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Payment system in Poland



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Summary



Summary

The report describes the basic components of the payment system infrastructure in Poland as at the end of 2018, with particular emphasis on the role of Narodowy Bank Polski (NBP) as the central entity of this system. The first part of the report identifies the main participants of the payment system. Due to the multifaceted significance of NBP in the whole process of clearing and settlement taking place within the payment system, the role of the central bank in its basic areas of activity, i.e. in terms of regulation, operations, oversight and as a catalyst, is discussed in detail in the initial chapters.

It should be stressed that due to the critical importance of safe and efficient clearing and settlement in the economy, NBP does not limit its role to the necessary minimum, i.e. to provide technical infrastructure by operating payment systems. It is also involved in many other activities aimed at ensuring the best possible functioning of the entire system in Poland. This is manifested primarily by the active participation of NBP in law-making as well as direct oversight by the President of NBP of the main components of the payment system infrastructure. Aware of the importance of these functions for the efficient and safe operation of the payment system in Poland, in the previous years, NBP introduced measures aimed, among others, at significant reduction of interchange fees in card payments, enhancing consumer confidence in contactless cards and, in the wake of the financial crisis in 2008, strengthening the powers of the President of NBP in the area of payment system oversight.

The report presents also other institutions performing key functions in the Polish payment system. It points to Ministry of Finance and the Polish Financial Supervision Authority (KNF) as the major public administration entities holding important regulatory and supervisory powers. Moreover, attention was drawn to the role of the European Central Bank (ECB) as the main institution of the European Union (EU) with significance for certain mainly operational aspects of functioning of the payment system in Poland. NBP seeks to ensure broad participation of other providers in the operation of the payment system infrastructure, hence the considerable share of private entities in this respect. Therefore, the reference is made to such entities of key importance for the Polish system as Krajowa Izba Rozliczeniowa SA (KIR SA) and other operators of retail payment systems in Poland as well as entities belonging to the KDPW Capital Group (KDPW Group) operating clearing and settlement systems for financial instruments.

A separate chapter is devoted to regulatory framework due to its fundamental role in shaping the payment system setup. In some areas the role of regulations has increased significantly following the financial crisis of 2008, as a result of which international regulations related to trading in financial instruments, in particular OTC (over-the-counter) derivatives were strengthened. The core regulations in the remit of payment system are presented from the perspective of main actors (subjective side), on the one hand, and the subject matter of their operations (objective side), on the other. The subjective perspective encompasses the legal framework for key institutions in this regard, while the objective perspective covers the provisions on key elements of clearing and settlement infrastructure. Such classification results from the specific nature of operation of the payment system which consists mainly of systems, schemes and other clearing services and of their operators. A payment system, scheme or service combine the activities of many entities. Such systems offer necessary services as well

as pose their own risks and thus require specific regulations. This approach is reflected, inter alia in the method of exercising the supervision, which is split into prudential supervision exercised by KNF over market participants and oversight exercised by the President of NBP over among others, payment systems, payment schemes and securities settlement systems.

The report further discusses four main areas of payment system, forms of monetary settlements, payment schemes, interbank clearing and settlement mechanisms, i.e. payment systems, and financial instruments clearing and settlement systems.

First, the commonly used payment instruments for commercial settlements are presented. The role of cash and non-cash settlements, in particular (most widespread in Poland) payment cards and credit transfers, including innovative mobile payments, is described subsequently. The data presented in the report indicate an increase in the share of non-cash payments in the total number of transactions and a significant share and high availability of state-of-the-art payment forms.

The following chapter describes payment schemes defining the method of executing and processing payment transactions performed using a payment instrument handled by the scheme, including its issuance and acceptance. There are four payment card systems operating on the Polish market: Visa, Mastercard, Diners Club and American Express. The BLIK payment scheme operated by Polski Standard Płatności sp. z o.o. (which is at the same time a complete though not yet widely used solution), is an alternative to these systems, as well as other schemes, such as SkyCash or mPay. These schemes fully support clearing of payments executed with the use of instruments offered by payment organisations. Depending on the role of payment organisation, the scheme may follow a three-party or four-party model. The market is highly centralised (two largest payment card systems prevail: Visa and Mastercard), on the one hand, and operated by many competitive schemes, especially the so-called non-card schemes, on the other hand.

