Mechanism amounts to EUR 704.8 billion, of which EUR 80.5 billion was paid upfront by the participating countries in five instalments between 2012 and 2014 (see *Treaty establishing the European Stability Mechanism*, art. 8; Federal Ministry of Finance, 2013, p. 6; Zoppè & Gasparotti, 2018, p. 4). The remaining EUR 624.3 billion is capital on demand. The budget of the ESM is also supported by funds from financial sanctions imposed on euro area Member States, as they fall under the excessive deficit procedure, the multilateral surveillance procedure, or the excessive macroeconomic imbalances procedure. The instruments at the disposal of the ESM come in two forms – direct loans and, in exceptional cases, interventions on the bond market.

The creation of a permanent financial assistance mechanism was criticised by some economists. Olivares-Caminal (2011, p. 17) pointed out that EFSF was, in fact, tantamount to the creation of a special purpose vehicle that enabled the collection of low-interest funds. However, he stressed that while such a solution was acceptable in the short term, its transformation into the permanent ESM risked "crowding" private capital out of the market. A similar view was expressed by Buch (2012, pp. 27–28), who indicated that granting financial assistance from the ESM must be treated as a last resort measure and be subject to strict control.

In 2011, a number of new legal acts were adopted – the so-called "six-pack", i.e., a package of five regulations and one directive (see Regulation (EU) No 1173/2011; Regulation (EU) No 1174/2011; Regulation (EU) No 1175/2011; Regulation (EU) No 1176/2011; Directive 2011/85/EU). The solutions they introduced were preventive or corrective, aimed at ensuring the proper functioning of national public finances by strengthening the budgetary discipline of all EU Member States.

New solutions were introduced, including financial sanctions for excessive budget deficit and the too slow reduction of public debt below the upper limit of 60% of a Member State's GDP. Prammer and Reiss (2016, pp. 47–51) indicated, however, that the "six-pack" in practice complicated the procedure, leaving the final decision on imposing financial penalties to the discretion of the Member States. It is worth noting that the "six-pack" referred to the risk of growing public debt exclusively, with no reference to coordinating the supervision of the banking system.

In May 2013, the so-called "two-pack", i.e. two regulations that further complemented budgetary surveillance of euro area countries, was introduced (see Regulation (EU) No 472/2013; Regulation (EU) No 473/2013). They introduced stricter regulations for the Member States whose growing indebtedness threatened the stability of the entire euro area. Under the new regulations, financial support was made conditional on implementing remedial programs prepared in cooperation with the European Commission. As with the "six-pack", the "two-pack" did not deal with coordinating the supervision of credit institutions at the international level.

In June 2013, a new package of prudential regulations relating to the EU financial sector was introduced – the CRD IV Directive (Directive 2013/36/EU) (Capital Requirements Directive IV, CRD IV) and the CRR Regulation (Regulation (EU) No 575/2013) (Capital Requirements Regulation, CRR). The package entered into force on 1 January 2014 and contained regulations governing banking activities, their supervision, and the prudential requirements for credit institutions and investment firms. In other words, the package addressed, in particular, the systemic risk that may threaten the European banking sector (Brzozowski, 2014, p. 4). Adopting the CRD IV/CRR package implemented the Basel III recommendations, although in a partially modified form.

CRD IV contained regulations concerning requirements for credit institutions' own funds, measures limiting the reliance on rating agencies in terms of assessing investment risks, as well as a set of requirements regarding the financial leverage level, the remuneration policy for managerial staff, and the size of capital buffers. Under the directive, four types of capital buffers were created (Table 4):

- the countercyclical buffer;
- the Global Systemically Important Institution (G-SII) risk buffer;
- the Other Systemically Important Institution risk buffer;
- the systemic risk buffer.

The first buffer, the countercyclical buffer, is an additional capital requirement that was imposed on credit institutions to limit credit risk. In accordance with art. 137 of CRD IV, it was set at 0% –2.5% of the total risk exposure amount. The size of the buffer is set by the national macro-prudential supervision to counteract the impact of current business cycles – during periods of excessive lending growth, it is higher, while during periods of economic slowdown, it is lowered (Directive 2013/36/EU, art. 80–81).

Table 4. Permissible capital buffer levels under CRD IV

Buffer type	Value
Countercyclical buffer	0–2.5%
Global Systemically Important Financial Institutions buffer	1–3.5%
Other Systemically Important Financial Institutions buffer	0–2%
Systemic risk buffer	1–5%

Source: own elaboration based on Directive 2013/36/EU

The next two buffers – the Global Systemically Important Institutions risk buffer and the Other Systemically Important Institutions risk buffer – were introduced for institutions whose financial condition can affect financial stability on a national, regional or global scale. Pursuant to art. 131 of the Directive, it is the national supervisory authority that is obliged to identify institutions of systemic importance based on their size, ties with other institutions, cross-border activities, or structural complexity of their capital group. In line with CRD IV, the size of the capital requirement for other systemically important institutions was limited to a maximum of 2% of their risk exposure amount, whereas for global institutions, this buffer was capped at 3.5% of their total exposure amount. The global systemically important institutions are divided into five categories. Institutions from the lowest category have a designated buffer of 1%, and each subsequent category increases this buffer by 0.5 percentage points, up to the maximum amount described above.

The last systemic risk buffer can be introduced for the entire financial sector of a given country or for one or more of its subsets in order to prevent and mitigate long-term, non-cyclical systemic or macro-prudential risks (Directive 2013/36/EU, art. 133). Each Member State designates an authority responsible for establishing it. The level of the systemic risk buffer is set at at least 1% of the risk exposure level. This level may even be raised above 5%; however, due to the potential risk of distorting market competition conditions, different procedures were established for any changes to the systemic risk buffer. In the event of any change, the European Commission, the EBA, the ESRB, and the home countries of the affected banks must be informed. While changes in the range of 1–3% require only notification one month in advance, changes in the range of 3–5% require approval from the European Commission. Raising the buffer above this level requires the submission of additional justification for the decision to the European Commission for analysis and an analysis of its impact on the EU financial market.

In the context of changes introduced by the CRD IV/CRR package, it is worth paying attention to the short-term (LCR) and long-term (NSFR) liquidity requirements it introduced, in line with the Basel III recommendations. Legal

provisions in the field of financial instruments, which are treated as highly liquid, have been met with severe criticism, however. According to Eckhardt and Van Roosebeke (2015, pp. 17–18) and Lenarčič et al. (2016, pp. 9–10), it was a mistake to recognize EU bonds as highly liquid assets, regardless of the condition of their public finances.

In 2016, the EC presented another proposal to amend the CRD and the CRR (called, respectively, CRD V and CRR II) (Proposal for a directive COM (2016); Proposal for a regulation COM (2016)). The proposed legislation proposed increasing the risk weights for trading assets while reducing them for transactions with clearing houses. Additional requirements to the financing structure of credit institutions, simplifying their liquidation in the event of insolvency, were also proposed. The new CRD V/CRR II package was adopted in June 2019 (Directive (EU) 2019/878 and Regulation (EU) 2019/876).

Changes introduced by CRD V include the introduction of direct oversight of the activities of financial holding companies (see art. 4 of Regulation (EU) 2019/876 for further reference). Holding companies from third countries with at least two institutions established in the EU and total asset value over 40 million EUR are also obliged to set up an intermediate EU parent undertaking. The Directive also allowed supervisory authorities to impose additional reporting obligations on the supervised entities. The systemic risk buffer was made more flexible, allowing the supervisor to alter its level either for all exposures or for a specific subset.

The revised CRR also introduced a formula for calculating the systemic risk buffer. The new provisions also increased the maximum buffer level for other systemically important entities from 2% to 3% and potentially even higher with the consent of the European Commission. Further amendments to the regulation introduce, among others, a binding leverage ratio level to contain its size in financial institutions. Greater risk weights were assigned to activities involving securities and derivatives trading, while a new TLAC requirement for G-SIIs was introduced to increase their loss absorption capacity.

Summary

Analysing the history of economic integration between European countries allows us to conclude that the banking sector was one of the first to have regulations introduced at the international level. The first regulations relating to the functioning of banks appeared as early as the 1970s, although it is clear that they managed to harmonize only some aspects of how credit institutions function. In practice, integrating the European banking sector took place slowly over many years. It is

also apparent that this process left supervising credit institutions entirely within the jurisdiction of individual Member States for many years. There were also no institutional solutions proposed to ensure the efficient coordination of supervision of banks' cross-border activities.

In the context of the central bank's involvement in ensuring financial stability, its role as the lender of last resort remains a contentious subject in the literature. On the one hand, it is an important function that can allow the financial system to withstand a shock that could threaten even its most basic functions in a modern economy. On the other hand, sanctioning this kind of a tool creates moral hazard for the credit institutions, potentially harming financial stability rather than reinforcing it. The other debatable subject that remains unresolved is whether central banks should be assigned supervisory tasks or not. Ultimately, in times of financial conglomerates dominating the banking sector, the central bank's involvement in supervision is a necessity.

The increasingly cross-border nature of credit institutions' activities has, on the one hand, broadened the range of assets they hold in their portfolios and diversified the risks they carry, but on the other hand, it has strengthened the linkages between individual economies. In this context, ensuring the stability of the financial system has become particularly difficult in a purely national context, since national authorities have access to only some of the information they would need to properly assess the risk profile of a given financial group. The recommendations of the Basel Committee successively increased the ability of credit institutions to absorb losses, but without the supervision that was able to properly assess cross-border ties and exposures, this ability remained inadequate and insufficient when the financial crisis started in 2008.

Recognising the need for further financial integration seems to have come only as an aftermath of the financial crisis. From this perspective, it is easy to criticise the scope and pace at which the crisis response was implemented, although the phenomenon of protectionism of national economies has considerably contributed to slowing down the works on a common anti-crisis policy. In the context of this book, however, it is more prudent to focus on the improvements to measures safeguarding financial stability in the future that were introduced over the course of the crisis response plan.

Although establishing the ESM was criticised in the literature for increasing the risk of contagion, it is also an important guarantor of the banking system's stability, which may prevent bank runs and, therefore, the contagion effect as well. Nonetheless, the financial assistance from the ESM is an emergency aid tool, and it was still necessary to design prudential solutions that would prevent the development of financial crises in the first place.

The proposals of the Liikanen report to shift the responsibility for the losses incurred by the credit institutions in their day-to-day activities back onto themselves were well-targeted, while separating traditional and investment banking

activities would make it easier for consumers to understand the risks associated with using the services of individual entities. Nevertheless, in practice, the proposed separation of risky activities from the structures of the existing financial conglomerates could prove to be too difficult and negatively impact the financial condition of many entities.

Ultimately, many of the reforms listed in this chapter primarily dealt with the consequences of a financial crisis rather than its prevention. However, among the core achievement in the context of integrating the financial markets of EU Member States is the coordination of supervision at the macro- and micro-levels, even if they have limited responsibilities. The true success is undoubtedly the establishment of a banking union, which is the subject of the next chapter.

Chapter 3

The European Banking Union

The recent financial crisis has highlighted the negative consequences of the lack of uniform oversight of the European financial market. EU governments were forced to bail out private entities with public funds to avoid a series of bankruptcies and a crisis of confidence in the banking sector. Avoiding such situations in the future required introducing new solutions, including the coordination of preventive actions and a reliable framework that would allow for the resolution of insolvent banks.

The establishment of the banking union was an important milestone for the integration of the EU financial markets, a process that was ignored for years. Nonetheless, even in the face of the consequences brought about by the financial crisis, the process of building the banking union did not take place without opposition from the Member States. Their resistance regarded many aspects of further integration, including transferring the supervision of financial institutions to the supranational level.

This chapter aims to evaluate the concept of the banking union. The process of creating individual pillars of the banking union is analysed along with the difficulties that arose during the negotiations. Particular emphasis is placed on coordinating the supervision of credit institutions within the first pillar of the banking union, as the solutions adopted were vital for the research conducted when preparing this book. The review of methods for supervising credit institutions presented in the paper refers to all EU Member States, although membership of the banking union is obligatory only for the euro area countries.

3.1. The genesis of the banking union

The progressing debt crisis and growing problems of the banking sector become a threat to the financial stability of a number of EU countries. As the anxiety on the markets grew, increased pressure was exerted on the EU institutions to address the problem. The solution proposed by the EU was to create a banking union. It envisaged comprehensive reforms that would most likely not be acceptable under normal market conditions. Back in 2012, however, growing difficulties in controlling the banking sector's liquidity crisis made it necessary for the member states to consider transferring many of their national powers to the EU level.

The purpose of establishing the banking union was to restore confidence in the EU banking sector by stabilising its performance and improving its resilience for the future. The first information about the concept of a banking union appeared in the publication of Véron in 2011 (Véron, 2011). Officially, however, the concept of creating a banking union was presented in May 2012 at a press conference of the President of the European Commission, Jose Manuel Barroso (2012). The concept was then discussed at a summit of the euro area countries towards the end of June 2012. After the summit, the President of the European Council, Herman Van Rompuy, presented the report "Towards a de facto Economic and Monetary Union", which was prepared in cooperation with the presidents of the European Commission, the Eurogroup, and the president of the ECN. The report proposed establishing the EMU on four foundations (Van Rompuy, 2012):

- an integrated financial framework;
- an integrated budgetary framework;
- an integrated economic policy framework;
- democratic legitimacy and accountability.

The proposal to establish a banking union was positively assessed by, among others, Schoenmaker (2015, pp. 2–5), who indicated that transferring responsibility for the supervision and resolution of international credit institutions to the supranational level would prevent conflicts of interest between the countries in which a given the entity is active. Tchorek (2014, pp. 24–25) agreed with this approach, stressing that the direct cause of the banking sector's liquidity crisis was the outdated design of supervision, which was unable to keep up with the progressing integration of financial markets, especially at the wholesale level. Gros (2012, pp. 51–55) emphasised that establishing an international supervisor would eliminate the temptation to protect the interests of domestic credit institutions at the expense of adjustment mechanisms that would help restore the stability of the EU banking sector. Szpunar (2012, pp. 3–5) noted that the proposal to establish a banking union links the goals of monetary,

fiscal, and macro-prudential policies, making it possible to identify risks that may appear between various jurisdictions.

