



NARODOWY
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Polish Payment System Oversight Report for 2021

Summary



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Summary

Polish Payment System Oversight Report for 2021 (hereinafter referred to as the Report) was prepared in connection with the task related to the payment system oversight exercised by the Governor of Narodowy Bank Polski.

The Report is based on data and information provided to NBP under the national law and on the basis of publicly available data and information on overseen payment systems, payment schemes and securities clearing and settlement systems.

In the case of entities providing the acquiring¹ service, data and information from quarterly reports of the Polish Financial Supervision Authority (hereinafter referred to as “UKNF”), i.e. *Information on the situation of National Payment Institutions* (NPIs) and *Offices of Payment Services* (OPSs) was used.

The most important oversight activities and events in 2021 include:

1. Completion of the work on the assessment of the largest retail payment system in Poland, i.e. the Elixir system, in terms of compliance with the *Principles for Financial Market Infrastructures* (PFMI),² including the development of an assessment report with applicable recommendations.³
2. Oversight activities related to the assessment of the SORBNET2 payment system for its compliance with the *Cyber resilience oversight expectations for financial market infrastructures* (CROE),⁴ adopted by the ECB in 2018 and preparation of the assessment report.⁵
3. Participation of NBP in the assessment of LCH Ltd’s application for recognition under EMIR,⁶ by ESMA, as a third-country central counterparty (CCP) of substantial systemic importance (Tier II+) including an assessment of the systemic importance of the services provided by LCH Ltd. in terms of their impact on the orderly settlement of payment orders, monetary policy, and stability of the domestic financial system.
4. Completion of a review of the rules of the BlueCash payment system, which is one of the two instant payment systems in operation in Poland, for compliance with

¹ Acquiring is a payment service provided by NPI or OPS, as defined in Article 3 (1) (5) of the *Payment Services Act*.

² *Principles for financial market infrastructures* (PFMI), CPSS-IOSCO (currently CPMI-IOSCO), April 2012, <http://www.bis.org/cpmi/publ/d101a.pdf>.

³ The report was adopted by the NBP Management Board on 14 April 2021.

⁴ *Cyber resilience oversight expectations for financial market infrastructures* (CROE), ECB, December 2018, https://www.ecb.europa.eu/paym/pdf/cons/cyberresilience/Cyber_resilience_oversight_expectations_for_financial_market_infrastructures.pdf.

⁵ The report was adopted by the NBP Management Board on 14 July 2022.

⁶ Regulation (EU) No 648/2012 of the European Parliament and of the Council of 4 July 2012 on OTC derivatives, central counterparties and trade repositories (OJ EU L 20 of 27 July 2012, p. 1), as amended by Regulation (EU) 2019/2099 of the European Parliament and of the Council of 23 October 2019 amending Regulation (EU) No 648/2012 as regards the procedures and authorities involved for the authorisation of CCPs and requirements for the recognition of third-country CCPs (OJ EU L 322 of 12 December 2019, p. 1).

the 9 PFMI areas applicable to the system (including those relating to governance, settlement finality, operational risk, and participation requirements).

5. Conducting a study to assess the level of cyber maturity of overseen retail payment systems, operated by KIR S.A., PSP, Blue Media S.A. and Fiserv Polska S.A.⁷

⁷ Until 24 September 2021, the entity operated under the name First Data Polska S.A.

Chapter 1

Oversight in Poland

1.1 Scope and model of payment system oversight in Poland

The exercise of systemic oversight is key to ensuring the financial stability of the financial sector, both because of the structure of the payment system and the interconnectedness of the different elements that make up the payment system infrastructure.

The supervision and oversight of the payment system infrastructure in Poland is exercised in a complementary manner by two authorities:

- the KNF Board,
- the Governor of Narodowy Bank Polski.

The KNF exercises supervision over entities operating securities clearing and settlement systems in the capital market and entities operating in the payment services market.⁸

The Governor of NBP exercises oversight – as the competent authority – of payment systems and payment schemes and, as the relevant authority, oversight of securities clearing and settlement systems and the provision of the acquiring service by national payment institutions supervised by the KNF.

1.2 Legal framework and sources of payment system oversight standards

The Governor of Narodowy Bank Polski exercises oversight of the payment system on the basis of the following provisions of generally applicable law, as well as generally accepted international standards, including European Union requirements:

1. with regard to payment systems:
 - a) legal framework:
 - *Act of 24 August 2001 on Settlement Finality in Payment and Securities Settlement Systems and the Rules of Oversight of these Systems*⁹ (hereinafter referred to as: the “Settlement Finality Act”) together with implementing acts,
 - *Act of 19 August 2011 on Payment Services*¹⁰ (hereinafter referred to as the “Payment Services Act”) together with implementing acts,
 - b) international standards:
 - *Principles for financial market infrastructure* (in the section on payment systems),
 - *Principles for financial market infrastructure: Disclosure framework and Assessment methodology*¹¹ (in the section on payment schemes),

⁸ The KNF also supervises entities in the banking sector, the cooperative bank sector, the insurance market, the pension market, and other capital market entities.

⁹ Journal of Laws of 2022, item 1581, consolidated text.

¹⁰ Journal of Laws of 2022, item 2360, consolidated text.

¹¹ *Principles for financial market infrastructures: Disclosure framework and Assessment methodology*, CPSS-IOSCO (now CPMI-IOSCO), December 2012, <http://www.bis.org/cpmi/publ/d106.pdf>.

- *Application of the Principles for financial market infrastructures to central bank FMIs*,¹²
 - *Revised oversight framework for retail payment systems*,¹³
 - *Oversight expectations for links between retail payment system*,¹⁴
 - *Guidance on cyber resilience in financial market infrastructures*,¹⁵
 - *Cyber resilience oversight expectations for financial market infrastructures (CROE)*;
2. with regard to payment schemes:
- a) legal framework:
 - the *Payment Services Act* together with implementing acts,
 - MIF Regulation¹⁶ including its implementing acts,
 - SCA Regulation,¹⁷
 - b) international standards:
 - *Oversight framework for card payment schemes – standards*,¹⁸
 - *Guide for the assessment of card payment schemes against the oversight standards*,¹⁹
 - *Harmonised oversight approach and oversight standards for payment instruments*,²⁰
 - *Recommendations for the security of internet payments*,²¹
 - *Assessment guide for the security of internet payments*,²²
3. on securities clearing systems:
- a) legal framework:
 - EMIR Regulation including its implementing acts,
 - the *Settlement Finality Act* together with implementing acts,
 - *Act of 29 July 2005 on Trading in Financial Instruments*²³ (hereinafter referred to as the *Act on Trading in Financial Instruments*),
 - b) international standards:
 - *Principles for financial market infrastructure* (in the section on CCPs),
 - *Principles for financial market infrastructure: Disclosure framework and Assessment methodology* (in the section on CCPs),

¹² *Application of the Principles for financial market infrastructures to central bank FMIs*, CPMI-IOSCO, August 2015, <http://www.bis.org/cpmi/publ/d130.pdf>.