All interbank payments, including those mentioned above, executed using a payment instrument, are usually processed in payment systems operated by NBP and by other providers. The next part of the report is therefore devoted to the interbank payments clearing and settlement systems, i.e. payment systems. This section presents separately the large-value and retail payment systems. The majority of payments in economic turnover (in terms of number of orders) are executed in retail payment systems. In those systems, they are usually subject to netting, resulting in mutual net obligations and claims of system participants. The netting is performed in the largest retail payment systems several times during the business day within settlement sessions separately for payments in zloty and in euro. This arrangement enables a significant reduction of the number of transfer orders which are submitted by retail payment systems operators to large-value payment systems at NBP. The large-value payment systems, SORBNET2 (in zloty) and TARGET2-NBP (in euro),¹ operated by NBP, process payments from both retail payment systems and financial instrument clearing and settlement systems. This enables their final settlement on participants' bank accounts with NBP. This settlement is carried out continuously during the system's operating hours on business days on a gross basis in real-time (real-time gross settlement, RTGS). According to the data presented in the

¹ TARGET2-NBP is operated by NBP as regards the legal side of transactions. As regards the operational side, this is managed by the three Eurosystem central banks: Banque de France, Deutsche Bundesbank and Banca d'Italia.

report, the importance of the said systems is increasing, as the number and value of payments processed by them show an upward trend. KIR SA is the operator of the most important Polish retail payment systems, Elixir and Euro Elixir. In addition, systems clearing card payments play a significant role. These are the Polish National Clearing System (KSR) payment system (operated by First Data Polska SA) and two foreign systems – Polish National Net Settlement System, PNNSS (operated by Visa Europe Limited) and Global Clearing Management System, GCMS (operated by Mastercard Europe SA). In recent years, several new payment systems have emerged in the Polish payment system, with a much lower turnover value, which are, however, significant in terms of innovation and diversification of services. Their share in the payments market is steadily increasing. Such systems include the BLIK mobile payment system, operated by Polski Standard Płatności sp. z o.o. and the Express Elixir and BlueCash instant payment systems, operated by KIR SA and Blue Media SA, respectively. They enable processing of payments within a few minutes, 24 hours a day, 7 days a week, as opposed to standard retail payments, where entire settlement takes longer.

The payment system also encompasses securities settlement systems, comprising the registration, clearing and settlement systems for dematerialised financial instruments. There are two securities settlement systems in Poland: the system operated by Krajowy Depozyt Papierów Wartościowych SA (Central Securities Depository of Poland, KDPW SA) and the system operated by NBP. Considering that the dematerialisation of securities and book entry trading in financial instruments is in principle obligatory in the Polish capital market, it is essential to keep records of such dematerialised instruments and to provide systems handling transactions in these instruments, their clearing (determining mutual claims arising from such transactions) and settlement (transfer between securities accounts or derivative accounts and cash accounts of financial instruments and funds, respectively). These processes are performed by the statutory regulated central securities depository (CSD) - KDPW SA and its subsidiary - KDPW_CCP SA. Moreover, for NBP bills and Treasury bills, the central bank runs a separate depository, clearing and settlement system called SKARBNET4.

In its concluding part the report refers in particular to the key role of NBP at each level of the financial market infrastructure, i.e. as a regulator, operator, overseer and catalyst, in the smooth functioning and development of the Polish payment system. Furthermore, the conclusion points to the basic features of the Polish payment system. The system, as the overall study shows, demonstrates a high degree of operational security regarding both payment systems rules and payment services (an example of which is the low share of fraudulent transactions in the total number and value of card transactions in Poland). Moreover, this system is open to innovation, which is reflected, among others, in an accessibility of modern payment methods, such as mobile payments, contactless card payments or instant payments. The arrangements provided within the payment system enable swift payment settlement both in large-value and retail payment systems, including instant payment systems. In addition, the competitiveness in the Polish payment system is demonstrated, among others, by a large number of payment service providers, clearing forms, payment systems or payment schemes. An additional advantage of the Polish system is its interconnection with the European infrastructure, e.g. through the euro payment systems and, in the area of securities settlement, holding of multiple operational links with the European infrastructure as well as harmonisation, expressed in the adaptation of the Polish infrastructure to international standards and regulations, including those applicable in the European Union.