Countries outside the euro area remained sceptical about the proposal to establish a banking union, fearing that they would not have any influence on the decisions made under the new structure and that the new supervisory authority would be less sensitive to threats to the stability of their banking sectors. They believed that the consequences of a potential bank resolution would be analysed from the perspective of the entire EU sector without due consideration given to the disturbances caused on the local market (Quaglia, 2017, p. 5). At the same time, these countries were concerned that the creation of a banking union might adversely affect the competitiveness of their credit institutions, as banks from outside the euro area could not rely on the support of the ESM, and hence they would be perceived as less safe (Zettelmeyer et al., 2012, pp. 72–73).

The lack of customer confidence in credit institutions poses a serious threat to the functioning of the entire sector. Thus, the banking union would increase their credibility and guarantee their stability, both inside and outside the euro area. It was seen as crucial for the security of the financial system to create a mechanism that would guarantee that banks that encounter financial problems would be resolved or restructured at the lowest possible cost to taxpayers (EC, COM (2008b)). The goals of the banking union would be achieved by limiting the fragmentation of the financial market, increasing financial stability, and preventing the use of financial resources from taxpayers to save failing banks. All countries of the euro area would belong to the banking union, and countries from outside the zone could join through *close cooperation*. The goals of the banking union, according to its initial project, spanned ten years.

Despite the well-founded motivation to tackle the financial crisis in Europe, the Member States remained sceptical about transferring full supervisory powers to the EU level. In this context, the conflict between Germany and France was of particular significance, where Germany wanted the smallest banks to be excluded from the control of the joint supervisor, while France believed that no exceptions from consolidated supervision should be envisaged (Szpringer, 2013, p. 2). As pointed out by Degner and Leuffen (2017), the political impasse between the two countries would not have been resolved were it not for the deepening financial crisis, which forced the Member States to implement reforms in stages. In turn, Gren et al. (2015, pp. 185–186) indicated that establishing supranational supervision required not only political consensus, but also a division of powers between the central supervisor and the national supervisory institutions that had to remain part of the system, but that still wanted to retain a degree of independence.

According to the concept presented in the report of Herman Van Rompuy, the President of the European Council, the banking union would consist of three pillars: the Single Supervisory Mechanism, the Single Resolution Mechanism, and the European Deposit Insurance Scheme (Figure 9).

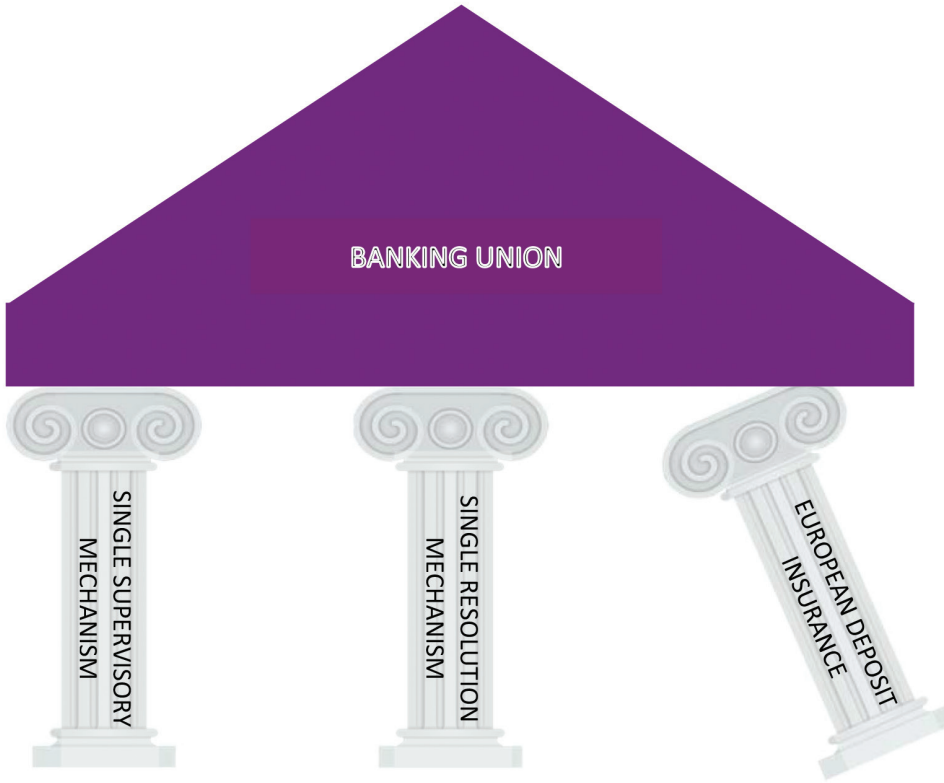

Figure 9. Pillars of banking union
Source: own elaboration

The characteristics of the pillars of the banking union will be presented in further sections of this book. Special attention will be given to the Single Supervisory Mechanism, whose impact on credit institutions will be analysed in detail in Chapter Four.

3.2. The Single Supervisory Mechanism

The Single Supervisory Mechanism was the first pillar to be created under the banking union project. The central supervisory body was set up in stages starting from 2013, when the ECB was established by Council Regulation No 1024/2013 as the central body of the new mechanism.

The choice of the ECB as the supervisory authority raised much controversy as its overriding and immediate goal is to conduct the monetary policy of the euro

area. In turn, the prudential supervision of credit institutions that belong to the SSM meant significantly expanding the scope of its activities, which required an appropriate reorganisation. The discussions between the EU Member States built extensively on the arguments for and against the central bank's active involvement in ensuring financial stability discussed earlier in subsection 1.5.1 of this book.

On the one hand, the ECB was a natural candidate to take on the responsibility of a central supervisory authority due to its extensive knowledge of the banking sector, macroeconomics, and financial stability (Council Regulation (EU) No 1024/2013, art. 1). On the same basis, central banks have been entrusted with supervisory tasks in many countries, as highlighted in Chapter One. The point of responsibility for the stability of the financial system was an important argument in favour of assigning the new role to the ECB – new supervisory functions gave it access to more data on the condition of credit institutions. As an entity that directly collects information on the condition of supervised entities, the central bank could react faster to any arising threats.

The arguments against entrusting supervisory tasks to the central bank also remained valid for the ECB. The potentially negative link between the monetary policy and the banking sector liquidity was emphasised – the restrictive interest rate policy could have a negative effect on the condition of the banking sector. Concentrating monetary and supervisory powers in the ECB was also seen as a threat due to the inflexible statute of that institution, which could not be easily adjusted to the changing environment (Elliott, 2012, p. 25). Meanwhile, Kern (2016, pp. 478–481) pointed out that the legal framework of the euro area central bank remained insufficient for it to effectively play the role of a supervisor over the entire financial system, including shadow banking institutions.

Regulation (EU) No 1024/2013 required the ECB to prepare the organisational framework for the functioning of the SSM by 4 November 2014, i.e., by the time it was to formally start its supervisory duties. Particularly important in this process was Regulation 468/2014 of the European Central Bank of 16 April 2014, which regulated cooperation within the SSM. In the regulation, the ECB undertook to announce which credit institutions will come under its direct supervision as systemically important institutions at least two months before the date on which control is taken over. In line with the actions taken after the crisis, the European Systemic Risk Board became responsible for supervision at the macro level, the EBA was responsible for the micro-scale, and the ECB took over supervision of the banks under the SSM.

The SSM was established pursuant to art. 127 of the Treaty on the Functioning of the European Union. As indicated earlier, it automatically became responsible for supervising the credit institutions of the euro area Member States; other Member States could join the mechanism by engaging in close cooperation with the ECB (Decision of the European Central Bank, 2014). In order to initiate close cooperation, a Member State should submit a relevant request to the ECB

at least five months before the date from which it would like its banking sector to be supervised under the SSM. At the same time, it should inform the other Member States, the European Commission, and the EBA about its decision. By signing the close cooperation agreement, a Member State obliges itself to comply with the decisions taken by the supervisory authority and to ensure that its national credit institutions submit the required information to the ECB. The decision to join the SSM is published in the EU Official Journal and becomes effective 14 days after publication (Council Regulation (EU) No 1024/2013, art. 7).

The SSM carries out two types of supervision – direct and indirect. Credit institutions considered important from the perspective of the banking system are covered by direct supervision. The significance of a credit institution is determined under three criteria (Council Regulation (EU) No 1024/2013, Art. 5):

- size (total asset value – for an institution of systemic importance, it should be at least EUR 30 billion);
- importance for the EU economy, or the economy or sector of a participating Member State, measured as the ratio of the institution's total assets to the GDP of its home country. An institution is considered significant if that ratio is at least 20%;
- significance of the entity's cross-border activities (i.e. the strength of linkages between the entity and foreign entities). According to this criterion, a credit institution is deemed significant if its asset value is at least 5 billion EUR and the value of the cross-border assets/liabilities of its subsidiaries represent at least 20% of the group's total assets/liabilities).

There are three important exceptions to the tests according to the criteria outlined above. Firstly, the ECB by default supervises the three largest banks in each participating Member State, regardless of their size. The ECB also becomes responsible for monitoring credit institutions that were granted financial support under either the EFSF or ESM. A third exception is made for credit institutions that the ECB selects for direct supervision on its own initiative – this may be the case where the entity is active in at least two countries covered by the SSM, and their cross-border activities account for a significant part of their balance sheet total. The European Central Bank notifies a given entity at least one month before it becomes directly responsible for its supervision (European Central Bank Regulation (EU) No 468/2014, art. 45). In July 2021, 114 banks were subject to direct supervision (Figure 10) (ECB, 2021b).

Indirect supervision covers banks that have not been classified as systemically important. The responsibility for their supervision remains with the national supervisory authorities, which coordinate their operations with the European Central Bank. The European Central Bank may decide at any time that an institution requires direct supervision. The list of supervised entities, together with updates, is made public (European Central Bank Regulation (EU) No 468/2014, art. 49).

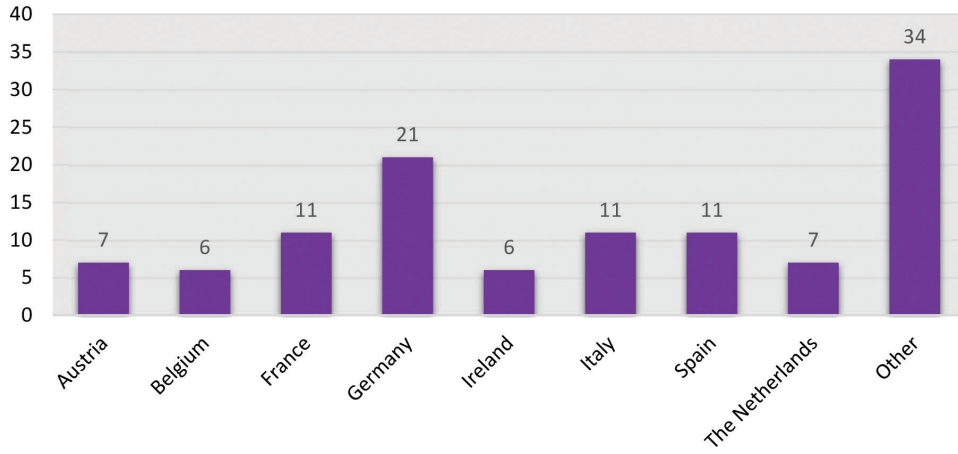

Figure 10. Number of institutions under direct SSM supervision and their home countries
Source: own elaboration based on ECB (2021)

Therefore, indirect supervision is performed by national supervisory authorities and coordinated by the European Central Bank, forming the new supervisory structure. Cooperation with national supervisory authorities primarily comes down to the exchange of information between the institutions. National supervisory authorities became formally obliged to assist the ECB in carrying out its duties. The ECB, in turn, was obliged to cooperate with the EBA, ESMA, EIOPA, and the ESRB.

In order to perform the supervisory tasks entrusted to the ECB, a Supervisory Board was established within its structures. The Board is composed of the Chairperson, the Vice-Chairperson, four representatives of the ECB, and one representative of the national supervisory authority of each Member State covered by the SSM. The chairman of the Council is elected under an open qualification procedure for a five-year term without the possibility of being re-elected. In turn, the Vice-President of the Supervisory Board is chosen from among the members of the Executive Board of the European Central Bank. Each member of the Supervisory Board has one vote, and the decisions, with a few exceptions, are adopted by a simple majority (Council Regulation (EU) No 1024/2013, art. 26).

For individual entities, *joint supervisory teams* are established. Such teams are composed of the ECB staff and the relevant national supervisory authorities. The size of the team depends on the size of the controlled entity. Joint supervisory teams are tasked with performing reviews of the given entity or capital group, taking part in the preparation of the reports presented to the Supervisory Board, implementing supervisory programs and other decisions of the ECB, and liaising with competent supervisors when necessary (European Central Bank Regulation (EU), No 468/2014, art. 3). The chairman of a given team cannot be from the same country as the controlled entity (Roland & Lannoo, 2014, p. 28).

The coordination of supervisory activities and leaving the final decision to a supranational entity was an important step towards ensuring the equal treatment of credit institutions throughout the euro area. Harmonising the treatment of capital instruments as components of regulatory capital significantly helped ensure the adequacy of banks' own funds that guarantee their solvency. Thus, establishing the SSM enabled more reliable comparisons between the entities it covers and inspired the study that was performed for this book.

In October 2017, the European Commission published a report in which it presented its own assessment of the SSM in the first years of its operation. According to the Commission, the new mechanism was a success, and the cooperation of the ECB with national supervisory authorities and the EBA was deemed efficient (Report from the Commission COM (2017)). The establishment of the SSM was also positively assessed by Véron (2015, p. 48), who pointed to the positive impact of this decision on the credibility and position of the ECB on an international scale among the prudential supervisors of the banking sector.