¹³ *Revised oversight framework for retail payment systems*, ECB, February 2016, <https://www.ecb.europa.eu/pub/pdf/other/revisedoversightframeworkretailpaymentsystems201602.en.pdf?bc332d9a718f5336b68bb904a68d29b0>.

¹⁴ *Oversight expectations for links between retail payment systems*, ECB, November 2012, <https://www.ecb.europa.eu/pub/pdf/other/eurosystemconsultation-oversightexpectations-rps-201211en.pdf>.

¹⁵ *Guidance on cyber resilience in financial market infrastructures*, CPMI-IOSCO, June 2016, <http://www.bis.org/cpmi/publ/d146.pdf>.

¹⁶ Regulation (EU) 2015/751 of the European Parliament and of the Council of 29 April 2015 on interchange fees for card-based payment transactions (OJ L 123 of 19 May 2015, p. 1).

¹⁷ Commission Delegated Regulation (UE) 2018/389 of 27 November 2017 supplementing Directive (EU) 2015/2366 of the European Parliament and of the Council with regard to regulatory technical standards for strong customer authentication and common and secure open standards of communication (OJ L 69 of 13 March 2018, p. 23).

¹⁸ *Oversight framework for card payment schemes – standards*, ECB, January 2008, <https://www.ecb.europa.eu/pub/pdf/other/oversightfwcardpaymentsss200801en.pdf>.

¹⁹ *Guide for the assessment of card payment schemes against the oversight standards*, ECB, February 2015, <https://www.ecb.europa.eu/pub/pdf/other/guideassessmentcpsagainstoversightstandards201502.en.pdf?499089f7f3aab273925ef6d80767b4a5>.

²⁰ *Harmonised oversight approach and oversight standards for payment instruments*, ECB, February 2009, <http://www.ecb.europa.eu/pub/pdf/other/harmonisedoversightpaymentinstruments2009en.pdf>.

²¹ *Recommendations for the security of internet payments*, European Forum on the Security of Retail Payments (SecuRe Pay), January 2013, <https://www.ecb.europa.eu/pub/pdf/other/recommendationssecurityinternetpaymentsoutcomeofpcfinalversionafterpc201301en.pdf>.

²² *Assessment guide for the security of internet payments*, ECB, February 2014, <http://www.ecb.europa.eu/pub/pdf/other/assessmentguidesecurityinternetpayments201402en.pdf>.

²³ Journal of Laws of 2022, item 1500.

- *Guidance on cyber resilience in financial market infrastructures,*
 - *Public quantitative disclosure standards for central counterparties;*²⁴
4. on securities settlement systems:
- a) legal framework:
 - CSDR Regulation²⁵ including its implementing acts,
 - the *Settlement Finality Act* together with its implementing acts,
 - the *Act on Trading in Financial Instruments* together with its implementing acts,
 - b) international standards:
 - *Rules on financial market infrastructure* (in the section on securities settlement systems and central securities depositories),
 - *Principles for financial market infrastructure: Disclosure framework and Assessment methodology*²⁶ (in the section on securities settlement systems and central securities depositories),
 - *Application of the Principles for financial market infrastructures to central bank FMIs* (in the section on securities settlement systems),
 - *Guidance on cyber resilience in financial market infrastructures;*
5. on the provision of the acquiring service by national payment institutions:
- a) legal framework:
 - the *Payment Services Act* together with its implementing acts,
 - MIF Regulation including its implementing acts,
 - SCA Regulation,
 - b) international standards:
 - *Harmonised oversight approach and oversight standards for payment instruments,*
 - *Final guidelines on the security of internet payments,*²⁷
 - *Recommendations for the security of internet payments,*
 - *Assessment guide for the security of internet payments,*
 - *Recommendation for the security of internet payment transactions by banks, national payment institutions, national electronic money institutions and cooperative savings and credit unions.*²⁸

²⁴ *Public quantitative disclosure standards for central counterparties*, CPMI-IOSCO, February 2015, <https://www.bis.org/cpmi/publ/d125.pdf>.

²⁵ Regulation (EU) no. 909/2014 of the European Parliament and of the Council of 23 July 2014 on improving securities settlement in the European Union and on central securities depositories and amending Directives 98/26/EC and 2014/65/EU and Regulation (EU) No 236/2012 (OJ L 257 of 28 August 2014).

²⁶ *Principles for financial market infrastructures: Disclosure framework and Assessment methodology*, CPSS-IOSCO (now CPMI-IOSCO), December 2012, <http://www.bis.org/cpmi/publ/d106.pdf>.

²⁷ *Final guidelines on the security of internet payments*, EBA, December 2014, https://www.eba.europa.eu/sites/default/documents/files/documents/10180/934179/f27bf266-580a-4ad0-aaec-59ce52286af0/EBA-GL-2014-12%20Guidelines%20on%20the%20security%20of%20internet%20payments%29_Rev1.pdf?retry=1.

²⁸ *Rekomendacja dotycząca bezpieczeństwa transakcji płatniczych wykonywanych w internecie przez banki, krajowe instytucje płatnicze, krajowe instytucje pieniądza elektronicznego i spółdzielcze kasy oszczędnościowo-kredytowe*, KNF, November 2015, https://www.knf.gov.pl/knf/pl/komponenty/img/REKOMENDACJA_dot_bezpieczenstwa_transakcji_platniczych_43526.pdf.

1.3 Assessment criteria used by NBP in exercising the oversight

Guided by the principles of accountability of public authorities set out in the PFMI, in particular the principle of transparency (the so-called “C” accountability²⁹), NBP has adopted and implemented a document entitled *Narodowy Bank Polski payment system oversight policy* (hereinafter: Policy).³⁰

In accordance with the Policy, the primary objectives of the oversight exercised by the Governor of NBP comprise mainly in:

- ensuring the safety and efficiency of the functioning of the payment system in Poland;
- ensuring the compliance of the overseen systems, schemes, and the provisions of the acquiring service with the provisions of law.

1.4 Oversight tools

Key oversight tools at the disposal of the Governor of NBP include:

- granting an authorisation to operate payment systems or payment schemes and to introduce amendments to their rules for the functioning,³¹
- issuing decisions on withdrawal of an authorisation to operate a payment system or a payment scheme,³²
- issuing decisions on temporary, partial or complete suspension of functioning of a payment system or a payment scheme,³³
- providing recommendations to entities operating a payment system or a payment scheme to ensure that their functioning is compliant with the provisions of law and safe and efficient,³⁴
- conducting comprehensive assessments of the smooth functioning of the payment infrastructure.

In the scope related to the oversight of securities clearing and settlement systems and the provision of the acquiring service, one of the tools available to the Governor of NBP

²⁹ Policy disclosure in relation to FMI – central banks, market regulators and other competent authorities should clearly set out and disclose their policies towards FMI in terms of regulation, supervision, and oversight.

³⁰ The current document was adopted in October 2019, <https://www.nbp.pl/systemplatniczy/nadzor/polityka.pdf>.