Introduction



Introduction

Narodowy Bank Polski plays a key role in the payment system. This role is multifaceted and is carried out at the regulatory, operational, oversight and catalyst levels. Given NBP's central role and its consciousness of the payment infrastructure importance for the Polish economy as well as the Bank's unique expertise in this respect, NBP acts to raise awareness of the financial market infrastructure as part of its educational activities. With the above premises in mind, NBP hereby presents a comprehensive report on the payment system in Poland, which is an updated version of the report „Payment System in Poland”² of July 2008. The purpose of the report is to briefly describe the functioning of the broadly defined infrastructure of the Polish payment system and the main directions of its evolution.

Over the last several years the Polish payment system has evolved significantly. In the area of large-value payment systems, the existing real-time gross settlement system for payments in zloty, i.e. the SORBNET system, was replaced in 2013 by the SORBNET2 system. Moreover, the integration in euro payments area – initiated by the launching of the TARGET single pan-European euro payment system – has been enhanced. TARGET was replaced by the new TARGET2 system, launched in November 2007 and offering basic services under harmonised rules on a single shared platform established and operated by the three central banks, so-called 3CBs.³ Hence, at national level a new euro payment system, TARGET2-NBP was established to replace SORBNET-EURO – the Polish component of the TARGET2 system.

As a result of innovative technologies development that influenced considerably the financial market infrastructure, retail payment systems have also significantly evolved in the recent years. It should be noted that Poland proved to be the leader of these changes in Europe. Both experienced market participants and new entrants took part in the process. In June 2012 KIR SA, the operator of the largest and most important retail payment systems on the Polish market, launched an instant payment system in zloty – Express Elixir. In November 2012 a similar system – the BlueCash payment system – was launched by Blue Media SA. On top of that, Polish banks undertook to create a new mobile payment scheme and system. In 2015, six banks established Polski Standard Płatności sp. z o.o., which has become the operator of the BLIK payment scheme and the BLIK mobile payment system (BLIK payment system).

Payment services represent another area of the Polish payment system where intensive development was observed. Modern consumer friendly forms of initiating payments were introduced mainly by the banking sector, which, in cooperation with the international payment organisations, ensures access to innovative solutions. As a result of these endeavours, Poland is currently the leader in the distribution of NFC (near-field communication) payment cards, while the share of contactless payments in the total number of non-cash card transactions is significant and is constantly growing. It is worth noting that in 2019 100% of terminals in physical points-of-sale offered a possibility to accept contactless payments. Although the use of cash is still widespread, efforts are undertaken to promote the development of non-cash payments. For example the activity of the Cashless Poland Foundation is focused on increasing the acceptance network for payment cards. As the result, the points-of-sale that have not accepted non-cash payments so far receive a free POS terminal and do not incur costs related

² https://www.nbp.pl/home.aspx?f=/system/system_payment.html.