Not all reports on the performance of the SSM were equally optimistic, however. The European Court of Auditors (ECA) (2016, pp. 22–78), having carried out an audit of the SSM, concluded that the involvement of national authorities in the new supervisory procedures made supervision more complex. It pointed to the fact that the new mechanism relied heavily on communication between the employees of the European Central Bank and the employees of the competent supervisory authorities of the given Member State. Moreover, the selection of people for the joint supervisory teams was left to the discretion of the Member States and, in the ECA's assessment, without strict requirements regarding their competence. The Court of Auditors criticised the lack of possibility for the European Central Bank to influence the selection process, which could potentially affect the quality of cooperation. The way the on-site inspections were carried out raised further concerns of the ECA. The report revealed that the teams typically consisted of an insufficient number of ECB staff, and their work was usually led by a person from the same Member State as the entity concerned. Deloitte reached similar conclusions in their analysis, stating that, especially in the early years, the effectiveness of the SSM was bound to remain dependent on the competencies of the national supervisors (Deloitte, 2014).

Montanaro (2016b, pp. 163–165) pointed to the scope of the European Central Bank's supervision as a weakness of the new mechanism as it covers only credit institutions that operate in the euro area countries. In theory, there may be circumstances where a foreign branch of a credit institution may lead to the collapse of the parent institution. Such a situation may be a consequence of the reorientation of the activities of some entities to foreign markets. As a consequence, the ECB will be forced to indirectly rescue the bank's foreign branch, even though it will not be formally subject to supervision by the SSM. Considering the fact that many European credit institutions have expanded into

foreign markets in the form of branches, this problem may prove to be much greater than expected.[1] This criticism also seemed to be shared by Sitek (2015, pp. 17–20), who showed that the obligation to participate in the SSM, which applied only to the euro area countries, only deepened the differences between the two groups of countries.

Sum (2016, p. 119) viewed the geographical scope of the SSM from the perspective of the overlapping competencies of the EBA and the ECB in the euro area. The centralisation of the supervisory authority within the ECB implied a reduction in the importance of the other institution, especially in countries that have adopted the euro. Ferran (2016, pp. 286–288) even stated that if the ECB had been assigned supervisory power earlier, the EBA would most likely never have been established. Continuing his deliberations, however, he stated that the European Central Bank cannot react in countries that remain outside the SSM, whereas the EBA can, potentially giving it the role of a coordinator. The lack of connection between the ECB's supervisory policy and non-EMU countries could adversely affect the stability of the financial system due to the high degree of interconnectedness of the financial markets of the Member States.

According to Zaleska (2013a, p. 21), a disadvantage of the SSM is the possibility of regulatory arbitrage, which means that not all credit institutions that operate in the European Union will be subject to the Single Supervisory Mechanism, e.g., those from Great Britain. An interesting example is Nordea bank (2018), which moved its headquarters to the euro area just to be in the area supervised by the ECB. This shows that the emerging banking union not only imposes obligations on financial conglomerates, but it also offers them the stability of the regulatory environment.

The institutional setup of the SSM also raised concerns over different policy objectives pursued by national regulators and the European supervisory authority. The ECB is expected to focus primarily on systemically important institutions and harmonising the prudential requirements imposed on them, while national supervisors may have an active interest in overseeing and prioritising entities that are important for the domestic economy (Allen et al., 2010, pp. 14–17). The doubts of Zaleska (2013a, p. 21) also refer to the extensiveness of the supervisory network over the financial market. The newly created governance operates at multiple levels and covers entities of various sizes, both in terms of the portfolio managed and geographic coverage. The effectiveness of actions taken against the supervised entities may also vary significantly.

A less pessimistic approach to the SSM was presented by Darvas and Wolff (2013, pp. 11–12), who see the SSM as an opportunity for further financial integration and more effective supervision. They believe that countries outside the euro area should join the mechanism as soon as possible to avoid potentially

1 According to ECB data, in 1998, banks from the euro area countries had 212 branches in other EU countries, while in 2017 there were already 539.

negative consequences for the competitiveness of national credit institutions. At the same time, they emphasised that membership of the SSM is particularly important for those EU countries whose banking sectors are dominated by foreign credit institutions.

According to Schoenmaker and Véron (2016, p. 5), the newly established supervisor is less susceptible to political pressure and does not privilege any of the overseen institutions. This conclusion contradicts their concerns about the potential risk of different standards for the large and small entities that fall under the scope of the SSM.

Integrating the supervision of the banking sector is not a new issue in the economy, and the need to unify the regulatory framework for financial institutions operating within the euro area was raised as an important condition for achieving optimality of the currency area. The euro area's failure to meet the optimality criteria was indicated as a factor that could destabilise the economy, and creating supranational solutions helped mitigate the consequences of macroeconomic shocks (Diaz del Hoyo et al., 2017, pp. 14–15). In this context, the creation of the SSM, even for the euro area itself, should be seen as the right decision that will improve the quality of supervision of credit institutions over time. The ultimate effectiveness of the mechanism will be determined by its ability to make supervisory decisions free from political pressure.

3.3. The Single Resolution Mechanism

The subject of bank resolution has always been a difficult problem due to the significant social and economic consequences of such decisions. A resolution procedure was formalised early on in Japan, where it was introduced in 1971, and in Australia. Although no specific legal act was passed there, the authorities had the power to liquidate insolvent credit institutions if necessary. In 2011, the Financial Stability Council issued a document that contained instructions to be followed by national authorities when adopting the law on bank bankruptcy, as well as the principles according to which the resolution process should be carried out (FSB, 2011). This document referred primarily to systemically important institutions, focusing on the problem of "too big to fail".

In 2014, the EU adopted Directive 2014/59/EU on the Bank Recovery and Resolution Directive (BRRD). It was a response to the lack of appropriate legislation that governed the treatment of credit institutions struggling with financial problems or threatened with bankruptcy. *Too big to fail* is largely a problem of the EU financial market directly, since 13 out of 30 institutions recognised as Globally Systemically Important Institutions originate from it (Mesnard et al., 2017c).

Under the provisions of the BRRD, the rules governing bank resolution were supposed to be implemented into the national legal orders of all Member States by December 2014, yet five of them have failed to do so before the deadline (Czech Republic, Luxembourg, Poland, Romania and Sweden) (Huertas, 2016). The BRRD harmonises the recovery, restructuring, and resolution procedures, and it also requires non-euro area member states to set up National Resolution Authorities (NRAs). For the euro area countries, this task was assigned to the Single Resolution Board (SRB).

The Single Resolution Mechanism (SRM) became another pillar of the EU safety net, aiming to remove the national bias from the decision-making process regarding bank failures. Such a decision should instead be taken from the perspective of the EU economy as a whole and should not be subject to political pressures or to protect the interests of a selected group of clients. The EU wanted the decision to liquidate the bank to be as objective as possible to ensure timely intervention to protect the economy from large-scale crises. An efficient resolution mechanism would also limit the moral hazard of the financial institutions, sending a clear signal that they cannot expect unconditional bailouts when struggling with financial difficulties (Zielińska, 2018). For these purposes, the newly created mechanism was equipped with separate funds (Single Resolution Fund) and became a significant complement to the Single Supervisory Mechanism.

The purpose of the resolution, as described in art. 31 of the BRRD, is:

- to avoid significant negative effects on the stability of the financial sector by preventing the domino effect and maintaining market discipline;
- to protect public funds by limiting financial support for failing institutions to the necessary minimum;
- to protect depositors covered by Directive 2014/49/EU and investors covered by Directive 97/9/EC;
- to ensure the continuity of the failing bank's critical functions (defined in the directive as activities or services of key importance for the functioning of the real economy and financial stability in general) throughout the resolution process.

The SRM project was presented in July 2013 and entered into force in August 2014. Within the framework of the SRM, a Single Resolution Board, based in Brussels, was established (Regulation (EU) No 806/2014, art. 42-52). The Board's tasks include preparing and approving resolution plans, which are submitted to the European Commission and set out the minimum requirements for credit institutions' own funds. The SRB comprises the chairman, four permanent members, and representatives of the participating countries. The chairman is appointed for a five-year term, which cannot be renewed (Regulation (EU) No 806/2014, art. 42–52).

The BRRD introduced the resolution procedure for failing credit institutions to avoid the need to use public funds to rescue failing banks. If the Board concludes

that the conditions for bankruptcy of a credit institution are met, it adopts a resolution scheme.[2] The resolution tools were listed under art. 37 of the BRRD and include:

- sale of business;
- bridge bank;
- asset separation;
- bail-in.

The first tool is the sale of an entity, either whole or in part, or certain assets that belonged to it (Directive 2014/59/EU, art. 38-39). The use of this tool implies the need to grant the authority carrying out resolution the powers to transfer ownership rights from the resolved entity to the new owners. The most practical solution under this instrument is to sell off the entire enterprise to another private entity. However, this may prove to be difficult, especially for large entities. According to Szczepańska et al. (2015, p. 31), the transparency of the approach to selling an enterprise is important – the selection of the buyer should be made through market mechanisms, where each of the bidders has equal access to the necessary data to assess the transaction value.

The **bridge bank tool** is usually used when there are difficulties finding a buyer for the resolved entity or when the price offered for its acquisition is unsatisfactory (Directive 2014/59/EU, art. 40). All assets and liabilities of the liquidated entity are then relocated to a new entity called a bridge bank. The bridge bank remains the property of the authorities and is tasked with ensuring the continuity of the resolved institution's business activities without further expansion of these activities. In this context, it is particularly important to maintain basic services that are important to customers, such as access to funds or basic banking services. The bridge institution is set to operate until a satisfactory purchase price is offered for its acquisition by private investors, yet that period cannot be longer than two years.

The **asset separation tool** is the only tool on the list provided under art. 37 of the BRRD that can only be used in conjunction with another one from that list. It envisages transferring an organised part of an entity undergoing resolution to an asset management company (AMC) in order to increase the attractiveness of the liquidated entity to potential buyers (Directive 2014/59/EU, art. 42). Thus, by default, the AMC takes over the least profitable and/or high-risk assets that would adversely affect the valuation of the liquidated entity. The AMC's task is to recover as much as

2 As soon as a plan is adopted by the Board, it is submitted to the European Commission. Within 24 hours of submitting the plan to the European Commission, the Commission approves it or raises an objection to it. Pursuant to art. 18(6) of the Regulation, within 12 hours of receiving the plan, the Commission may propose that the Council oppose it, as it is not in the public interest, or suggest that the Council amend the size of the fund provided for the implementation of the restructuring plan and orderly resolution. If changes were introduced by the European Commission and approved by the Council, the SRB is required to amend the resolution plan within 8 hours.

possible from the assets it receives under management (Aggarwal et al., 2012). By separating good and bad assets, it is possible to increase the effectiveness of applying other resolution tools, thus reducing the cost of the entire resolution procedure.

The **bail-in instrument** (known simply as bail-in) helps the owners and uninsured creditors of a failing credit institution to cover the losses incurred by that institution (Directive 2014/59/EU, art. 43). Using bail-in, the resolution procedure is expected to involve as little public funds as possible under an eventual *bailout*. This instrument can be applied in two stages. First, the bail-in procedure can be applied to a credit institution that is still in operation (a *going-concern*), in which case the purpose of using the debt relief and conversion instrument is to recapitalise the entity, and restore its stability and general confidence in the market. The second instance is the *gone-concern* stage, when a credit institution ceases its operations. In this case, the debt cancellation or conversion instrument is one of the tools used in liquidation, and its purpose is to minimize the costs of the entire process.

Applying the debt write-down or conversion instrument consists of two stages. Redemption of share capital and other capital instruments is carried out first. As part of the capital redemption operation, the share capital (Common Equity Tier 1) is redeemed first, and if that proves to be insufficient, further tier capital instruments are redeemed, including Additional Tier 1 and Tier 2 capital components. The BRRD does not offer any compensation in this respect to the shareholders. If the sum of funds obtained is insufficient in relation to the losses incurred, then a second stage operation is carried out, with a view to converting bank liabilities into capital instruments. The capital raised in the second phase can be used either to cover any outstanding losses or to recapitalise a bank back to the level required by the prudential requirements. In order to ensure that the write-down/conversion would have a positive impact on financial stability, material reinforcements to the bank's loss-absorption capacity had to be introduced.

At the global level, the additional requirement reinforcing the bank's ability to incur losses was defined by the Financial Stability Board as the Total Loss Absorbing Capacity (TLAC). The requirement to maintain TLAC is applied to systemically important institutions and may not be lower than 18% of their risk-weighted assets or 6.75% of total assets amount – these thresholds had to be achieved by 2020 (Mesnard, 2016, p. 4). In the EU, this requirement was introduced as the Minimum Requirement for Own Funds and Eligible Liabilities (MREL). Pursuant to the BRRD, MREL is calculated as the ratio of the sum of funds available to cover losses and enable recapitalisation to the total value of the bank's own funds and eligible liabilities. When setting the MREL level, national authorities are guided by the structure of the credit institution, its business activities, and the associated risk profile. Critics of the MREL design believe that it is not adjusted to the actual risk profile of a credit institution, only to its size (Mesnard, 2016, p. 6).

Since the SRM was established, the resolution procedure has been invoked several times, one example being Spain's Banco Popular. At the beginning of 2017,

it was the fifth-largest bank in Spain (although it also conducted activities outside Spain), with total assets of more than EUR 147 billion (Mesnard et al., 2017b, p. 4). Banco Popular, like other Spanish credit institutions, was heavily involved in financing the purchase of real estate, which resulted in significant losses when the market collapsed (EBA, 2016). In June 2017, the supervisory authority announced that it was on the verge of bankruptcy and started the resolution procedure. The reason for this decision was not insufficient capital but the risk of losing liquidity.