³¹ Pursuant to Article 16 (1) and (3) of the *Settlement Finality Act* and Article 132zm (1) and (2) of the *Payment Services Act*, respectively.

³² Pursuant to Article 18 (2) of the *Settlement Finality Act* and Article 132zr (1) of the *Payment Services Act*, respectively.

³³ Pursuant to Article 18 (2a) of the *Settlement Finality Act* and Article 132zr (1) of the *Payment Services Act*, respectively.

³⁴ Pursuant to Article 18 (6b) of the *Settlement Finality Act* and Article 132zq (6) of the *Payment Services Act*, respectively.

is the issuance of opinions at the request of the Chair of the KNF Board and through an administrative procedure concerning those systems and services.

Obtaining the opinion of the Governor of NBP is necessary, among others, in the following cases:

- approval by the KNF of rules for the functioning of securities clearing and settlement systems and any amendments thereto (to the extent set out in the Act on Trading in Financial Instruments),³⁵
- the provision of the acquiring service that the entity seeking authorisation from the KNF to provide payment services as an NPI³⁶ intends to introduce.

The oversight also entails monitoring and analysing information regarding the current functioning of overseen systems and schemes as well as their assessment and undertaking activities to introduce necessary amendments.

Other oversight tools include the following:

- conducting relevant quantitative analyses, in particular in the context of liquidity management in overseen systems, e.g. stress tests, free-riding studies,
- clarifying incidents occurring in overseen systems and schemes, as well as monitoring and evaluation of remedial activities undertaken by operators of the overseen systems or schemes,
- ongoing cooperation with entities operating systems and schemes or providing the acquiring service.
- participation of NBP representatives in European bodies.³⁷

1.5 Overseen payment system infrastructure in 2021

At the end of 2021, the Governor of NBP exercised oversight on:

- 2 large-value payment systems,
 - SORBNET2, which is operated by NBP,
 - TARGET2-NBP operated by NBP in legal terms and by three central banks (3CBs) in operational terms,³⁸

³⁵ Pursuant to Article 48 (16) and Article 50 (2) of the Act on Trading in Financial Instruments.

³⁶ Pursuant to Article 60 (3) of the *Payment Services Act*.

³⁷ In 2021, NBP employees actively participated in activities organised by the European Central Bank, the European Commission, the European Securities and Markets Authority and the oversight initiatives of the central banks of the European Union and took part in the work of the following committees and groups: *Market Infrastructure and Payments Committee (MIPC)*, *Payment and Securities Oversight Working Group (PSOWG)*, *Analytical Working Group (AWG)*, *European Forum on the Security of Retail Payments (SecuRe Pay)*, *Visa Assessment Group*, *Mastercard Europe (MCE) Assessment Group*, *CCP Supervisory Committee (CCP SC)*, *Governmental Expert Group on the Interchange Fee Regulation (GEG IFR)*.

³⁸ The group consists of Banque de France, Deutsche Bundesbank, and Banca d'Italia.

- 6 retail payment systems, including:
 - 3 systems operated by KIR S.A.: Elixir, Euro Elixir and Express Elixir,
 - BlueCash payment system operated by Blue Media S.A.,
 - BLIK payment system operated by PSP,
 - Krajowy System Rozliczeń (KSR) operated by Fiserv Polska S.A.,
- 12 payment schemes, including:
 - 4 card schemes: Visa Europe, Mastercard, American Express and Diners Club;
 - 8 non-card payment schemes: BLIK payment scheme, YetiPay, mPay, SkyCash, Snoopay and Billon, PayEye and PaySperience,
- 5 securities clearing and settlement systems, including:
 - 2 securities clearing systems operated by KDPW_CCP S.A.,
 - the securities settlement system operated by KDPW S.A.,
 - SKARBNET4 securities settlement system operated by NBP,
 - the securities clearing and settlement system IRGiT SRF operated by IRGIT S.A.
- 24 national payment institutions (NPIs) holding the authorisation of the KNF to provide the acquiring services.

The functioning of two large-value payment systems is typical of EU countries that are not a part of the euro area – one system processing payment orders in the national currency, the other one for settlements in euro, which forms a TARGET2 component. Poland also has a retail payment system for individual clients dedicated to payments in euro – Euro Elixir. It is worth noting at this point that Poland, with its six functioning retail payment systems, stands out in terms of their number compared to other EU countries, as on average there were less than two³⁹ retail payment systems per EU country in 2021. It should also be emphasised that two instant retail payment systems have been in operation in Poland for years, while many EU countries do not have such a system or have at most one such system.

The number of non-card payment schemes operating in Poland is also significant (eight schemes overseen by the Governor of NBP). In the area of card schemes, the entire Polish market has been divided among four international schemes with global coverage, two of which, i.e. Visa and Mastercard, accounted for almost 100% of the market, both in terms of the number and the value of executed transactions (the share of Diners Club and American Express together amounted to 0.011% of the number and 0.05% of the value of executed transactions).

The securities clearing and settlement systems operating in Poland handle transactions in two currencies – zloty and euro. Both currencies are handled by entities being a part of GK KDPW, while SKARBNET4 and IRGiT SRF process operations only in the national currency.

In 2021, NBP's oversight activities largely focused on assessments of overseen systems and schemes. These assessments were carried out in the course of ongoing administrative proceedings, by verifying of the compliance of the rules for the functioning of the overseen

³⁹ Own calculations based on ECB data: <https://sdw.ecb.europa.eu/reports.do?node=1000002752>.

systems with international standards or as a part of activities carried out in cooperation with other supervisory authorities.

The functioning of the overseen payment system infrastructure in 2021 shall be stated as stable. There were no noted risks that could adversely affect its safety and efficiency.

Chapter 2

Payment system oversight

2.1 Payment systems

Payment systems mean legal relationships, governed by the Polish law, between at least three institutions⁴⁰, with common rules, applicable to the participants, for performing clearing or execution of their settlement orders⁴¹ (orders by a participant to transfer a sum of money to the account of a recipient with a settlement agent or other orders which give rise to the execution or discharge of a monetary obligation, in accordance with the rules of the payment system).

Source: Article 1 (1) and (12) (a) of the Settlement Finality Act.

2.1.1 Large-value payment systems

In 2021, two large-value payment systems were in operation in Poland:

- the SORBNET2 system, operated by NBP, where the settlement of transactions in PLN is performed;
- the TARGET2-NBP system, operated by NBP as regards legal issues and by 3CB, i.e. Deutsche Bundesbank, Banque de France, and Banca d'Italia,⁴² as regards the operational side where the settlement of transactions in EUR is performed.

Oversight activities related to large-value payment systems

In accordance with the decision of the NBP Management Board, a comprehensive cyber resilience assessment of Poland's most important large-value payment system, SORBNET2, was carried out in 2020–2021. The evaluation was conducted to fulfil the *Cyber resilience oversight expectations for financial market infrastructures* (CROE) adopted by the ECB in 2018. The assessment presented a high level of compliance of SORBNET2 with the CROE requirements defined at the evolving level.⁴³

⁴⁰ In accordance with Article 1 (1) and 5 (a-d) of the Settlement Finality Act, such institutions must comprise at least the following: Narodowy Bank Polski, the central bank of another state, a domestic bank or a branch of a foreign bank, an investment firm, a foreign legal entity, or a public authority body.