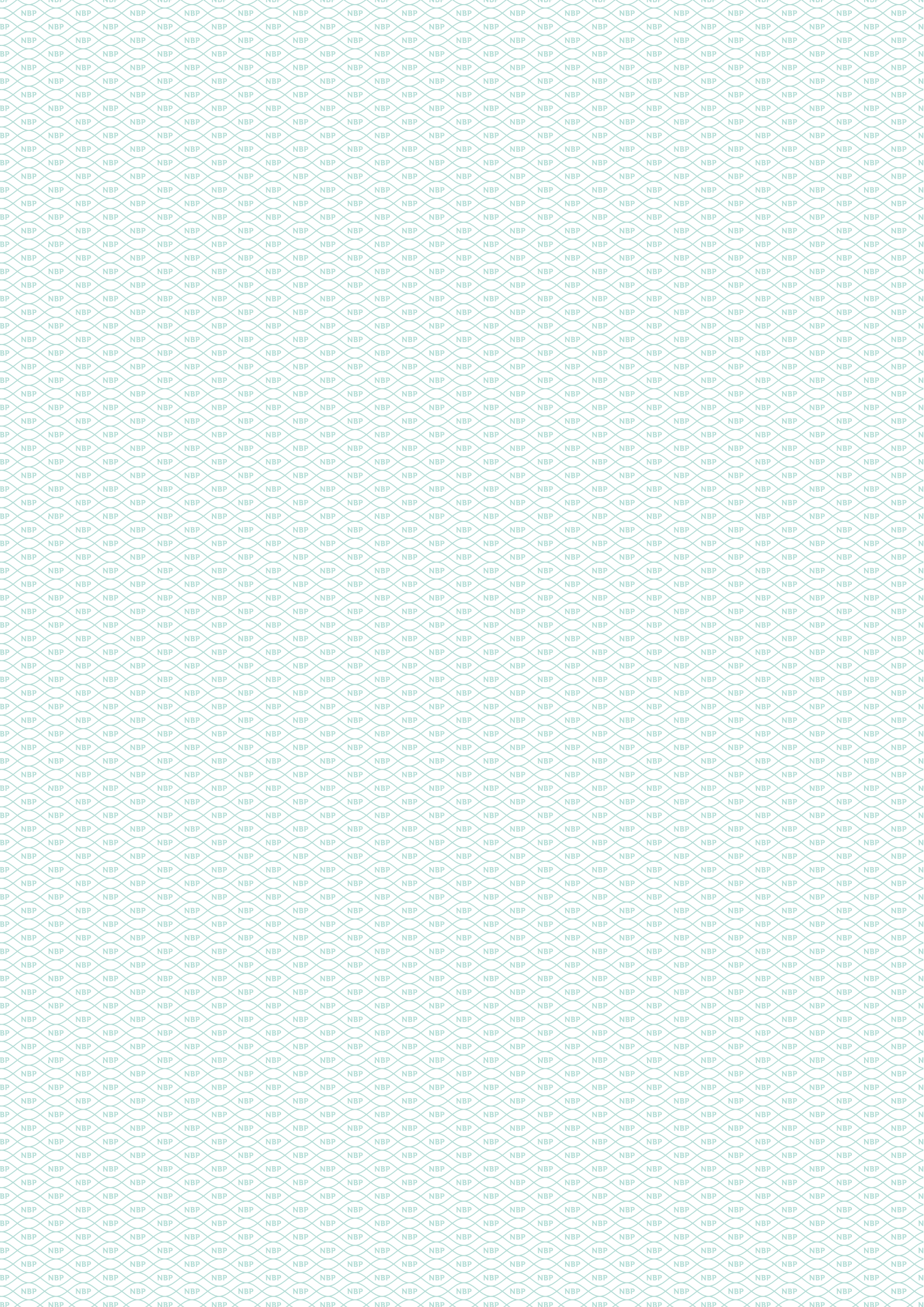
³ Banque de France, Deutsche Bundesbank and Banca d'Italia

to handling non-cash payments for 12 months. This contributes to a steady increase in the share of non-cash payments in the total number of transactions.

The infrastructure for clearing and settlement of financial instruments in Poland is also undergoing significant changes. Most notably, due to the alienation of the clearing function from KDPW SA, the first securities clearing house in Poland was established, KDPW_CCP SA., operating as a central counterparty (CCP) since 2014. Following the outbreak of the global financial crisis in 2008, the market for financial instruments was subject to a number of regulations at the EU level aimed at reducing risks in this area, among others, by increasing the transparency of the financial market, strengthening the supervision of infrastructure providers and harmonising rules of its operation.

As a result of the aforementioned significant changes in the Polish payment, clearing and settlement services market over the recent years, the payment system in Poland in 2018 differed considerably from the system described 10 years ago. Therefore, this report also presents the most significant developments in the Polish payment system experienced during this period.

The report is split into seven parts. The first chapter presents the core entities that form the payment system in Poland and their role. The second chapter describes the legal framework for its operation. The next four chapters focus on the individual financial market segments describing forms of payments (Chapter 3), payment schemes in Poland (Chapter 4), interbank clearing and settlement methods, i.e. within payment systems (Chapter 5) and financial instruments clearing, including securities clearing and settlement systems (Chapter 6). The Annex presents basic statistical data showing the level of development of the Polish payment system. Additionally, the report contains charts showing the turnover value and the number of transactions handled in the payment system.