The decision to initiate resolution was accelerated by the April announcement of the bank's quarterly results, after which it became clear that Banco Popular had not created sufficient reserves to cover the impaired real estate loans. This announcement resulted in a wave of deposit withdrawals that negatively impacted the bank's liquidity. In May of the same year, the bank recorded a loss of EUR 137 billion for the first quarter of 2017, and these poor financial results prompted the bank to apply for financial assistance from the European Central Bank, which was ultimately rejected. On 7th June, a decision was made to resolve Banco Popular and sell it off to Banco Santander, who paid 1 euro for the takeover. The European Commission approved the decision of the Board on the same day, stating that the decision protected the public interest. The decision was naturally protested against by the creditors of Banco Popular, who, due to the agreed acquisition price paid by Santander Group, effectively lost the total value of the debt instruments in their possession (Davies, 2018).

Bank bailouts are still envisaged under the BRRD. Pursuant to art. 56, if it turns out that bankruptcy threatens more than one institution, and the potential crisis is systemic, exceptional financial aid from public funds becomes permissible. The BRRD refers to such instances as the *last resort solution*, which requires evidence that all other measures envisaged under the directive have been used in the first instance. Public funds can be used in two ways. The bank may be nationalised under the assumption that, this way, the resources invested will be returned to the state budget in the future. Alternatively, precautionary recapitalisation is also possible, although it is available exclusively to institutions deemed to be solvent.[3] Precautionary recapitalisation is limited to the amount necessary to cover the capital shortfall identified under the ECB stress test. It is an extraordinary tool; therefore, the decision to grant it requires approval from the European Commission. If recapitalisation relates to systemically important institutions, their solvency must be confirmed by the European Central Bank.[4]

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3 i.e., those credit institutions that meet the minimum capital requirements; there must be no capital shortage in the baseline stress test.

4 This mechanism introduces some leeway for national governments, as it is very difficult to unilaterally state that a financial entity has become insolvent. Support under preventive recapitalisation may be provided in the form of:
- a government guarantee underwriting a liquidity boost by the central bank;
- a government guarantee on newly issued liabilities;
- increasing the funds of the entity or acquiring the equity instruments.

The SRB is responsible for assessing whether a given credit institution is on the verge of bankruptcy. If it deems that to be the case, it will adopt a resolution scheme. The procedure for adopting a restructuring plan or orderly resolution involves several EU institutions.[5] The timing of the decision to start a resolution procedure (*get the right trigger*) is very important. A pre-emptive decision to resolve a given credit institution may result in later lawsuits from the bank owners, whereas making the decision too late may limit the effectiveness of the resolution process itself and may eventually require resorting to public funds (Trucker, 2012, pp. 1–2). As a rule, the decision to initiate the resolution procedure occurs when a credit institution is on the verge of bankruptcy or is seriously threatened with it (*failing or likely to fail*).

The guidelines on determining the point at which an entity is failing were very imprecise, which is why the European Commission called for the European Banking Authority to define detailed guidelines on this matter. The EBA concluded that it is impossible to determine a specific moment or a *specific trigger* that indicates that an institution is on the verge of bankruptcy, and thus it is impossible to prepare one procedure for all credit institutions (EBA, 2015). Hence, the report related more to specific circumstances that should be evaluated by supervisory authorities when considering the need to resolve a credit institution.

Precautionary recapitalisation has so far been approved for the fifth-largest Italian credit institution, Banca Monte dei Paschi di Siena (BMPS). Since 2008, BMPS has used government assistance twice, and in December 2016, it applied for precautionary recapitalisation (Mesnard et al., 2017a, p. 1). In the case of this Italian institution, the 2016 ECB stress tests showed that, in extreme conditions, the bank's capital would decrease so drastically that in 2018 it would go negative. The EC approved preventive recapitalisation for BMPS along with its restructuring plan, assuming a capital increase of almost EUR 4 billion from public funds, making the Italian government the majority shareholder (Véron, 2017, pp. 6–8). Ultimately, the BMPS recapitalisation was an example of a public rescue of a credit institution that was not in line with the BRRD's intention (Merler, 2016). Véron (2017, pp. 8–9) stated that it is difficult to unambiguously assess the decision on the bail-out of BMPS since its difficulties largely stemmed from a wave of insolvencies among small and medium-sized enterprises that were credited by that bank. The problems of these debtors, in turn, was largely a consequence of the general economic situation in Italy, and it was not easy to properly assess the quality of the bank's credit portfolio. The decision to save BMPS was nonetheless more critically assessed by Lannoo (2017, p. 1), who stated that this decision automatically undermined the credibility of the SRM.

5 The Board first prepares the plan, with the support of the European Central Bank or the national supervisory authority and the national resolution authority. The consultations are also attended by authorities responsible for resolution from the host countries of the institution and those in which its branches are located.

The assessment of the Single Resolution Mechanism in the literature on the subject is quite ambiguous. According to the ECA, the SRB was not fully prepared to perform its functions in the first year of operation, especially since it did not have a procedure for assessing whether a given credit institution was threatened by bankruptcy or not (ECA, 2017). This opinion was also shared by Véron (2018), who criticised the SRB for agreeing to recapitalise Italian banks in 2016. It should be noted, however, that both the ECA and Véron's criticism referred to the first years of the mechanism's operation, and they eventually positively assessed the resolution process of Banco Popular. Others, such as Kern (2017, p. 29), pointed out that the bail-in procedure described in the new legislation left too much freedom to domestic supervisors, making the effectiveness of the resolution mechanism questionable. Avgouleas and Goodhart (2015, pp. 28–29), in their criticism of the new mechanism, went much further, stating that the debt write-down and conversion instrument would not protect the financial system from a crisis if the entity at risk was systemically important. A less pessimistic view was presented by Philippon and Salord (2017, pp. 41–44), who stated that the framework for the restructuring and liquidation of banks was properly designed, and the effectiveness of the new mechanism would be determined by the credibility of the SRB and its ability to take decisive action free from political pressures. A similar opinion was expressed by Janovec (2018, pp. 5–8), who emphasised that although the effectiveness of the SRM can only be verified in practice, simply creating a supranational institution with the right to decide to liquidate a bank should be perceived as a success.

An interesting study on the issue of participation in the SRM was presented in 2017 by Schoenmaker. In his study, he analysed the potential cost of saving the largest credit institutions in the banking systems of selected countries and referred these costs to the GDP of their home countries. Through this analysis, he concluded that sharing the risk of bank insolvency is a necessity for countries where international financial conglomerates play a large role, and the potential estimated cost of bailing out failing credit institutions exceeds 8% of the country's GDP (Schoenmaker, 2017, pp. 2–9).

Establishing the Single Supervisory Mechanism was the most important element of the banking union for it to operate effectively. Credit institutions must not only be aware that their activities are subject to supervision, but also that they cannot count on bailouts from public funds each time adverse market conditions result in financial losses. The first years of the SRB suggested that it might share the reluctance of domestic supervisors to decide on the resolution of a failing credit institution, but such a conclusion would be premature. I agree with Philippon and Salord's statement that the effectiveness of the SRM will be determined by its ability to coordinate the failure of a large financial entity, despite the potential exertion of political pressure by national authorities.

3.4. The European Deposit Insurance Scheme

The third pillar of the emerging banking union would take the form of a European Deposit Insurance Scheme (EDIS). The creation of EDIS was motivated by the idea of creating a system that would guarantee the security of EU citizen's funds entrusted to credit institutions, as well as the need to avoid a situation in which "healthy" credit institutions would be harmed by the problems of other credit institutions and their irresponsible behaviour (Proposal for a regulation COM (2015), p. 3).

Before the outbreak of the financial crisis, the Member States had sole responsibility for creating deposit guarantee systems, and there was no pan-European system to unify the regulations safeguarding the interest of depositors. This setup was unfavourable from the perspective of financial stability, leaving national deposit guarantee schemes fragmented and vulnerable to various types of disturbances (Baglioni, 2016, pp. 81–84). Moreover, the high diversity of deposit guarantee schemes that existed in the Member States influenced the degree of confidence in the banking system of both bank customers and investors in individual countries. At the same time, differences in both the size and methods of financing national deposit guarantee schemes influenced the competitive position of credit institutions. The analysis by Schoenmaker and Wolff (2015) also pointed to the high degree of discrepancies between the deposits in individual Member States regarding the amount and the degree to which they were guaranteed, depending on the wealth level of a given country measured by GDP.

The arguments in favour of creating a supranational deposit guarantee system include the fact that the fragmentation of funds underpinning the guarantees reduce the credibility of the schemes and make them more dependent on state support in the event of a crisis (Gros & Schoenmaker, 2014, pp. 14–15). It was also underlined that a deposit guarantee system was an inherent element of the banking union, two pillars of which had already been established. The failure to establish the third pillar of the banking union could result in persistent differentiation in the level of deposit security offered in different Member States, which could result in further fragmentation of the financial market (Waliszewski, 2016, pp. 11–12). This state of affairs was particularly undesirable given the scale of cross-border activities of European credit institutions. In order to reduce this potential risk, an attempt was made to ensure a minimum level of harmonisation.

In 2014, the Directive on deposit guarantee schemes (DGSD) 2014/49/EU was adopted, obliging all the Member States to establish national deposit guarantee schemes. The Directive harmonised the minimum amount of guarantee for deposits, the procedures, and the deadlines for withdrawing funds, as well as the minimum value of funds that had to be collected upfront by the fund managing the guarantee. The target was set at 0.8% of the guaranteed amounts by

2024. Pursuant to art. 12, the Directive also allows loans between national funds to ensure payment of guarantees. The DGSD also obliged the Member States to report on the progress they have made in implementing its provisions.

The EC issued an official proposal for a regulation establishing the European Deposit Insurance System in 2015, according to which EDIS would be based on national deposit guarantee systems. Its creation would reduce the need to rescue credit institutions from public funds in defence of the interests of the bank's clients (Proposal for regulation COM (2015), p. 4). The benefits of the proposed EDIS would also include an increase in the financial resources held by national systems, which would better protect the depositors (Schoenmaker, 2018).

According to the original proposal from 2015, the creation of EDIS would take place in three stages. In the first phase, a *re-insurance scheme* would be set up. In the second stage, a *co-insurance system* would be created, and in the third stage, a full insurance system would be created. Transitions between successive periods would be automatic, in accordance with the proposed schedule. However, this plan was never implemented.

The first stage was supposed to have covered the years 2017–2020. At that time, the emerging pan-European deposit guarantee scheme would serve as a back-up support to national systems. In the event of financial difficulties, the national deposit guarantee scheme could apply to EDIS for support, which would be granted from the resources of a Deposit Insurance Fund (DIF) created precisely for that purpose. The amount of financial support could not exceed the threshold of 20% of the missing funds.[6] The disbursement of funds from EDIS was also conditional on fulfilling the requirements laid down in the BRRD (NBP, 2015, p. 9).

The DIF would be financed from direct contributions collected from the credit institutions. The management of EDIS and its fund would be entrusted to the Single Resolution Board, yet this required changes to the legal provisions to eliminate a possible conflict between its functions related to bank resolutions and its obligation as guarantor of deposits. An argument in favour of concentrating both functions within the jurisdiction of the SRB was that the authority responsible for the resolution would simultaneously be able to factor in the potential cost of guaranteeing deposits held in the failing institution (NBP, 2015, p. 2).

The second stage was supposed to have started in 2020. During this period, the reinsurance system would have been transformed into a co-insurance system, where the responsibility for the guarantees would become mutualised to an extent. The regulation proposal envisaged financial aid from EDIS bearing the costs of a guaranteed payout. The assistance from EDIS was available as soon as the financial difficulties were identified, and it was to gradually increase from 20% to

6 In addition, it could not exceed the lower of the two values: 20% of the initial target level of the deposit guarantee fund or 10 times the target level of the national DGS.

80% of the associated costs in the fourth year of operation of the common system (NBP, 2015, pp. 9–10).

The third and final stage was planned to start in 2024, marking the date by which EDIS should reach its full operational capacity. The target form of the banking union's third pillar would still rely on the existing national deposit guarantee systems, and its protection would cover deposits up to EUR 100,000. The draft regulation emphasised that the creation of EDIS would not result in any additional contributions from the banks (Proposal for regulation COM (2015), p. 7).

The proposal to create EDIS faced strong opposition from euro area countries, mainly Germany. The objection resulted from the desire to protect the banks operating on the local market that had their own deposit guarantee system (Donnelly, 2018, pp. 5–7). The fear was that the creation of a joint fund would strengthen the risk of a contagion effect – should a national deposit guarantee scheme run out of funds while restructuring its banks, the certainty of the pay-outs from the schemes in other Member States might appear questionable (Krahnen, 2013b). Therefore, in October 2017, the European Commission presented a new plan for the introduction of EDIS (EC, COM (2017)).

The position of the European Commission on the need to establish a separate, independent deposit guarantee fund has not changed, but to make the proposal more agreeable, it was proposed that the process of building this pillar of the banking union should be extended and the original implementation plan should be modified accordingly. It was also proposed that in the reinsurance phase, the mechanism should only ensure the maintenance of liquidity and not the coverage of losses incurred (EC, COM (2017)). In practice, this was tantamount to lending to a national guarantee fund an amount covering no more than 30%, 60%, and 90% of the liquidity shortage in 2019, 2020, and 2021 respectively. Unfortunately, despite the amendments made to the initial proposal, it failed once again (Howarth, Quaglia 2018, pp. 190–209). It should be noted, however, that the proposal to establish EDIS as a lending facility to the national schemes was better received by the Member States and gave hopes for a consensus in the future. Nonetheless, the question of whether the third pillar of the banking union should function under such a "hybrid" setup or move to fully-integrated reassurance remained unanswered. When work on this book was being finalised, work on a revised EDIS proposal was still ongoing.

Economists mention many benefits of establishing a harmonised deposit guarantee system. For example, among the benefits of EDIS, Payne (2015, pp. 559–561) lists the possibility of reducing the operating costs of a common system that would replace, or at least reinforce, the national ones. A common scheme is also better placed to organize guarantee pay-outs following the bankruptcy of an international institution. The third argument mentioned was the elimination of regulatory competition between the institutions that function in a fragmented deposit guarantee system. Meanwhile, according to Véron (2016), the greatest

benefit of creating EDIS would be increased confidence in the safety of the funds held in credit institutions, which is a fundamental characteristic of a properly functioning financial sector. Schnabel and Véron (2018) stated that, ultimately, the deposit guarantee scheme should function as an EU system, with national mechanisms incorporated into a joint institution managing a common fund. This would guarantee political independence, further integration of national markets, and the full trust of all EU citizens in the banking system. Zaleska (2015, pp. 30–32) also highlighted that the consequence of refusing to agree to the creation of a single deposit guarantee mechanism was that the decision on the bankruptcy of a credit institution remained unpopular, leading to potential delays in the decision-making process and an overall weakening of the efficiency of the banking union as a whole.