⁴¹ A slightly different, broader definition of the payment system is included in Article 2 (27) of the Payment Services Act, pursuant to which payment systems constitute systems of funds transfers based on formal and standardised rules as well as common principles related to processing, clearing or settlement of payment transactions.

⁴² The functioning of the TARGET2 system is based on the *Single Shared Platform* (SSP) developed by three EU central banks, i.e. the central banks of France, Germany, and Italy, and currently, after the launch of the TARGET2-Securities platform on 22 June 2015, it is operated by these three banks and additionally also by the Bank of Spain (Banco de España).

⁴³ The evaluation report with recommendations was adopted by the NBP Management Board on 14 July 2022.

As part of the cyclical oversight activities, the annual survey was conducted in 2021 to identify critical participants⁴⁴ of the SORBNET2 system. Banks which trading exceeded 5% of the value of all SORBNET2 turnover in the year under review included: Bank Gospodarstwa Krajowego (BGK), Bank Handlowy w Warszawie S.A., Bank Polska Kasa Opieki S.A., mBank S.A., Powszechna Kasa Oszczędności Bank Polski S.A., and ING Bank Śląski S.A. Compared to 2020, both the list of critical participants and their order have not changed. In 2019, the only difference was that Bank Handlowy w Warszawie S.A. was in first place and BGK in second place.

In addition, the resilience of the SORBNET2 model to the occurrence of extreme but plausible market conditions was examined. The study is carried out cyclically, for successive semi-annual periods of SORBNET2 functioning. Scenarios in the study involved the temporary absence of the largest or three largest participants sending orders to the system and a reduction of up to 75% in the amount of technical credit available to participants in the system. The study, carried out by simulating the operation of the system under the conditions specified in the scenarios, looked at how many, at what value and which participants' transactions would go unrealised. The results of simulations demonstrated high resilience of the system to the assumptions adopted in the study.

For the first time, a study of the potential occurrence of a “free-rider effect” among SORBNET2 participants was carried out. The analysis was set up to assess the potential for payment gridlocks in the system as a result of selected participants delaying some of their own or received liquidity, resulting in a lack of immediate matching of the value of incoming and outgoing payment orders in the system. On the basis of simulations of the occurrence of the free-rider effect and verification of liquidity management patterns among selected SORBNET2 participants, it was concluded that the observed payment retentions did not have any significant impact on the materialisation of liquidity risk in the system.

Incidents in large-value payment systems

In 2021, there were three incidents in large-value payment systems (previous years, i.e. 2019–2020, had 5 incidents each), the causes of which can be divided into two groups: network failure and software error. Although they had an impact on the functioning of individual payment systems, they did not significantly affect the safe and efficient functioning of the whole payment system in Poland.

Analysis of statistical data related to large-value payment systems

Large-value payment systems occupy a primary place in terms of the value of payment orders processed in the payment system.

In 2021, the total value of orders processed in the SORBNET2 and TARGET2-NBP large-value payment systems amounted to PLN 131.3 trillion and increased by PLN 26.7 trillion

⁴⁴ Critical participants in the SORBNET2 payment system are deemed to be entities that meet the relevant criteria, namely being: (a) external systems functioning as: LVPS, SIRPS, PIRPS, CSD, CCP; (b) banks if their turnover exceeds 5% of the whole system turnover in the preceding calendar year.

(i.e. 25.6%) compared to the previous year, whereas compared to 2019 an increase of PLN 43.9 trillion (i.e. 50.2%) was recorded. The total number of orders processed in both systems amounted to 6.7 million and rose by almost 0.58 million compared to 2020 (i.e. 9.5%) and by 0.62 million compared to 2019 (i.e. 10.1%).

2.1.2 Retail payment systems

In 2021, similar to the end of 2020, 6 retail payment systems operated in Poland:

- Elixir;
- Euro Elixir;
- Express Elixir;
- System BLIK;
- BlueCash;
- KSR.

In 2021, in the scope of payment systems, oversight activities largely focused on performing the assessments of the systems in terms of their compliance with the PFMIs as well as on the analysis and issuing of opinions on changes in the rules of functioning of the systems proposed by operators and on ongoing monitoring of the functioning of the payment systems, including incident analysis.

Decisions of the Governor of NBP concerning retail payment systems

In 2021, as part of the oversight of retail payment systems, the Governor of NBP issued three decisions permitting the introduction of amendments in the rules for the functioning of the following systems:

- Elixir – clarification of the moment of entry of an order into the system, clarification of the rules for withdrawal of orders from clearing and harmonisation of the deadline for the re-transmission of result sets by KIR S.A. to NBP and participants in the system;
- BlueCash – a major change related to allowing the use of an external instant payment system (Express Elixir) to make transfers to recipients' accounts from funds held in a Blue Media S.A. account;
- BLIK – amendments to the complaint handling rules for BLIK-C Transactions and withdrawal of indirect participation as a possible form of participation in BLIK.

Other oversight activities related to retail payment systems

A next (third⁴⁵) edition of the cyber resilience survey was conducted in 2021. The survey covered all retail payment systems for the first time (in the first edition, only the Elixir system was surveyed, in the second edition the Elixir and Euro Elixir systems were surveyed). As in previous editions, the survey included questions on the level of system cyber resilience, broken down into the following areas: management, identification, protection, detection, response, resumption, and recovery. As part of this study, operators of the various payment systems sent in completed self-assessment questionnaires. In the second half of 2021, the analysis of the completed questionnaires was underway, followed by the preparation of letters to the operators of the payment systems covered by this survey informing them of the results of the evaluation in relation to the individual payment systems.⁴⁶

In 2021, work continued on the comprehensive assessment of the Elixir system in terms of the fulfilment of the *Principles for financial market infrastructures* (PFMIs). The assessment was completed with the adoption of the final report with recommendations by the NBP Management Board on 14 April 2021 and forwarded to the system operator, i.e. KIR S.A.

The comprehensive assessment for the BlueCash payment system for compliance with the *Principles for financial market infrastructures* (PFMIs), which began in March 2020, also continued in 2021. Towards the end of the year, work was underway on preparing the draft final report of the assessment.⁴⁷

Incidents in retail payment systems

In 2021, a total of 15 incidents were recorded in 5 retail payment systems (in 2020, also 15 incidents were recorded, and in 2019 – 9 incidents). These incidents were not significant for the proper functioning of the payment system in Poland as a whole. Their causes can be categorised as: hardware failure, software error, DDoS attacks⁴⁸ and third-party system error. Measures undertaken by system operators in connection with the aforementioned incidents were assessed by NBP as appropriate.

Analysis of statistical data related to retail payment systems

In terms of the number of executed payment orders, retail payment systems play a key role in the payment system infrastructure, ensuring clearing of low-value client transactions, i.e. those with a value below PLN 1 million.