Chapter 1

Institutional framework of the payment system in Poland



Institutional framework of the payment system in Poland

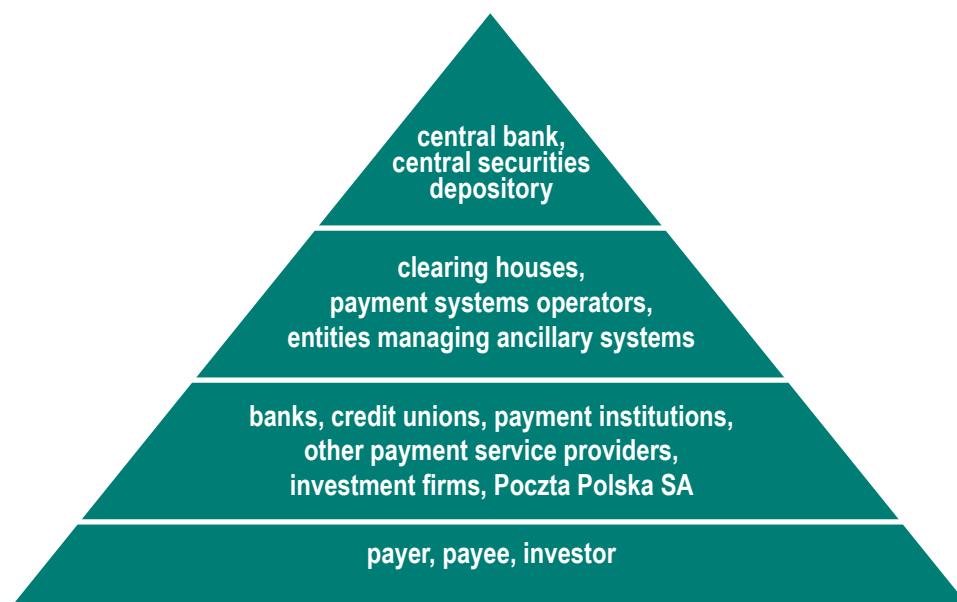
1.1. Entities participating in the payment system or influencing its operation

Participants of the payment system, which is understood as a set of instruments, procedures and systems that enable circulation of money or financial instruments within a country or currency area, form one of the basic elements of the payment system.

Participants of the payment system are grouped as follows:

1. First-tier participants - natural persons (consumers), enterprises or other entities that are parties to transactions executed in the system involving funds (payment transactions) or securities or other financial instruments (transactions in financial instruments), for example payers, payees, investors.
2. Second-tier participants - entities involved in the direct handling of transactions between first-tier participants, i.e. payment service providers (e.g. banks, payment institutions, credit unions) in relation to payment transactions and investment firms (e.g. brokerage houses and banks conducting brokerage activities) in relation to transactions in financial instruments.
3. Third-tier participants - intermediaries in clearing the transactions between second-tier participants or, in the case of payment transactions, their payment service providers, sometimes referred to as clearing agents. In the case of payment transactions, such participants in Poland include KIR SA and other entities operating payment systems with a clearing function (also referred to as payment system operators), i.e. Blue Media SA, Polski Standard Płatności sp. z o.o. and First Data Polska SA. This category also includes entities managing the so-called ancillary systems, participating in settlement systems, including in the case of transactions in financial instruments, among others, securities settlement systems operators (an example of which in Poland is KDPW_CCP SA).
4. Fourth-tier participants - entities holding payment service providers' funds or securities or other financial instruments and providing the final settlement between them directly (on the basis of payment service providers/investment companies' orders) or indirectly (on the basis of third-tier participants' orders). These are entities operating payment or securities settlement systems with a settlement function, also referred to as settlement agents, e.g. central banks conducting interbank settlement and entities holding securities deposits performing securities settlements. In Poland, these are NBP and KDPW SA.