Schuknecht (2016) was among the critics of establishing EDIS. The economist from the German Federal Ministry of Finance stated that creating a supranational deposit guarantee system would burden all participants of the mechanism with costs, thereby transferring the responsibility for wrong decisions and failures to all states. He provided an example of a situation in which EDIS would run out of funds and argued that in such a situation, national authorities would have to resort to public funds just as they would if the schemes remained national. He also drew attention to the fact that as a result of the crisis, many reforms of the financial safety net had taken place, significantly reducing the risk of bank runs, i.e. the mass withdrawal of funds deposited with a given credit institution.

The Deutsche Bundesbank (2015, pp. 59–60) was also critical of the plans to establish a European deposit guarantee fund. In particular, the risk resulting from the strong involvement of domestic credit institutions in financing national deficits was raised as a key concern. In the event of a state's inability to pay its own liabilities, the costs of the consequently failing banks would be transferred to the EDIS level. Concerns were also raised that when national insolvency law assigns preferential treatment to liabilities towards the public sector, additional costs would arise, and the cost of such additional protection would be shared under the European Guarantee Fund.

The creation of a European Deposit Insurance Fund is essential to achieve the goals of the banking union. Harmonising the rules by which consumer deposits are guaranteed and repaid is an important step towards further financial integration, and a common fund ensuring disbursement of funds from failing credit institutions would increase the credibility of the European banking system. However, critics of a joint deposit guarantee fund are correct to say that without harmonising the insolvency laws, EDIS could indirectly mutualise a share of the losses that the home state's budget would incur as a result of a bank failure within its jurisdiction. Ultimately, Germany's strong position in the European Union prevented the creation of the third pillar of the banking union.

Summary

The creation of the banking union is an important step in strengthening financial integration in Europe. The harmonisation of the rules on supervising credit institutions in the euro area Member States makes it possible to coordinate controls at the international level, which is more in line with the organisational structure of modern financial conglomerates. Coordinating the supervision of integrated banking systems, which are dominated by international financial conglomerates, seems necessary, and sharing the risk for the financial system, which may result from financial difficulties of credit institutions, can effectively prevent future financial crises. However, it is important that the final shape of the European banking union corresponds to the one originally proposed by the European Commission and functions on the basis of all three pillars.

The single supervisory mechanism should be considered a significant success of the European Commission's policy towards overcoming the reluctance of the Member States to transfer responsibility for supervising national banking systems to the EU level, although it was possible mainly due to the difficult economic conditions that prevailed during the crisis. The efficiency of the new mechanism in the context of coordinating supervisory activities will be built gradually and based on the knowledge and experience of national authorities; however, in my opinion, this should not constitute an argument against the legitimacy of the decision to transfer the responsibility for supervision to the international level. It is important that the independence of the ECB as supervisor should not be called into question by the Member States or supervised credit institutions. The effectiveness of coordinated supervision requires extending it to the banking sectors of countries outside the euro area.

The coordination of supervisory activities within the SSM provides grounds for an initial verification of the main hypothesis about the improving symmetry of costs incurred to secure banking activities in relation to the risk profile of this activity. Harmonising the approach to risk exposure assessment and categorising capitals the ability to absorb losses resulted in assigning higher capital requirements being assigned to riskier lending activities.

The creation of a mechanism that enables the coordinated liquidation of a credit institution implements the idea of risk-sharing between the increasingly integrated banking sectors of the euro area countries. The SRM's task is to enable the member states of the banking union to liquidate a credit institution in an organised and effective manner and with the least possible detriment to national economies. However, the actual ability of this mechanism to reduce moral hazard will depend on the SRB's ability to make independent decisions to liquidate a bank. Liquidating a credit institution in the largest eurozone economies will constitute an important test of the effectiveness of the entire mechanism to limit systemic risk.

The reluctance of Member States to establish EDIS is surprising given that the euro area had already agreed to create the other two pillars of the banking union. Mutual reinsurance in guaranteeing deposits would be desirable from the perspective of the citizens of states joining the emerging banking union, while the gradual pooling of funds to offset the deposits of failing credit institutions would enhance the credibility of the European banking sector. However, opponents of EDIS would be right that the gradual reallocation of funds to guarantee deposits should be accompanied by the harmonisation of national insolvency laws, and the Member States should be sure that common measures will not finance the disbursement of guarantees for deposits held with institutions that were already unprofitable before.

In the considerations so far, the advantages and disadvantages of individual solutions within the banking union have been indicated, and the need to ensure the security of the banking system was often contrasted with the negative consequences that influence the competitiveness of European credit institutions. The net benefits of the reform of the supervision of EU credit institutions have not yet been empirically assessed; therefore, the next chapter presents an original tool to enable a synthetic analysis of the condition of credit institutions in the light of the tightened prudential requirements.

Chapter 4

The impact of the banking union on the banking sector

The option of setting up coordinated supervision of credit institutions at the supranational level began to be considered an acceptable solution only after the financial crisis caused major losses to the state budgets. This issue remained controversial for a long time, and the need to tighten prudential requirements was analysed in the context of the international competitiveness of European credit institutions rather than financial stability as such. While negotiating the shape of the new safety net, the desire to increase prudential requirements often clashed with concerns about banks' profitability. It was clear that tightened supervision would generate substantial additional costs for credit institutions inside the EU, yet the associated benefits were difficult to quantify and compare regarding these costs.

This chapter aims to assess and verify the impact of the new financial safety net on the profitability and resilience of the European banking sector. A dedicated synthetic indicator was created, which was used to assess the resulting impact of the reforms facilitated by establishing the banking union's first pillar on the stability and financial condition of credit institutions. The study covered a fifteen-year period (2006–2020) and a group of 28 EU credit institutions.

4.1. Comparing research on the banking sector with the proposed method

Studies conducted so far on prudential supervision have typically focused either on profitability or on the operational security of credit institutions separately. In this context, the EBA's quarterly publication, entitled *Risk Dashboard*, analyses indicators relating to credit institutions' capitalisation level, risk exposure,

profitability, and liquidity (EBA, 2018). Nevertheless, the EBA assesses these measures in isolation and does not define or quantify the resulting impact of the changes to the regulatory and economic environment on the financial condition of European credit institutions.

Another important study in the context of the stability of European credit institutions is the annual pan-European *stress test*, carried out by the EBA in cooperation with the ESRB, the ECB and the EC (EBA, 2011). This test verifies the ability of credit institutions to absorb losses incurred as a result of changes in their economic environment. The analysis envisages a drastic deterioration of macroeconomic parameters in its forecasts for that year, all of which happen simultaneously (ECB, 2011):

- an increase in the interest rates of the treasury bonds issued by the EU countries;
- a decline in the share prices listed on the European stock exchanges;
- a decline in real estate prices affecting individual EU Member State markets to a different extent; the cost of loans on interbank markets rising considerably as well;
- a deterioration of exogenous conditions, manifested by a decline in consumption and investment expenditures in the EU, as well as the appreciation of the euro against the dollar.

The purpose of the annual *stress tests* is to verify the ability of credit institutions to withstand the above-mentioned adverse conditions. The study identifies credit institutions that may be poorly prepared for an economic breakdown, and it is the responsibility of national supervisory institutions to issue recommendations regarding the need to recapitalise entities at risk. It is therefore clear that the *stress tests* aim to analyse the stability of the banking sector, disregarding the profitability of the analysed entities. Such an approach is understandable from the perspective of the supervisory institutions, yet a sector that generates low income may cease to develop and be prone to competition from outside the EU where the prudential requirements are not so stringent.

This study introduces a dedicated indicator that allows for a comprehensive assessment of the impact of tightened capital and liquidity requirements on the financial condition of credit institutions in Europe. It builds on multivariate comparative analysis (MCA) techniques, i.e., methods that allow for the simultaneous analysis of at least two parameters that characterise the studied object (Dimitruk & Gawinecki, 2017, p. 106). These methods are thus useful to analyse and rate objects and phenomena that cannot be directly measured (Panek, 2009, pp. 58–74). In this study, the method was applied to create a synthetic indicator that made it possible to juxtapose parameters that verify credit institutions' loss-absorbing capacity, liquidity, and profitability. Therefore, the resulting measure can be used to test the impact of changes to the economic and regulatory environment on a given credit institution from the perspective of both the investors and the regulators at the same time. Such an approach that applies a synthetic indicator was already tested

in a previous publication (Zielińska-Lont, 2020). The study presented in this book introduces a different, more sophisticated version of the analytical tool and proposes a two-tier evaluation method that will be discussed in detail later in this chapter.

Multiple studies on the banking sector build on different financial indicators, typically reflecting the relationships between different items of a credit institution's financial statement. As such, financial indicators are very useful components that can be used for multivariate analysis. However, a proper assessment of the value of economic indicators is only possible when referenced against the same parameters of a credit institution's competitors (Gostkowka-Drzewiecka, 2015, p. 54). Nowak (1997, pp. 113–116) underlines that comparing enterprises based on a single parameter is often insufficient to properly reflect the complexity of their structures and their actual financial condition. This is particularly true for credit institutions and financial conglomerates that have very different setups, activities, and risk profiles, and it is an important argument in favour of applying MCA methods to comparative analyses of banks.

Building an aggregate measure is a several-stage process. The first stage is the selection of indicators that will be the building blocks of the synthetic measure. This is a very important stage of any multivariate analysis, as the selected parameters must adequately characterise the most important properties of the object from the perspective of the study and cannot be correlated with each other so that they do not dilute the quality of the results (Tarka, 2010, pp. 197–203). The selected indicators then need to be assigned to one of the three groups, depending on their desired value from the perspective of the analysed phenomenon. Indicators that should be as high as possible are called *stimulants*, and those whose desired values should remain low are referred to as *destimulants* (Łuniewska & Tarczyński, 2006, p. 12). The third category consists of *nominants*, i.e., parameters that should reach a specific value or have a value within a certain range. Therefore, the nominants are binary, confirming whether a given condition has been met or not. Categorising the features of the examined object in this way is necessary to assess whether a given index will increase or decrease the value of the aggregate measure.

Also important for the quality of the synthetic indicator is the choice of method through which the examined parameters will be aggregated into a common value. This process rearranges the features of the examined object, which requires recalculating them to comparable values and then summing them up. In this task, linear object arrangement methods are useful, using the values of the collected parameters (Rosińska-Bukowska, 2012, p. 400). In the rearranging process, the features must be normalised.[1]

There are three methods in the normalisation process – ranking methods, standard methods, and non-standard methods (Marcinkowska, 2012, pp. 23–26).

1 Normalisation is the process of reducing features to unitless values with an equal order of magnitude.

In ranking methods, the value of each parameter is replaced with its place in the ranking of analysed objects organised based on the value of that feature. In the standard methods, the value of each parameter is compared against the "standard" reference value, which is typically selected as the most favourable value of that parameter achieved among the examined entities. The values of the indicators are then replaced with distances from that standard reference value. In the non-standard methods, a standardised sum is used as reference instead, calculated by summing up the standardised values of the parameter recorded for all tested objects (Kowalczyk-Rólczyńska, 2016, pp. 94–96). The normalisation method applied must ensure the additivity of the resulting values if they are to be used to construct a synthetic indicator.

The MCA methods enable a comprehensive analysis of objects that can only be adequately characterised by a set of indicators. Such an approach prevents oversimplifications in assessing the tested objects, particularly if these objects are complex corporate setups with very different scopes of activities. The disadvantage of this solution is undoubtedly the amount of data that must be collected and processed (Dziekański, 2013, p. 151). This problem is further exacerbated by the fact that international enterprises may use and be subject to different accounting and financial reporting methods (Rosińska-Bukowska, 2012, p. 388). It may also be difficult to clearly allocate the parameters to one of the three groups (i.e., *stimulants*, *destimulants*, and *nominants*). An unambiguous definition of the desired value range of the nominants can also prove to be very problematic. These methods are also vulnerable to the choice of the entities for the research sample – if a given entity is being compared against competitors in a particularly difficult financial situation, it may come across as particularly successful and resilient. Similar conclusions may be drawn from analyses based on highly correlated financial indicators that may inflate the performance of the analysed objects in particular categories.

4.2. Characteristics of the indicators selected for the study

Growing capital and liquidity requirements affect the financial condition of credit institutions in many ways. Even if these requirements are increased gradually over an extended period, the size of the credit institutions can often make it hard for them to adapt to the new requirements on time. This can be especially true for adapting to liquidity requirements, which requires changes to the structure of assets and liabilities with different maturities. From the investor's perspective, these changes are often unfavourable as they negatively affect the income generated

by the credit institution. It is commonly believed that the consequence of this situation is increased pressure on the management of the credit institutions to engage in more profitable, and hence typically riskier, activities. The risk of an opaque incentive to engage in riskier activities to make up for the costs generated by the additional prudential requirements imposed on banks was raised during the discussions of the Basel Committee (Amediku, 2011, pp. 14–16). Smith et al. (2017, p. 28) argued that while prudential requirements will ultimately enhance the stability of the European financial system, an incentive to take risks is inherent to their activities, and they will undoubtedly try to defend their income levels.

The constructed measure must reflect changes in the credit institutions' liquidity, profitability and risk exposure to capture the different aspects affected by the changing prudential requirements. In the literature on the subject, there are many measures that analyse these specific features of a credit institution. For this study, the indicators were selected based on their popularity, ease of interpretation, and data availability. This approach is consistent with the one suggested in the literature (Wiśniewski & Skoczylas, 2002, p. 159).

The three groups of indicators initially selected for this study are presented in Table 5.