⁴⁵ The first edition started in July 2017 and ended in January 2018, the second edition started in September 2019 and ended in January 2020.

⁴⁶ The letters informing the operators of each system of the results of the evaluation were provided to them in Q1 2022. Recommendations were made to the operators of some systems for implementation.

⁴⁷ The assessment was completed in June 2022 and the system operator was requested to implement the recommendations within the deadlines indicated in the final report.

⁴⁸ DDoS attack consists of attacking a given service or account from several computers simultaneously, with the consequence of blocking access to links or web services and interrupting the operation of the system or completely suspending it.

Taking the number of orders executed in a given system as a criterion, individual retail payment systems were ranked according to their relevance to the proper functioning of the payment system in Poland. Among retail payment systems, the Elixir system has been continuously dominant for many years, with more than 70% of all payment orders across all retail payment systems, although its share has been gradually declining for several years (in 2020 it accounted for more than 79% and in 2019 for 85%).

The Euro Elixir system has been recognised as a systemically important payment system since it is the only retail system where orders are processed in a currency other than złoty, i.e. in euro. Given that euro is not a Polish currency, the number of orders processed in this system remains relatively low. In 2021, only 1.34% of retail payment orders were executed in Poland in Euro Elixir (in 2020 this percentage was 1.30%, while in 2019 it amounted to 1.7%).

Among retail payment systems, instant payment systems, i.e. Express Elixir⁴⁹ and BlueCash⁵⁰, which credit the recipient's account within seconds, represent a separate group. Besides mobile payments, instant payments represent a retail payment segment belonging to the most rapidly developing part of the payment market in recent years. The growing popularity of these systems translates into a steady increase in their share of the retail payments market. In 2021, the share of transactions in instant payment systems in the number of all retail payments amounted to 4.5% and at the same time – 1.4% in terms of value (in 2020, this share was 2.7% and 1.1%, respectively, and in 2019 it was 1.7% and 0.9%).

Also important among retail payment systems is the BLIK mobile payment system, which share of the retail payment market, both in terms of number and value, has been growing rapidly for several years, also indirectly contributing to growth in Express Elixir (due to the fact that P2P transactions in BLIK are settled in Express Elixir). In 2021, the share of transactions in the BLIK system in the number of all retail payments amounted to 21.9% and at the same time 1.0% in terms of value (in 2020, this share was 14.9% and 0.6%, respectively, and in 2019 it was 8.7% and 0.3%).

In contrast, KSR is a system with a declining share of the retail payments market. In 2021, it processed 1.7% of the number of retail payments, corresponding to just 0.2% of the value (in 2020, it was 1.8% and 0.18%, respectively, and in 2019 it was 2.9% and 0.24%).

In all retail payment systems in złoty, i.e. in the Elixir system, in Express Elixir and BlueCash instant payment systems and in other retail payment systems, i.e. KSR and BLIK, a total of 3.0 billion payment transactions with a value of PLN 7.0 trillion were processed. In 2020, it was 2.5 billion orders and PLN 6.1 trillion, respectively, which means a year-on-year increase of 18.0% in relation to the number of transactions and 15.2% in relation to the value of orders, whereas in 2019 it was 2.2 billion transactions (an increase of 36.4%) and PLN 5.7 trillion (an increase of 22.8%).

⁴⁹ The Express Elixir system was launched in the first half of 2012 by KIR S.A. and was the first instant payment system launched in Poland and the second one operating in the territory of the EU (following the British Faster Payment Service system launched in 2008).

⁵⁰ The BlueCash payment system was launched in the second half of 2012 by Blue Media S.A. and was the second instant payment system operating in Poland.

2.2 Payment schemes

A payment scheme is a set of rules concerning the execution of payment transactions, issuance, and acceptance of payment instruments by payment service providers and processing of payment transactions with the use of payment instruments and a payment card scheme.

Source: Article 2 (26a) of the Payment Services Act.

In 2021, the list of payment schemes overseen by the Governor of NBP was expanded to include PayEye and PaySperience schemes, which meant that 12 payment schemes were in operation in Poland:

- 4 payment schemes which are payment card schemes (hereinafter referred to as: card schemes):
 - Visa Europe,
 - Mastercard,
 - American Express,
 - Diners Club;
- 8 other payment schemes (hereinafter referred to as: other schemes):
 - BLIK Payment Scheme,
 - YetiPay,
 - mPay,
 - SkyCash,
 - Snoopay,
 - Billon,
 - PayEye,
 - PaySperience.

In 2021, the ongoing oversight activities carried out in relation to payment schemes consisted mainly in issuing decisions on amendments to their rules for the functioning, monitoring their proper operation and collecting and analysing statistical data.

Decisions of the Governor of NBP concerning payment schemes

As part of oversight activities, a decision was issued by the Governor of NBP in 2021 to introduce changes to the rules of the BLIK Payment Scheme, mainly consisting of increasing the value from PLN 50 to PLN 100 for a single transaction made at POS terminals without the need for strong customer authentication, implementing P2P transfers to public benefit organisations within the Mobile Application and withdrawing indirect participation as a form of participation in the BLIK Payment Scheme.

Other oversight activities concerning payment schemes

Changes to the rules of the Mastercard payment scheme have been assessed, consisting of a modification of the arbitration proceedings within the chargeback procedure and

an amendment of the Merchant Category Code (MCC) assigned to Poczta Polska S.A., while providing Poczta Polska S.A. with the existing protection rules within the chargeback complaint procedure. Both changes were assessed as not adversely affecting the security and efficiency of the Mastercard payment scheme.

In addition, an assessment of the activities carried out by PayEye Sp. z o.o. and UPEPO Sp. z o.o. was carried out to determine whether they could be considered payment schemes. The assessment carried out has shown that the activities of those two entities should be considered as an operation of a tripartite payment scheme. Thus, these schemes were placed under the ongoing oversight of the Governor of NBP and on the list of overseen payment schemes.⁵¹

Incidents concerning payment schemes

In 2021, payment scheme operators reported 9 incidents (with 4 incidents in 2020 and 5 in 2019). The causes of these incidents were mainly software bugs and failures on the part of service providers to scheme operators. These incidents were not of key importance for the proper functioning of the payment system in Poland as a whole, while the measures taken by the entity operating the scheme in connection with the above incidents were assessed as correct.

Analysis of statistical data concerning payment schemes

As at 31 December 2021, 43.3 million payment cards were issued (against 43.7 million cards at the end of 2020, a decrease of 0.9%; and against 43.0 million at the end of 2019, an increase of 0.7%), of which the share of cards issued by the payment organisations Visa Europe Ltd. and Mastercard Europe SA, jointly accounted for 99.7% of all payment cards issued in Poland. The share of payment cards with the logos of American Express and Diners Club remained at around 0.1% of all cards issued. Besides cards issued by the above-mentioned card organisations, proprietary cards of issuers also operated on the Polish market, which accounted for approx. 0.2% of all cards issued in Poland in 2021 (these are cards with only a local character, used mainly for cash withdrawals from ATMs issued mostly by cooperative banks).