Figure 1.1. Classification of payment system participants

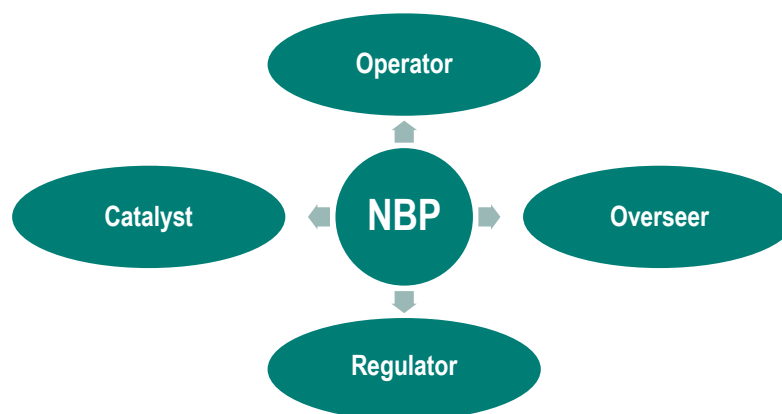


Source: NBP study

1.2. The Role of Narodowy Bank Polski

Narodowy Bank Polski is one of the entities playing a key role in the development of the Polish payment system. According to the Act on Narodowy Bank Polski,⁴ its responsibilities entail organising payments, establishing the conditions necessary for the development of the banking system and undertaking actions aimed at enhancing the stability of the financial system. While carrying out these tasks as well as acting pursuant to several other legal acts, NBP is a provider of payment services for eligible customers, e.g. the government and public institutions, a settlement agent for banks and payment system operators as well as the issuer of the currency (by issuing banknotes and coins, which are a commonly used and accepted means of payment and by creating non-cash money on bank accounts it operates). Moreover, NBP plays the role of a regulator (issuing regulations addressing mainly banks), a system operator (operating large-value payment systems and a securities settlement system), an overseer (exercising oversight of payment systems, payment schemes and securities settlement systems) and the role of a catalyst (e.g. through the Payment System Council) in the payment system.

⁴ Act of 29 August 1997 on Narodowy Bank Polski (Journal of Laws of 2019, item 1810).

Figure 1.2. NBP role in the payment system

Source: NBP study

1.2.1. The regulatory role

While carrying out its statutory tasks, NBP may undertake relevant actions of regulatory nature. Pursuant to the relevant regulations, in particular the Banking Act⁵ and the Act on Narodowy Bank Polski, the governing bodies of NBP (the President and the Management Board), are authorised to issue regulations within their competence. The most important legal acts related to the payment system issued by NBP bodies include: Ordinance of the President of Narodowy Bank Polski No 30/2017 on the manner of performing interbank clearing and interbank settlements⁶, Ordinance No 7/2017 of the President of Narodowy Bank Polski on the manner of numbering banks and bank accounts,⁷ Resolution No. 9/2013 of the Management Board of Narodowy Bank Polski on the terms and conditions of opening and maintaining banks' accounts by Narodowy Bank Polski⁸ and Resolution No 7/2015 of the Management Board of Narodowy Bank Polski on the introduction of the „Regulations on operating accounts and deposit accounts for Treasury bills and NBP bills by Narodowy Bank Polski in the SKARBNET4 system and performing securities transactions in this system”.⁹

Pursuant to Article 21(3)-(4) of the Act on Narodowy Bank Polski, in the performance of its tasks, NBP cooperates with the relevant state authorities, most frequently with the Minister of Finance (MF), and has the right to issue opinions on draft normative acts in the field of

⁵ Act of 29 August 1997 – the Banking Act (Journal of Laws of 2018, item 2187, as amended).

⁶ Ordinance No 30/2017 of the President of Narodowy Bank Polski of 26 October 2017 on the manner of performing interbank clearing and interbank settlements (Official Journal of NBP of 2017, item 21).

⁷ Ordinance No 7/2017 of the President of Narodowy Bank Polski of 20 February 2017 on the manner of numbering banks and bank accounts (Official Journal of NBP of 2017, item 9).

⁸ Resolution No 9/2013 of the Management Board of Narodowy Bank Polski of 24 May 2013 on the terms and conditions of opening and maintaining banks' accounts by Narodowy Bank Polski, (Official Journal of NBP of 2013, item 8, as amended).