Table 5. The indicators selected as components of the synthetic indicator

	Name of the indicator	Method of calculation
	1	2
Profitability Indicators	Return on Equity (ROE)	$\frac{net\ profit}{average\ equity} \times 100\%$
	Return on Risk-Adjusted Assets (RORAA)	$\frac{net\ profit}{average\ risk\text{-}weighted\ assets} \times 100\%$
	Operating costs level	$\frac{operating\ costs}{average\ assets} \times 100\%$
Risk Exposure Indicators	Provisions level	$\frac{specific\ provisions}{total\ receivables} \times 100\%$
	Quality of Receivables	$\frac{irregular\ receivables}{total\ receivables} \times 100\%$
	Tier 1 Capital Ratio (Tier 1)	$\frac{regulatory\ Tier\ 1\ capital}{average\ risk-weighted\ assets} \times 100\%$

Table 5 (cont.)

	1	2
Liquidity Indicators	Loans/Deposit Indicator	$\frac{receivables}{liabilities} \times 100\%$
	Net Stable Funding Ratio (NSFR)*	$\frac{available\ value\ of\ stable\ funding}{required\ value\ of\ stable\ funding} \times 100\%$

* The Basel Committee's recommendations provide a very detailed description of the NSFR calculation method, which simultaneously requires very detailed financial data from credit institutions that are not publicly available. Therefore, in order to estimate the indicator on the basis of publicly available information, it was necessary to introduce assumptions and simplifications. Similar studies were carried out by Vazquez and Federico (2012), Kapan and Minoiu (2013), Gobat, Yanase et al. (2014) and Flotyński (2017)

Source: own elaboration

4.2.1. Profitability indicators

The first group of indicators characterise credit institutions' profitability. Profitability analysis is typically carried out from the perspective of the shareholders or potential investors to quantify the benefits that capital allocated in a particular entity can bring. In this analysis, the profits generated by economic activity are compared to the financial outlays made to finance the operations of an entity in order to analyse the effectiveness of the investment made (Dudycz, 2011, pp. 219–221). Prudential requirements typically have a direct, negative impact on the profitability of the credit institutions, which results in considerable opposition against ever-increasing regulatory thresholds (Bobáková, 2003, pp. 21–22). These indicators are also very useful to compare the investment efficiency in absolute terms – a credit institution's profit may seem very impressive if they are not compared to the actual cost incurred to finance its operations. For this study, the following profitability measures were selected: return on equity, return on risk-adjusted assets, and the operating costs level ratio.

Return on equity (ROE) is an indicator which, according to the literature on the subject, is one of the most important indicators used in financial analysis (Misztal, 2015, p. 99). It enables the owners of a given enterprise to obtain knowledge about the profitability of the capital invested in it. The higher the value of the ratio, the more favourable the situation of the examined bank, i.e., it is a stimulant. By referencing the profit level against the amount of equity held by the bank, the owners gain an absolute value that describes the efficiency of their investment that can then be referenced against other forms of allocating capital characterised by different levels of risk. ROE was also a natural choice for the study as it is

commonly used, easy to interpret, and the necessary data are widely available. Banks themselves often publish their ROE level, although these values cannot be easily used for comparisons, as different kinds of profit are often used by financial conglomerates in their calculations. To ensure comparability, the ROE value was calculated in the same manner manually.

The literature on the subject provides a list of disadvantages of ROE as an indicator that must be kept in mind. Lesáková (2007) indicates that ROE is generally low or negative in the first years of the company's operations, and this should not be discouraging for investors. Conversely, high-growth companies can report high returns while holding low levels of equity and offering a short record of past financial information, making it equally difficult to determine their exposure to risks. Moreover, the amount of ROE does not inform about the entity's exposure to risk, and therefore investing in entities with a very high return on equity may be inappropriate for investors with high risk aversion. In addition, ROE indicates the return on the book value of capital, although the market cost of acquiring shares of a given enterprise may be different. From the perspective of this study, however, this ratio was considered appropriate, as the entities analysed are well-developed institutions that have been operating on the market for years, and the parameters that characterise their exposure to risk were included in the synthetic measure.

Return on risk-adjusted assets (RORAA) reflects the profitability of assets taking into account the risks associated with them. The risk factor can have an extremely strong impact on the value of assets. Therefore, taking into account the amounts that may ultimately be written off is very important for the management of a given institution and helps to assess the efficiency of banking and investment activities. RORAA is a popular and easy to interpret indicator, although less frequently used than ROE. The risk-adjusted value of assets is an important parameter for credit institutions against which the capital requirements are often calculated. However, as Marcinkowska (2003, pp. 344–354) pointed out, asset-based profitability indicators are not particularly well suited to analysing credit institutions, as such analysis often fails to consider the very different structure of banks' assets with different business profiles. This argument is also valid in the context of the analysed financial conglomerates, although the universality and scale of their activities eliminate this disadvantage to some extent.

The **operating costs level indicator** analyses the institution's operating costs against the background of its average asset value. Quite naturally, the higher the managed asset value, the higher the operating costs of a given bank. The indicator makes it possible to determine whether the amount of incurred costs is proportional to the scale of the activity and when compared to similar-sized competitors. An absolute value of the cost parameter is much more useful for making comparisons between analysed entities, especially considering the size difference between largest capital groups and other credit institutions that are also considered systemically important. Like the RORAA indicator, this parameter does not take into account either the off-balance sheet items

of the credit institution or the business profile of the analysed entities (Marcinkowska, 2007, pp. 337–338). Nevertheless, audit-relevant operating costs are on-balance sheet items, and changes in this ratio in the context of tightened prudential requirements were deemed an important element of the analysis.

4.2.2. Risk exposure indicators

The second group of indicators relate to credit institutions' risk exposure. As mentioned before, the potential correlation between the increasing degree of required capitalisation of credit institutions and their propensity to undertake risky investments was raised as a concern about implementing subsequent recommendations of the Basel Committee. It was questioned whether the increasing prudential requirements would actually encourage credit institutions to increase their exposure to risk to defend their profitability and hence be counterproductive (Amediku, 2011, pp. 14–16). Smith et al. (2017, p. 28) argued that while prudential requirements will ultimately enhance the stability of the European financial system, an incentive to take risks is inherent to their activities and cannot be contained entirely. Ultimately, it seemed prudent to include parameters that reflect the risk profile of credit institutions in the synthetic measure.

There are different categories of risk that enterprises face, and two of them are of paramount importance for credit institutions: insolvency and liquidity (Freixas & Rochet 2007, pp. 293–301). The risk of insolvency is related to the inability of some of a credit institution's debtors to return the borrowed funds. In this case, it is the bank that bears the cost of the credit granted. Therefore, the need to manage customers' creditworthiness is among the key activities of credit institutions that largely determine the stability of their operations. The effectiveness of managing the risk of insolvency is determined by the ability to correctly assess customers' creditworthiness or the adequacy of the forecast percentage of unpaid receivables, on the basis of which provisions are created. Liquidity risk stems from different maturities of the assets and liabilities that comprise a credit institution's portfolio. Major discrepancies between these maturities may result in situations where the bank is unable to return the deposits of their customers when requested. While this does not directly say anything about the solvency of a given bank, it can severely undermine its credibility in the eyes of the customers, who may feel threatened by the inability to withdraw their money when requested. An uncoordinated outflow of deposits that may result from this threat can undoubtedly affect the institution's solvency. Liquidity risk will be discussed in more detail in the next subchapter.

The **provisions level indicator** indicates how a credit institution assesses the quality of loans granted and what share of their total value is expected to remain unpaid and hence are qualified as impaired. The way the required amount of provisions is estimated is complex and needs to consider both the value of

collaterals provided as part of the loan agreement and the relationship between the costs of maintaining provisions and the costs of obtaining funds on the interbank market (Freixas & Rochet, 2007, pp. 302–304). The minimum value of the specific provisions may also be determined by national legislation, which may also differently define the conditions under which a given loan should be treated as impaired (Kauko, 2012, pp. 197–199). Regardless of these differences, however, the amount of reserves a bank holds provides information on its level of risk and is an important addition to the constructed synthetic measure.

The **quality of receivables indicator** is another indicator that assesses the quality of the bank's loan portfolio (Kozak, 2010). The value of a bank's receivables quality index helps to assess the quality of its creditworthiness assessment procedures, although this is only one of the factors that influence the total value of non-performing loans. As with the provisions ratio, the issue of qualifying a receivable as at risk may also be regulated by national legislation or result from the bank's internal procedures, making it more difficult to compare the credit institutions on these grounds (Niczyporuk & Talecka, 2011, p. 386–389). Regardless of the methodology chosen, the value of this ratio should be as low as possible, and changes in the ratio of irregular receivables to total receivables reflect the changes in the bank's condition.

As the banking sector is vital for the functioning of the economy, risk management is not the sole responsibility of banks, especially since their stability is threatened by more than the impact of endogenous factors. Prudential regulations oblige credit institutions to maintain a certain level of capital, which is to guarantee a minimum ability to cover losses incurred when these different risks materialise. The amount of capital accumulated for this purpose in relation to the scale of their activities is an important determinant of their safe operation and one of the core requirements imposed on them by prudential supervisors. To take account of this feature, the Tier 1 capital ratio was also included in the synthetic measure. Tier 1 capital comprises the most liquid instruments, i.e., the issued shares of a credit institution, provisions maintained for loss coverage, and retained earnings. These are the readily available capital components that can be used immediately to cover the losses incurred. The minimum value of Tier 1 is imposed through legislation, although this does not prevent the credit institution from building up larger reserve funds, particularly when anticipating financial turmoil.

4.2.3. Liquidity indicators

The last group of parameters chosen for the synthetic measure are liquidity indicators. Financial liquidity is generally defined as the company's ability to pay its liabilities on time (Wędzki, 2015, p. 128). It can be considered both in the short and in the long term, and in both cases, the liquidity risk results from mismatches between the maturity dates of the liabilities and the receivables. Thus,

in the analysis of a company's liquidity, the values of assets are compared against liabilities with a similar maturity. In this comparison, the liquidity of assets must also be considered, as many of them may not be easily disposed of (Żukowska et al., 2016, pp. 134–135). As mentioned earlier, liquidity is particularly important for credit institutions, which typically must return customer deposits upon request. Therefore, there was no doubt that liquidity ratios had to be considered when constructing the synthetic measure.

The **loans/deposits ratio** is a very basic measure of a bank's liquidity. It makes it possible to determine what part of the deposits accumulated by a credit institution is further used to grant loans. In other words, it reflects the bank's capacity to increase lending without the need to borrow funds on the interbank market (Marcinkowska, 2007, pp. 346–347). When the value of the loans/deposits ratio is high, the bank is primarily engaged in the core banking activities related to lending and the general intermediation in the money creation process. Low values of the loans/deposits ratio signal that the credit institution is more engaged in investing the accumulated funds in various additional activities, potentially bringing a higher rate of return, but it is usually associated with a higher level of risk. According to the literature on the subject, a credit institution in its policy should strive to maximize the scale of investment in lending (represented by the loans /deposits ratio) and limit it only in the case of excessive credit risk, as it proves a high degree of liquidity and resistance to shocks (Iwanicz-Drozdowska & Smaga, 2016, pp. 31–32).

The second indicator that measures credit institutions' liquidity in the synthetic measure is the **Net Stable Funding Ratio (NSFR**). It is a long-term liquidity measure introduced by the Basel Committee that compares the value of stable funding sources to the amount of funds required to finance a bank's long-term assets. The idea behind introducing the minimum level of NSFR was to make credit institutions independent from the need to search for funding on the market to cover a potential liquidity gap during a financial crisis (Flotyński, 2017, pp. 46–47). Independence from external financing is an undisputed advantage; however, it is difficult to achieve and costly to maintain. For example, Allen et al. (2012, pp. 2–3) and Kauko (2015) believed that the new requirement introduced under the NSFR was bound to increase the cost of loans.

4.3. Constructing the synthetic indicator

The survey was conducted on a sample of 28 credit institutions operating in the EU countries and the United Kingdom. In 2020, the EBA classified the banks as Systemically Important Institutions. As mentioned earlier, the EBA recognises credit institutions as systemically important if they conclude that their bankruptcy

would pose a threat to the stability of the financial system of the European Union. The list includes not only euro area institutions but also non-euro area ones. Some of the entities were simultaneously qualified by the Financial Stability Council as Globally Systemically Important Banks (G-SIBs). The banks, therefore, reflect the group of institutions that are the focus of the reforms of prudential supervision that were introduced as a result of the financial crisis due to the potential consequences of their liquidity and/or solvency problems.

The entities listed by the EBA were treated as a starting group for the necessary data collection. Due to the lack of data, some of them were rejected.[2] The incompleteness of the data or the granularity at which they were made available precluded their analysis and would make it impossible to construct a synthetic measure. Some credit institutions were found to publish consolidated figures in a non-standard form in their financial statements, making it impossible to separate out the information used for further calculations and comparisons.[3] Additionally, data granularity in some years did not always offer sufficient reassurance that the parameters presented in a given category could be reasonably compared to those published in other years or by other institutions (e.g. as per Handelsbanken). Some French credit institutions did not publish risk-weighted assets value for all the analysed years, and the information on their risk exposures does not make it possible to estimate this parameter with any satisfactory level of accuracy.[4] These difficulties result from the unique reporting standards adopted by the French banks, particularly in the earliest years of the analysed period. One of the entities also made major changes in the form and scope of published data over the years covered by the study.[5] The exclusion also resulted from a fundamental change in the asset structure and ownership structure of one holding that had undergone major changes over the analysed year.[6] In the case of the British banks, Nationwide, as well as the German Helaba, the problem stems from the unusual form of business activity, as they are entities that operate as a savings and building society. This, in turn, impacts the structure of their financial statements. Additionally, Helaba's 2020 annual report had not been published at the time of preparing the study.

The full list of credit institutions qualified for the study is presented in Table 6.