All payment schemes combined saw a marked increase in completed transactions in 2021, compared to previous years, both in terms of number and value.⁵² In terms of the number of transactions, 7.0 billion was reached (representing an increase of 22.0% compared to 5.7 billion in 2020 and an increase of 32.9% compared to 5.2 billion in 2019), while in terms of value, 592.5 billion was reached (representing an increase of 21.0%, compared to 489.7 billion in 2020 and an increase of 35.3% compared to 437.9 billion in 2019). The increase in the number of transactions executed in payment schemes results largely from the changing payment habits of Poles (growing popularity of e-commerce transactions) as well as

⁵¹ The list is published at: <https://www.nbp.pl/systemplatniczy/nadzor/lista-systemow-i-schematow.pdf?v=4>

⁵² The presented data refer to the following types of transactions: domestic, made with payment instruments issued in Poland, executed in Poland, processed, and settled in payment schemes (including payment card schemes). The data exclude payment card transactions settled within a single financial institution ("on-us" type transactions).

the increasing number of entities accepting card payments. The above trends are confirmed by studies of the share of non-cash and cash payments in Poland – in 2021, the share of non-cash transactions in the total number of retail payment transactions was 57% (in 2020 it was 54% and in 2019 – 46%).⁵³

In 2021, the total of 6.3 billion transactions with the value of PLN 498.4 billion were processed in card schemes, which meant an increase of 18.4% and 14.4% respectively in relation to 2020 (when 5.3 billion and PLN 435.7 billion were completed) and an increase of 25.2% and 21.6% respectively (5.0 billion and PLN 410.0 billion) compared to 2019. In other payment schemes, on the other hand, the growth rate was significantly higher in 2021, with a total of 690.3 million transactions worth PLN 94.1 billion, up 69.6% and 74.2% respectively, compared to 2020. (when 407.0 million and PLN 54 billion were completed) and compared to 2019, an increase of 202.1% and 236.8% respectively (228.5 billion and PLN 27.9 billion). The high dynamics of this type of payment is primarily the result of dynamic development and extensive marketing activities, including advertising campaigns, aimed at popularising mobile payments using the BLIK scheme. A total of PLN 93.9 billion and 671.3 million transactions were executed in this scheme, respectively, representing 99.8% of the total value and 97.3% of the total number of transactions executed in all other schemes.

In accordance with Article 132zq (3) of the Payment Services Act and Article 3 and Article 4 of Regulation 2015/751, a card organisation operating a four-party scheme or recognised as a four-party scheme provides NBP with quarterly information required to check the accuracy of application of the level of the interchange fee (fees levied by the card issuer on its clearing agents for each payment card transaction). Accordingly, NBP analysed the level of interchange fees charged in 2019–2021 by individual card organisations, broken down into debit cards and credit cards. As a result of the analysis, no irregularities were found in the scope of application of the interchange fees by the organisations, i.e. the value of the fees did not exceed the statutory limit for cards issued to individual clients of 0.2% for debit cards and 0.3% for credit cards.

2.3 Securities clearing and settlement systems

Securities settlement systems are legal relationships governed by Polish law between at least three institutions⁵⁴ in the framework of which common rules for clearing or execution of settlement orders apply in transactions concluded in financial instrument trading, including derivatives (participant's orders related to the transfer of securities by means of relevant entries in the securities registers maintained or otherwise).

Source: Article 1 (2) and (12) (b) of the Settlement Finality Act.

⁵³ <https://polskabezgotowkowa.pl/sites/all/themes/awesomeit/files/dane/Zwyczajne-platnicze-a-rozwoj-sieci-akceptacji-kart-w-Polsce-PolasikResearch.pdf>

⁵⁴ Within the meaning of the Act on Trading in Financial Instruments, at least one of those institutions which are participants of the payment system or the securities settlement system and which are responsible for the fulfilment of the obligations stemming from the execution of settlement orders in the system should be the following: NBP, the central bank of another state, a domestic bank, a branch of a foreign bank, a credit institution or its branch, an investment company, or a public authority.

In 2021, similar to previous years, the following securities clearing and settlement systems operated in Poland:

- SKARBNET4 System for registration of NBP money bills and Treasury bills (hereinafter referred to as SKARBNET4);
- the clearing system of transactions concluded in financial instrument trading operated by KDPW S.A. (hereinafter referred to as the system operated by KDPW);
- the clearing system for transactions in financial instruments pursuant to Rules of Transaction Clearing (organised trading) operated by KDPW_CCP S.A. and the clearing system for transactions in financial instruments pursuant to Rules of Transaction Clearing (non-organised trading) operated by KDPW_CCP S.A. (both systems hereinafter jointly referred to as systems operated by KDPW_CCP);
- the securities clearing and settlement system of financial instruments operated by IRGiT S.A. (hereafter referred to as IRGiT SRF).

The oversight activities in 2021, as in previous years, involved mainly issuing opinions on requested amendments to the rules for the functioning of the securities clearing systems and securities settlement systems, monitoring of the functioning of these systems and the analysis of quantitative data as well as recorded incidents.

Resolutions of the Governor of NBP concerning securities clearing systems and securities settlement systems

In 2021, at the request of the KNF, the Governor of NBP issued four opinions in the form of resolutions: one opinion referred to the amendments to the Rules for KDPW_CCP, and three opinions were related to the amendments to the KDPW rules. The opinion with regard to KDPW_CCP concerned the consideration of additional risk factors in the determination by KDPW_CCP S.A. of the relevant margin requirements with respect to clearing participants, related to the identification of risk factors due to correlation, liquidity, and concentration risks. The proposed amendments to the KDPW rules resulted from the changes to the regulations contained in the *Act of 30 August 2019 amending the Act – Commercial Companies Code and certain other acts* and from the content of the current wording of Article 91 of the *Act of 29 July 2005 on Public Offering, Conditions Governing the Introduction of Financial Instruments to Organised Trading, and Public Companies*. The amendments include, among other things, the possibility for a shareholder registrar to obtain participation in the type of an issue sponsor, and introduce the possibility for the National Depository to handle remote votes conducted by the supervisory or governing body of a domestic issuer of shares registered with a securities depository, based on the e-Voting solution, as well as specifying the procedure to be followed in the event of a request from a non-public company for information identifying its shareholders, including information on the number of shares it holds and whether those shares are subject to pledge or usufruct.

Other oversight activities regarding securities clearing systems and securities settlement systems

In 2021, in accordance with the procedure set out in Article 49 of EMIR, NBP participated in the process of assessing the changes proposed by KDPW_CCP S.A. to the methodology for determining the value of the relevant margin requirements (organised market) and to the stress testing methodology (non-organised market). The college for KDPW_CCP expressed a positive opinion on KDPW_CCP S.A. making the above changes on 22 December 2021.

In 2021, NBP also participated in the assessment of the systemic importance of third country CCPs under Article 25 (2c) of EMIR.⁵⁵ Following the analytical work, on 1 December 2021 the Governor of NBP issued an opinion accepting the key conclusions of the ESMA's assessment that the services provided by LCH Ltd in relation to PLN-denominated clearing services shall be regarded as of a substantially systemic importance.

Other oversight activities exercised in 2021 concerned, in particular, the analysis and preparation of a position on the application submitted to NBP by the KNF of 12 February 2021 for the authorisation of the extension of the scope of activities of the KDPW S.A. pursuant to Article 19 (1) (b) of the CSDR. KDPW S.A.'s application concerned authorisation to provide data sales services to legal entities and natural persons conducting business in connection with their economic activities.

The oversight activities also related to the KNF's request for an opinion from the Governor of NBP in connection with the KNF's annual review and assessment of the activities of KDPW S.A. under Article 22(1) of the CSDR. Following a detailed assessment of how the securities settlement system operated by KDPW S.A. functioned during the period under review and assessment, i.e. from 3 March 2020 to 1 May 2021, a positive assessment of the amendments implemented to the system during the period under review was upheld.

At the beginning of 2020, the second edition of the *Survey on resilience of cyber security*, conducted in accordance with the survey template developed by the ECB, was completed. All systems analysed were classified as "Profile 2 – Progressive Model".⁵⁶ Recommendations and guidelines were formulated to strengthen the cyber resilience of the systems in question. In 2021, in cooperation with the UKNF, correspondence was exchanged with the operators of the surveyed systems, i.e. the securities settlement system operated by KDPW S.A., the securities settlement system operated by KDPW_CCP S.A. and the securities settlement system SKARBNET4 operated by NBP, concerning the implementation of the recommendations resulting from the second edition of the *Survey on resilience of cyber security* conducted in 2020. After analysing the information received from the operators, in a joint submission (on 9 August 2021), NBP and UKNF found the explanations relating to the implementation of the recommendations satisfactory.

⁵⁵ Regulation (EU) No 648/2012 of the European Parliament and of the Council of 4 July 2012 on OTC derivatives, central counterparties, and trade repositories.

⁵⁶ The profiles range from 1 to 10, where 1 is the highest level of cyber resilience and 10 is the lowest level.

Incidents in the securities clearing systems and securities settlement systems

There were 3 incidents in securities clearing systems and securities settlement systems in 2021 (there were 5 incidents in 2020 and 7 in 2019). The reasons of these incidents included mainly software errors and other technical problems. These incidents were not significant for the proper functioning of the payment system in Poland as a whole.

Analysis of statistical data concerning securities clearing systems and securities settlement systems

The statistical data show that in 2021, the securities clearing and settlement area was dominated by increases in the values of the operations carried out and decreases in their numbers compared to 2020. Compared to 2019, there were increases in both the number and value of transactions in almost all overseen systems (the only exception was the value of transactions in the KDPW S.A. system).

The total number of transactions cleared in the systems operated by KDPW_CCP S.A. in 2021 amounted to 42.1 million transactions in financial instruments (against 44.0 million in 2020, a decrease of 4.2%, and 21.9 million in 2019, an increase of 92.2%) with the total value of PLN 934.4 billion (against PLN 839.6 billion in 2020, an increase of 11.3%, and PLN 615.4 billion in 2019, an increase of 51.8%). In both the organised and non-organised markets, increases were recorded compared to the previous year in terms of the value (by 16.4% and 0.6%, respectively) of the transactions. The number of clearings made decreased in the organised market (by 4.2%) and increased in the non-organised market (by 13.3%).

SKARBNET4 saw 3.72 thousand debt instrument operations in 2021 (with a total of 4.37 thousand in 2020, which represented a decrease of 14.9%, and 3.46 thousand in 2019, which represented an increase of 7.3%) with a total value of PLN 22.7 trillion (with a total of PLN 15.6 trillion in 2020, an increase of 48.1%, and with PLN 9.5 trillion in 2019, an increase of 142.3%). Unlike in 2019, in 2020 and 2021, transactions in both NBP money bills and Treasury bills were performed in the SKARBNET4 system (in 2019 only transactions in NBP money bills were executed).

In 2021, a total of 13.7 million trade settlement operations were conducted in the settlement system operated by KDPW S.A. (against 15.0 million in 2020, a decrease of 8.7%, and against 6.6 million in 2019, an increase of 106.2%) with a total value of PLN 10.0 trillion (against PLN 9.7 trillion in 2020, an increase of 3.1%, and against PLN 12.6 trillion in 2019, a decrease of 20.7%). When analysing turnover for the organised market in relation to 2020, there was also a decrease in the number of settlements made (by 10.4%) and an increase in their value (by 57.3%). For the non-organised market, on the other hand, the situation was the opposite, as there was an increase in the number of settlement operations (by 8.6%) and a decrease in their value (by 0.8%).

In 2021, no financial transactions were processed in the IRGiT SRF system operated by the IRGiT S.A. company.

2.4 Provision of the acquiring service

Provision of the acquiring service means the activity facilitating the execution of payment transactions, initiated by the merchant or through it, using the payer's payment instrument, with the exception of activities of clearing and settlement of the payment transaction in the payment system, within the meaning of the Settlement Finality Act. The service consists of processing the authorisation, transferring the payer's or merchant's payment orders to the payment card issuer or payment systems, with the aim of transferring the due funds to the merchant.

Source: Article 3 (5) of the Payment Services Act.

Resolutions of the Governor of NBP concerning the provision of the acquiring service

The oversight of the provision of acquiring services exercised by the Governor of NBP consists mainly in issuing opinions (in the form of resolutions), on request of the Chair of the KNF Board, in relation to entities intending to offer acquiring services under their licence of the NPI.

In 2021, the Governor of NBP issued two opinions in respect of companies applying for permission to provide acquiring services:

1. By resolution of the Governor of NBP of 15 June 2021, the resolution of the Governor of NBP of 8 March 2021 containing a negative opinion on the provision of the acquiring service by Diviti Sp. z o.o. was revoked in its entirety and a positive opinion was given to the entity's application for the issuance by the KNF of a permit to provide payment services as an NPI with regard to the provision of the acquiring service.⁵⁷
2. By resolution of the Governor of NBP of 7 October 2021, the resolution of the Governor of NBP of 29 July 2021 containing a negative opinion on the provision of the acquiring service by IAI S.A. was revoked in its entirety and a positive opinion was given to the entity's application for the issuance by the KNF of a permit to provide payment services as an NPI with regard to the provision of the acquiring service.⁵⁸

Analysis of statistical data related to the provision of the acquiring service

At the end of 2021, the total number of entities holding the KNF's licence to operate as an NPI amounted to 40, whereas the number of NPIs holding authorisation to provide the acquiring service amounted to 24, decreasing by one NPI compared to the status at the end of 2020 and also at the end of 2019. In addition, as at 31 December 2021, there were 117 Small Payment

⁵⁷ On 14 July 2022, the KNF unanimously refused to issue a licence to provide payment services as a national payment institution, due to the applicant's failure to meet the requirements set out in the Payment Services Act.