2 This group includes ABN Amro, Banque Postale, BFA, Crédit Mutuel, Handelsbanken, La Caixa, Nationwide, Helaba, and Nykredit.
3 Concerns Nykredit.
4 Concerns Banque Postale and Crédit Mutuel.
5 Concerns Banque Postale.
6 Concerns ABN Amro.

Table 6. List of credit institutions included in the study

Country	Name of credit institutions
Austria	Erste Bank
Belgium	KBC
Denmark	Danske Bank
Finland	Nordea
France	BNP Paribas
	Crédit Agricole
	BPCE
	Société Générale
Germany	Bayern LB
	Commerzbank
	Deutsche Bank
	Dz Bank
	LBBW
Italy	Intesa Sanpaolo
	Unicredit
Netherlands	ING
	Rabobank
Norway	DNB
Spain	Santander
	BBVA
	Sabadell
Sweden	SEB
	Swedbank
United Kingdom	Barclays
	HSBC
	LLOYDS
	Royal Bank of Scotland (RBS)
	Standard Chartered

Source: own elaboration based on EBA (2021; 2020)

Data were collected for the period 2006–2020.[7] The data refer to the entire capital groups of these institutions since many of the prudential requirements apply at the group level and not least because the financial statements do not always make it possible to separate out data referring exclusively to the bank's activities. At the same time, this approach seems appropriate since the burden of new prudential and liquidity requirements is distributed across the entire group. Similarly, the consequences of the financial difficulties of some entities in such a structure affect the results of the entire group.

Although the United Kingdom has left the European Union, and therefore it fell out of the scope of the SSM, their credit institutions remained impacted by all the changes described in the previous chapters for nearly the entire analysed period. Due to their significance, the decision was taken to retain them in the study, including the last year of the analysis.

4.4. The construction stages of the synthetic indicator

After selecting the indicators to be used in constructing the synthetic measure, the next step was to examine the degree of correlation between them. For this purpose, a correlation matrix was built, which is a set of mutual correlation coefficients between the variables. The correlation coefficient measures the strength of the relationship between two measures, helping to assess whether both measures bring new information into the study – the higher the value of this coefficient, the higher the correlation between the variables and the more distorted the value of the synthetic measure becomes, as the same feature may end up being accounted for twice. Correlation matrices make it possible to identify and remove high values from the study that could distort the calculation results. This stage of the process is, therefore, an iterative process; where a correlation matrix is calculated for all indices, the pair with the highest correlation coefficient is identified. One of the indices that comprise that pair is then removed from further analysis, and the corrected matrix for the remaining indices is calculated again. The research continues until the constructed matrix does not show a strong correlation between the other variables. The results of this process are presented below.

7 The charts presented are for illustration only and are only intended to illustrate the general condition of the credit institutions over the years.

As can be seen in the correlation matrix I (Table 7), the highest correlation coefficient of 0.7840 exists between the ROE and RORAA profitability ratios, which results from the fact that both ratios are based on the value of the banks' financial results in a given year. Considering the ease of interpretation and the measure's popularity, the decision was made to leave the ROE ratio in the study. This ratio is also the one that current and potential investors are more interested in.

Table 7. Correlation matrix I

	ROE	RORAA	Operating costs level	Provisions level	Quality of Receivables	Tier 1	Loans/Deposit Indicator	NSFR
ROE	1	0.7840	0.0801	–0.1127	–0.0843	–0.1908	0.2373	–0.1106
RORAA		1	–0.1375	–0.0850	–0.0371	0.2536	0.1732	–0.0110
Operating costs level			1	0.0108	0.0050	–0.5209	0.1598	–0.2015
Provisions level				1	0.5381	–0.0634	–0.2175	0.983
Quality of Receivables					1	–0.0183	–0.2659	0.1440
Tier 1						1	–0.1028	0.1829
Loans/ Deposit Indicator							1	–0.2492
NSFR								1

Source: own elaboration

According to the results presented in matrix II (Table 8), the highest correlation exists between the quality of receivables and the specific provisions level, amounting to –0.557. Both indicators reflect the exposure to risk related to the core banking activity, and their negative correlation confirms that the provisions level by default

reflects the quality of the credit portfolio. In order to reflect better the exposure to credit risk and other receivables, it was decided to exclude the provisions level ratio, the level of which can be changed for many reasons.

Table 8. Correlation matrix II

	ROE	Operating costs level	Provisions level	Quality of Receivables	Tier 1	Loans/Deposit Indicator	NSFR
ROE	1	0.0801	–0.01127	–0.0843	–0.1908	0.2373	–0.1106
Operating costs level		1	0.0108	0.0050	–0.5209	0.1598	–0.2015
Provisions level			1	0.5381	–0.0634	–0.2175	0.0983
Quality of Receivables				1	–0.0183	–0.2659	0.1440
Tier 1					1	–0.1028	0.1829
Loans/ Deposit Indicator						1	–0.2492
NSFR							1

Source: own elaboration

Matrix III shows the values of the correlation coefficients for the remaining indicators included in the study (Table 9). In this case, the strongest correlation (0.437) was identified between the operating cost level ratio and the Tier 1 capital ratio. The correlation between the two parameters can result from the fact that, by default, both should depend on the size of the entity and are expected to grow as the group develops. Due to the importance of the Tier 1 capital ratio for the analysis, it was decided to remove the operating costs indicator.

Table 9. Correlation matrix III

	ROE	Operating costs level	Quality of Receivables	Tier 1	Loans/ Deposit Indicator	NSFR
ROE	1	0.0801	–0.0843	–0.1908	0.2373	–0.1106
Operating costs level		1	0.0050	–0.5209	0.1598	–0.2015
Quality of Receivables			1	–0.0183	–0.2659	0.1440
Tier 1				1	–0.1028	0.1829
Loans/ Deposit Indicator					1	–0.2492
NSFR						1

Source: own elaboration

The final shape of the correlation matrix for the indicators left in the study is presented in Table 10. The decision to stop at this stage follows a review of the literature on the subject, which states that a correlation coefficient of 0.3 and below shows a weak or average linear relationship between the variables (Moore et al., 2013).

Table 10. Correlation matrix IV

	ROE	Quality of Receivables	Tier 1	Loans/Deposit Indicator	NSFR
ROE	1	–0.0843	–0.1908	0.2373	–0.1106
Quality of Receivables		1	–0.0183	–0.2659	0.1440
Tier 1			1	–0.1028	0.1829
Loans/ Deposit Indicator				1	–0.2492
NSFR					1

Source: own elaboration

In the next stage, selected components of the synthetic measure were normalised to ensure their comparability and additivity (Walesiak, 2014). In the normalisation process, the actual values of the indicators were replaced with relative measures that can be segregated and summarised. In order to do that, the indicators remaining in the study had to be analysed in the context of how their value should impact the overall credit score. In this process, indicators must be divided into three groups: stimulants (i.e., indicators whose high values are desirable (such as profitability)), destimulants (variables whose values should be as low as possible (such as the level of operating costs)), and nominants (whose value must fall within a certain desirable range). The list of stimulants, destimulants, and nominants in this study is presented in Table 11.

Table 11. List of stimulants, destimulants, and nominants

	Stimulants	Destimulants	Nominants
ROE	x		
Quality of Receivables		x	
Tier 1	x		
Loans/Deposit Indicator			x
NSFR	x		

Source: own elaboration

Among the available normalisation methods, the approach proposed by Strahl and Walesiak (1997) was used, in which the indicators can be transformed according to two different methods, depending on whether a certain minimum threshold or acceptable range is defined for the given indicator (see Table 12):

Table 12. Two normalisation methods applied

Variant I (no thresholds defined)	Variant II (thresholds set for each indicator)
1	2
• For stimulants: $$z_{ij} = \frac{x_{ij} - \min x_{ij}}{\max x_{ij} - \min x_{ij}}$$	• For stimulants: $$z_{ij} = \frac{x_{ij} - \min x_{ij}}{\max x_{ij} - \min x_{ij}} \quad \text{if } x_{ij} \geqq x_{lo}$$ $$z_{ij} = \frac{x_{ij} - \max x_{ij}}{\max x_{ij} - \min x_{ij}} \quad \text{if } x_{ij} < x_{lo}$$

Table 12 (cont.)

1	2
• For destimulants: $z_{ij} = \frac{\max x_{ij} - x_{ij}}{\max x_{ij} - \min x_{ij}}$	• For destimulants: $z_{ij} = \frac{\max x_{ij} - x_{ij}}{\max x_{ij} - \min x_{ij}}$ if $x_{ij} \leqq x_{hi}$ $z_{ij} = \frac{\min x_{ij} - x_{ij}}{\max x_{ij} - \min x_{ij}}$ if $x_{ij} > x_{hi}$
• For nominants: $z_{ij} \begin{cases} 1 & \text{dla } x_{lo} \leq x_{ij} \leq x_{hi} \\ \frac{x_{ij} - \max x_{ij}}{\max x_{ij} - \min x_{ij}} & \text{dla } x_{ij} < x_{lo} \\ \frac{\min x_{ij} - x_{ij}}{\max x_{ij} - \min x_{ij}} & \text{dla } x_{ij} > x_{hi} \end{cases}$	• For nominants: $z_{ij} \begin{cases} 1 & \text{dla } x_{lo} \leq x_{ij} \leq x_{hi} \\ \frac{x_{ij} - \max x_{ij}}{\max x_{ij} - \min x_{ij}} & \text{dla } x_{ij} < x_{lo} \\ \frac{\min x_{ij} - x_{ij}}{\max x_{ij} - \min x_{ij}} & \text{dla } x_{ij} > x_{hi} \end{cases}$

Source: based on Strahl & Walesiak (1997)

where:
z_{ij} – the normalised value of indicator j for bank i in a given year,
x_{ij} – the value of ratio j for bank i in a given year,
$\max x_i$ – the maximum value of the ratio among all the banks in a given year,
$\min x_i$ – minimum value of the ratio among all the banks in a given year
x_{hi} – the upper threshold for the given indicator,
x_{lo} – the lower threshold for the given indicator.

Table 13 presents the set of thresholds introduced under variant II of the study. These values were established through referring to sectoral average (ROE – see PWC, 2012) and recommendations found in the literature after comparing them against the values actually calculated for the analysed credit institutions (Mioduchowska-Jaroszewicz et al., 2011, Vandenbussche, 2012). Two exceptions are Tier 1 and NSFR, whose minimum values are precisely defined by the Basel Accord.

Table 13. Thresholds set for normalisation variant II

Indicator	Thresholds
1	2
ROE	15%

1	2
Quality of receivables	5%
Tier 1	8%
Loans/Deposits	80%÷160%
NSFR	100%

Source: own elaboration

The normalised ratios included in the study were summed up to the synthetic measure for each bank according to the formula:

$$m_s = \sum_{j=1}^{n} \frac{z_j}{n}$$

where:
m_s – the synthetic indicator,
n – the number of components of the synthetic indicator,
z_j – the normalised value of the j indicator.

After the synthetic values were calculated for all the banks, a reference value (m_{ref}) was also defined to identify those institutions that collectively failed to achieve a satisfactory score. The reference value had to be calculated in two ways for the two possible variants (Strahl & Walesiak, 1997) (Table 14):

Table 14. Parameters used for calculating the reference value

Variant I (no thresholds defined)	Variant II (thresholds set for each indicator)
• For stimulants: $z_{ij} = 0$	• For stimulants: $z_{ij} = \frac{x_{ij} - \min x_{ij}}{\max x_{ij} - \min x_{ij}}$
• For destimulants: $z_{ij} = 0$	• For destimulants: $z_{ij} = \frac{\max x_{ij} - x_{ij}}{\max x_{ij} - \min x_{ij}}$ if $x_{ij} \leqq x_{hi}$
• For nominants: $z_{ij} = 1$ $m_{ref} = \sum_{j=1}^{n} \frac{z_j}{n}$	• For nominants: $z_{ij} = 1$ $m_{ref} = \sum_{j=1}^{n} \frac{z_j}{n}$

Source: based on Strahl & Walesiak (1997)

In the final step, the synthetic values calculated for the banks for each year were used to group them into four groups following the approach proposed by Nowak (1990). To do that, the arithmetic mean ($\overline{x}$) and standard deviation (σ) were calculated for the set of synthetic measures calculated for each year, making it possible to establish four groups:

- Group 1 $(-\infty, (\overline{x} - \sigma))$
- Group 2 $< (\overline{x} - \sigma), \overline{x})$
- Group 3 $< (\overline{x}, (\overline{x} + \sigma))$
- Group 4 $< (\overline{x} + \sigma), +\infty)$

The four groups defined this way make it possible to sort them into those that clearly outperform their competitors (group 4), but also those that are lagging behind (group 1). Segregating the credit institutions this way helps identify the ones that might require special attention from the prudential supervisor. A bank's movement between these groups over the years also provides useful information about its relative condition compared to its competitors. The study results are presented and analysed in the following subsection.

4.5. Study results

Variant 1 of the study is less stringent for the banks and verifies only their overall score using the synthetic measure; hence, it will be analysed first. The results show that there were only between 3 and 6 significant credit institutions that failed to meet the minimum satisfactory score threshold each year over the analysed period (Figure 11). This immediately reveals one of the major flaws of the simplified approach under variant 1, where the threshold automatically goes down during periods when the entire sector is facing problems.

The composition of the groups in selected years is presented in Table 15. The years to be presented were primarily chosen to depict the composition of the groups before, during, and after the financial crisis. The analysis of the chosen years shows that KBC and Nordea were among the worst-performing banks over the period. The credit institutions that failed to meet the minimum requirement can also be found in Group 2 (e.g. Intensa Sanpaolo in 2009). At the other end of the scale were Danske Bank, DZ Bank, and Standard Chartered, which frequently appeared in Group 4. In both cases, it is interesting to note that Swedbank, a member of Group 1 between 2006 and 2012, was promoted to the best group in the last year of the analysis. Conversely, Danske Bank, consistently classified among the best performing banks between 2006 and 2016, fell to Group 2 in the last year of the analysis.