⁵⁸ The KNF has not yet issued a final decision (as of 15 November 2022).

Institutions⁵⁹ (SPIs) listed in the Payment Services Register, 67 of which had capacity to provide the acquiring service (at the end of 2020, 82 SPIs operated, 46 of which had capacity to provide the acquiring service; at the end of 2019, there were 46 SPIs, 22 of which had the ability to provide the acquiring service).

In 2021, the number of transactions completed through acquiring service was 2.7 billion (with 2.2 billion in 2020, an increase of 24.4%, and with 1.9 billion in 2019, an increase of 44.7%), while the value of transactions was 301.1 billion (with 220.2 billion in 2020, an increase of 36.7%, and with 159.2 billion in 2019, an increase of 89.1%).

⁵⁹ As of 20 June 2019, a new category of entities, i.e. Small Payment Institutions (SPIs), was introduced by an amendment to the Payment Services Act, which, after being entered in the register of payment service providers kept by the KNF, may provide payment services to the extent and under the terms of the Act.

Chapter 3

Summary of the functioning of the payment system

In 2021, among the significant factors affecting the functioning of the Polish payment system, macroeconomic and market restrictions as well as the effects of legislative changes shall be mentioned.

Macroeconomic factors include the measures taken by the Polish government involving the introduction of pandemic restrictions⁶⁰ on the territory of the country in connection with the outbreak of the coronavirus pandemic as well as the decisions taken by the NBP Monetary Policy Council (MPC) to keep NBP interest rates unchanged at low levels for Q1, Q2 and Q3 2021, and to increase interest rates 3 times⁶¹ in Q4 2021, and to increase the required reserve ratio in October 2021.⁶²

The continuing state of the epidemic, which, despite the emergence of COVID-19 vaccines to improve epidemic conditions and the adaptation of operators to operating in epidemic conditions, significantly affected customer behaviour and the actions of payment service providers, resulting in a further increase in the importance and frequency of the use of remote purchasing channels and, consequently, payments.

The aforementioned factors had an indirect impact mainly on the functioning of payment schemes and securities clearing and settlement systems.

In summary, the Polish payment system in 2021 functioned properly, ensuring the safe and efficient conduct of clearing and settlement. The actions taken by system operators and payment scheme operators were, in NBP's view, appropriate and ensured the safe and efficient functioning of the payment system.

⁶⁰ Regulations of the Council of Ministers concerning establishing certain restrictions, orders, and prohibitions in connection with the occurrence of the state of an epidemic, issued under the Act of 5 December 2008 on the prevention and combating of infections and infectious diseases in humans.

⁶¹ The increase in the NBP reference rate by the MPC took place at its meetings on: 6 October 2021 (by 0.4 p.p., i.e. to 0.50%); 3 November 2021 (by 0.75 p.p., i.e. to 1.25%); and 8 December 2021 (by 0.50 p.p., i.e. to 1.75%).

⁶² The increase in the required reserve ratio from 0.5% to 2.0% took place at the MPC meeting on 6 October 2021.

Index of abbreviations

3CB	TARGET2 system operator – three central banks: Banca d’Italia, Deutsche Bundesbank, Banque de France
BGK	Bank Gospodarstwa Krajowego
BLIK scheme	BLIK payment scheme owned and operated by PSP
BLIK system	BLIK payment system owned and operated by PSP
BlueCash	A payment system owned and operated by Blue Media S.A.
CCP	central counterparty, i.e. the entity which becomes the sole buyer for all sellers and the sole seller for all buyers
CPMI	Committee on Payments and Market Infrastructures
CPSS	Committee on Payment and Settlement Systems
CROE	<i>Cyber resilience oversight expectations for financial market infrastructures</i> , ECB
CSD	central securities depositories
CSDR	<i>Central Securities Depositories Regulation – Regulation (EU) No 909/2014 of the European Parliament and of the Council of 23 July 2014 on improving securities settlement in the European Union and on central securities depositories and amending Directives 98/26/EC and 2014/65/EU and Regulation (EU) No 236/2012</i>
DDoS	distributed volumetric attack, which consists of attacking a given service or account from several computers simultaneously at the same time, with the consequence of blocking access to links or web services and interrupting system operation
EBA	European Banking Authority
ECB	European Central Bank

EMIR	<i>European Market Infrastructure Regulation</i> – Regulation (EU) No 648/2012 of the European Parliament and of the Council of 4 July 2012 on OTC derivatives, central counterparties, and trade repositories, as amended by Regulation (EU) 2019/2099 of the European Parliament and of the Council of 23 October 2019 amending Regulation (EU) No 648/2012 as regards the procedures and authorities involved for the authorisation of CCPs and requirements for the recognition of third country CCPs
ESMA	European Securities and Markets Authority
EU	European Union
EUR	euro
FMI	financial market infrastructure
GK KDPW	capital group consisting of KDPW S.A. and KDPW_CCP S.A.
IOSCO	International Organization of Securities Commissions
IRGiT S.A.	Izba Rozliczeniowa Giełd Towarowych S.A.
IRGiT SRF	a securities clearing and settlement system operated by IRGiT S.A.
KDPW S.A.	Krajowy Depozyt Papierów Wartościowych S.A.; a part of the GK KDPW
KDPW_CCP S.A.	a clearing house pursuing activity in the scope of clearing of transactions concluded on the domestic financial market, with the status of a central counterparty (CCP); a part of GK KDPW
KIR S.A.	Krajowa Izba Rozliczeniowa S.A.
KNF	the KNF Board
KSKOK	National Association of Cooperative Savings and Credit Unions
KSR	Krajowy System Rozliczeń – a retail payment system owned and operated by Fiserv Polska S.A. (formerly: First Data Polska S.A.)
LVPS	large-value payment system
MPC	Monetary Policy Council
NBP	Narodowy Bank Polski

NPI	national payment institution
OPS	office of payment services
P2P	peer-to-peer – direct payments between users of a scheme, e.g. BLIK mobile payments
PFMIs	<i>Principles for Financial Market Infrastructures</i>
PIRPS	prominently important retail payment system
POS	point of sale
PSP	Polski Standard Płatności sp. z o.o.
RTGS	real-time gross settlement
SIRPS	systemically important retail payment system
SKARBNET4	Registration system for NBP money bills and Treasury bills, i.e. the securities settlement system operated by NBP, functioning since 13 April 2015
SORBNET	Bank Account Operating System – a web version, Polish RTGS system for payments in PLN, functioning until 9 June 2013
SORBNET2	a new version of the SORBNET system, functioning since 10 June 2013
SPI	small payment institution
SSP	Single Shared Platform – common technology platform of TARGET2
TARGET2	Trans-European Automated Real-Time Gross Settlement Express Transfer System
TARGET2-NBP	Polish component of the TARGET2 system
T2S	TARGET2-Securities – a single platform enabling settlement of securities transactions in Europe, integrated with TARGET2
UKNF	the Polish Financial Supervision Authority

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