Table 15. Bank groups composition in different years (calculation variant I)

2006				2009				2012				2016				2020			
1	2	3	4	1	2	3	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**
KBC	Erste Bank	Crédit Agricole	Danske Bank	KBC	Erste Bank	BNP Paribas	Danske Bank	Nordea	Erste Bank	BNP Paribas	Danske Bank	KBC	Unicredit	Erste Bank	Danske Bank	KBC	Danske Bank	Erste Bank	DNB
Nordea	BNP Paribas	Société Générale	DZ Bank	Swedbank	Nordea	Crédit Agricole	DZ Bank	Deutsche Bank	KBC	Crédit Agricole	DZ Bank	Nordea	Swedbank	BNP Paribas	BPCE	Nordea	Société Générale	BNP Paribas	Swedbank
Deutsche Bank	BPCE	LBBW	Standard Chartered	SEB	Deutsche Bank	BPCE	Standard Chartered	BayernLB	Unicredit	BPCE	SEB	Deutsche Bank	RBS	Crédit Agricole	Barclays	Deutsche Bank	Unicredit	Crédit Agricole	SEB
BayernLB	Sabadell	Intensa Sanpaolo		HSBC	BayernLB	Société Générale	Barclays	HSBC	BBVA	Société Générale		DNB		Société Générale		HSBC	Santander	BPCE	
Commerzbank	SEB	Unicredit			Intensa Sanpaolo	LBBW		Standard Chartered	Swedbank	LBBW		HSBC		BayernLB		Standard Chartered	Sabadell	BayernLB	
Swedbank		ING			DNB	Commerzbank			RBS	Commerzbank		Standard Chartered		DZ Bank			BBVA	DZ Bank	
		Rabobank			Sabadell	Unicredit				Intensa Sanpaolo				LBBW			Barclays	LBBW	
		DNB				ING				ING				Commerzbank				Commerzbank	
		Santander				Rabobank				Rabobank				Intensa Sanpaolo				Intensa Sanpaolo	
		BBVA				Santander				DNB				ING				ING	
		HSBC				BBVA				Santander				Rabobank				Rabobank	
		RBS				RBS				Sabadell				Santander				RBS	
		Lloyds				Lloyds				Lloyds				Sabadell				Lloyds	
		Barclays								Barclays				BBVA					
														SEB					
														Lloyds					

Source: own elaboration.

Table 16. Bank groups composition in different years (calculation variant II)

2006				2009				2012				2016				2020			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	**2**	**3**	**4**
Erste Bank	BNP Paribas	KBC	Danske Bank	KBC	Erste Bank	BNP Paribas	Danske Bank	Erste Bank	KBC	Danske Bank	DZ Bank	KBC	Nordea	Erste Bank	Danske Bank	Deutsche Bank	KBC	Erste Bank	BPCE
Nordea	BPCE	Crédit Agricole	DZ Bank	Swedbank	Nordea	Société Générale	Crédit Agricole	Nordea	BayernLB	BNP Paribas	LBBW	Deutsche Bank	BayernLB	BNP Paribas	Crédit Agricole	Standard Chartered	Danske Bank	BNP Paribas	ING
Sabadell	Société Générale	Deutsche Bank	Standard Chartered	SEB	BPCE	Intensa Sanpaolo	DZ Bank	Deutsche Bank	Commerzbank	Crédit Agricole	Intensa Sanpaolo	LBBW	Commerzbank	Société Générale	BPCE		Nordea	Crédit Agricole	DNB
Swedbank	BayernLB	Intensa Sanpaolo		HSBC	Deutsche Bank	Unicredit	Standard Chartered	HSBC	Unicredit	BPCE	Rabobank	BBVA	Unicredit	ING	DZ Bank		Société Générale	DZ Bank	Swedbank
	LBBW	ING			BayernLB	Rabobank	Barclays	RBS	Sabadell	Société Générale	DNB	HSBC	DNB	Rabobank	Intensa Sanpaolo		BayernLB	Intensa Sanpaolo	SEB
	Commerzbank	Rabobank			LBBW	DNB			BBVA	ING	SEB	Standard Chartered	Sabadell	Santander	Barclays		LBBW	Rabobank	
	Unicredit	DNB			Commerzbank	Santander			Standard Chartered	Santander		RBS		Swedbank			Commerzbank		
	Santander	HSBC			ING	BBVA			Lloyds	Swedbank				SEB			Unicredit		
	BBVA	Lloyds			Sabadell	Lloyds			Barclays					Lloyds			Santander		
	SEB	Barclays			RBS												Sabadell		
	RBS/																BBVA		
																	HSBC		
																	RBS		
																	Lloyds		
																	Barclays		

Source: own elaboration.

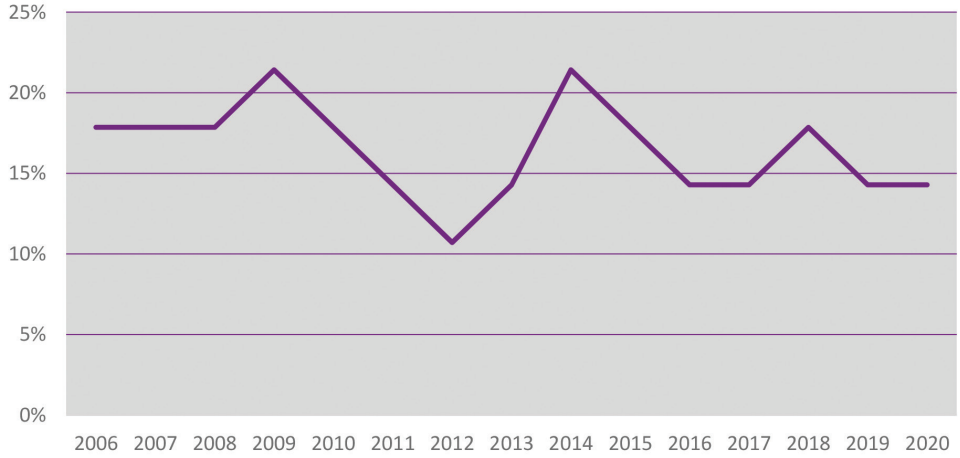

Figure 11. Percentage of studied institutions failing to meet the minimum satisfactory score requirement – variant I (%)
Source: own elaboration

The analysis of the results from variant 2 of the study is much less favourable for the analysed credit institutions when looking at the number of institutions that failed to pass the minimum satisfactory score requirement (see Figure 12). In 2008 and 2009, there were as many as 21 that failed to meet the thresholds adopted for the study, and only about half of them managed to meet the requirements by 2015. Therefore, these results seem to confirm that the banks were heavily impacted not only by the crisis, but also by the process of adjusting to the new prudential

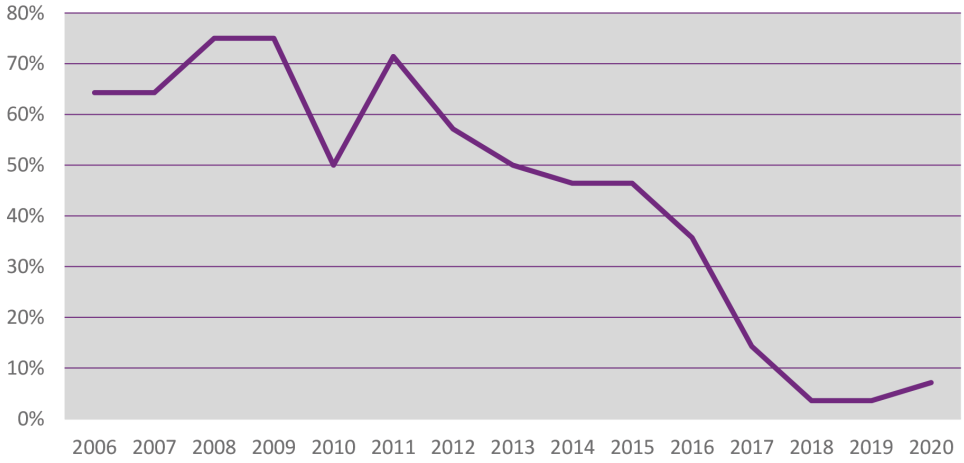

Figure 12. Percentage of studied institutions that failed to meet the minimum satisfactory score requirement – variant II (%)
Source: own elaboration

requirements. On the positive side, the results also reveal that the condition of the credit institutions has improved substantially since 2017, marked by a notable drop in the number of banks identified as non-compliant to four. One bank that stands out in this analysis is Deutsche Bank, which is the only institution that did not pass the minimum threshold even once over the analysed period.

The list of banks divided into four groups following the results calculated under variant 2 is presented in Table 16. It is interesting to note that also in this case, both KBC and Nordea are listed among the low-score credit institutions throughout the entire period, although their evaluation is no longer as unilateral as in the first variant. In the more sophisticated analysis, Swedbank's improving score is no longer so sharp, with the group showing improved performance measured with the synthetic indicator as far back as 2012.

Summary

The presented research method enables a holistic analysis of credit institutions in terms of features that are difficult to directly measure or assess, such as the relative ability to adapt to new prudential requirements. It is not easy to assess how the reformed financial safety net affected the banking sector, but it is important to note that the growing coherence in the way prudential requirements are imposed on credit institutions under the banking union has made it easier to reliably compare the related costs that stem from the process. The fact that all the surveyed entities come from countries with banking-oriented financial sectors also supported the reliability of the comparative analysis. The nature of their business operations is still bound to impact the costs of compliance for individual credit institutions – those that pursue a credit and investment insurance policy will be forced to accumulate a smaller volume of capital than high-risk investment banks.

The synthetic measure is a tool that helps to group banks in terms of their ability to adapt to new regulations and may be helpful when the supervisory activities need to be prioritised. The results confirm that the credit institutions of the EU have effectively managed to adapt to the new regulatory environment. The synthetic measure can also be helpful in further analyses by introducing weights to different components. This way, banks can still be compared in the broader context, but with special attention given to, e.g., liquidity indicators. A different set of thresholds could also support a more thorough analysis of a bank's financial condition.

When using synthetic measures for analysis, it is important to remember that their imperfections can affect the results of a study. The choice of indicators comprising a synthetic measure can unintendedly favour certain credit institutions over others. Similarly, applying a synthetic measure to complex and diverse institutions,

which financial conglomerates undoubtedly are, can work in favour or against some of them primarily due to the different business profiles. Nonetheless, from the perspective of financial stability, the synthetic measure can be a very useful tool to capture market features that cannot be measured or analysed directly. It can also be reasonably assumed that a comparative analysis of different credit institutions will be more objective using the synthetic measure than when comparing them based on few selected indicators. The synthetic measure constructed in the study may also be used in further studies, and the results can be compared with synthetic measures comprised of different sets of indicators.

Conclusion

This monograph analysed the new system of supervising the European banking sector organised under the first pillar of the banking union, i.e., the Single Supervisory Mechanism. As the first supranational body with supervisory powers over credit institutions, the SSM is an interesting subject to study. The harmonised approach to regulatory oversight helps establish a level-playing field between credit institutions across different jurisdictions, and it creates a supervisory framework that is more appropriate to oversee international financial conglomerates.

The analysis started by defining financial stability, which is often treated as a synonym of the banking sector's stability. This equivalence seems logical, especially in Europe, where large universal credit institutions play a particularly important role, and their financial problems could affect the entire economy. This significance continues to grow over time as national markets integrate further and ties between individual entities become stronger, especially within the EU. This observation is also the key argument in favour of consolidating the supervision of these increasingly international institutions.

The financial crisis of 2008 revealed the significance of the consequences of having a fragmented financial market inside the EU and no coordinated supervision of the banking sector. Faced with an increasingly likely breakdown of the financial sector, the Member States had no other choice but to bail out the failing credit institutions with public money in order to prevent bank runs. While it can be argued that the rescue of banks reinforced the risk of moral hazard, there is no doubt that if the insolvencies had resulted in an outflow of funds from the banking system, little could have been done to keep the financial system operational.

The long-term answer to the threats to financial stability was the plan to establish a banking union based on three pillars. As shown in the monograph, the process of creating the banking union was not without disruptions, and, in fact, it was still not finished when this monograph was being prepared (September 2021). Contrary to what might be expected, it was not the issue of coordinated supervision or even an international resolution authority that proved to be the greatest problem, but the idea of establishing a joint deposit guarantee scheme. In this context, only a certain degree of harmonisation was reached, primarily for

fear of strengthening the contagion effect. The plans to establish EDIS as the third pillar of the banking union have not been abandoned, however. Even now, while the project remains incomplete, it should be viewed as a major success of the EU Member States and an important step towards the full integration of the financial systems. The operational efficiency of this solution is yet to be tested and is worth further analysis.

The evaluation of the impact of establishing the Single Supervisory Mechanism on credit institutions presented in this book shows that credit institutions are gradually adapting to the new regulatory environment. It is important to note that the very fact that the regulatory requirements are imposed on credit institutions in a harmonised manner under the SSM allows this kind of comparative study to be performed with a reasonable degree of accuracy. It appears that credit institutions have gradually adapted to the strict capital and liquidity requirements, and their overall performance has been improving in recent years. It needs to be remembered that the profitability of the analysed entities has often been impacted by the overall unfavourable macroeconomic environment, i.e., recovery from the financial crisis and the COVID-19 pandemic. Overall, it can be stated that the threat of credit institutions running from the SSM jurisdiction in order to avoid costs did not materialise. As a recommendation for further research, the competitiveness of these entities on the global market could also be analysed, particularly after the markets stabilise after the pandemic.

When analysing the results using the synthetic measure, it should be remembered that this quantitative analysis represents a simplified approach to the complex task of analysing credit institutions, where the individual aspects of the functioning of the studied entities are represented with only a few indicators. This means that the synthetic measure helps to estimate the net effect of the new prudential requirements on the overall condition of banks, but it is not able to fully reflect all the changes brought about by the creation of a banking union. Despite these limitations, the study conducted with the use of the synthetic measure is a good starting point for further considerations and to verify the effectiveness of implementing the coordinated supervision. Using the synthetic measure may also be useful in analysing changes in other areas of banking activity and can serve as an early warning tool when studying financial stability, which cannot be easily measured.

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