⁹ Resolution No 7/2015 of the Management Board of Narodowy Bank Polski of 12 March 2015 concerning the introduction of the „Regulations on operating accounts and deposit accounts of Treasury bills and NBP bills by Narodowy Bank Polski in the SKARBNET4 system and performing securities transactions in this system” (Official Journal of NBP of 2015, item 18, as amended).

economic policy and concerning the activities of banks and significant to the banking system, including draft acts of law implementing EU directives into the Polish legal framework. In the area related to the payment system, the work on the Act on Settlement Finality¹⁰ and the Payment Services Act¹¹ are examples of such cooperation. NBP has no legislative initiative but it can act as a catalyst, which involves, among other things, presenting legislative proposals on the functioning of the Polish payment system to the relevant authorities, e.g. proposals of amendments to the Banking Act or the Act on Payment Services.

1.2.2. The operational role

NBP's main function in relation to payment services is servicing current accounts of banks and providing settlement for interbank payments.

Narodowy Bank Polski is the owner and the operator of the SORBNET2 and TARGET2-NBP systems which, as RTGS systems, i.e. real time gross settlement systems, provide the final settlement (irrevocable and unconditional execution of the submitted order) of individual orders (transaction by transaction, without their mutual netting) in a continuous (ongoing) manner in the course of the operating day (rather than at designated times). The settlement of the cash leg of transactions in financial instruments recorded in the KDPW SA, KDPW_CCP SA and in the SKARBNET4 systems is also performed in the SORBNET2 system. Through its link to TARGET2, the TARGET2-NBP system enables settlement of domestic and cross-border payments in euro.

NBP also offers settlement for payment systems operated by KIR SA. Net obligations and claims of banks, resulting from the exchange of payment orders in zloty or euro performed via KIR SA in Elixir and Euro Elixir, respectively, are settled in the SORBNET2 and TARGET2-NBP systems, respectively, within settlement sessions held at times agreed with NBP. In the SORBNET2 system, a fiduciary account of KIR SA is also maintained, where banks participating in the Express Elixir system, i.e. the instant payment system operated by KIR SA, maintain the liquidity necessary to carry out settlements in the Express Elixir system. NBP is also a direct participant of KIR SA systems. Through these systems, it issues and receives payments of State units and other NBP customers whose accounts are held with the NBP branches.

In addition, NBP is the operator of the SKARBNET4 securities settlement system used to operate securities accounts and deposit accounts of Treasury bills and NBP bills. SKARBNET4 applies real-time gross settlement procedures. With regard to certain operations, the settlement of related monetary obligations or claims is performed in the central bank money, i.e. on accounts in zloty held for SORBNET2 participants in the NBP Payment System Department (DSP) or on accounts in zloty with the NBP Regional Branch in Warsaw.

1.2.3. The role of the overseer

Narodowy Bank Polski performs a number of oversight tasks in relation to the payment system, the main objective of which is to mitigate the risk of potential disruption of the functioning of payment system infrastructure. The activities of the central bank in this area are referred to as payment system oversight.

¹⁰ Act of 24 August 2001 on Settlement Finality in Payment and Securities Settlement Systems and the Rules of Oversight of these Systems (Journal of Laws of 2019 item 212).

¹¹ Act of 19 August 2011 on Payment Services (Journal of Laws of 2019 item 659, as amended).

The President of NBP's oversight covers the following components of the payment system infrastructure:

- payments systems,
- payment schemes,
- securities clearing systems,
- securities settlement systems,
- the acquiring service provided by national payment institutions.

The scope of the oversight by the NBP President and the tools used to carry it out are, to a large extent, defined by the applicable national and EU regulations.¹² Moreover, the central bank's oversight, in particular the scope of responsibilities related to infrastructure oversight, has been consolidated in international standards.¹³

As part of the oversight of the above-mentioned payment system infrastructure, the President of the NBP shall in particular:

- assess rules of its operation,
- analyse information on its functioning,
- if needed, take action to induce changes in the way it operates.

While assessing the overseen infrastructure (among others, assessing the application of an entity intending to conduct business in the aforementioned scope or introduce changes in its operations), the President of NBP takes into account the compliance of the operating rules with the legal provisions and the need for these rules to ensure the efficiency and safety of its functioning. To this end, the NBP President evaluates the compliance of infrastructure operating rules with the requirements laid down in EU law and in the national legislation as well as those arising from international standards.

In addition, NBP constantly monitors the overseen infrastructure, collects and analyses statistical data and information on its operation, including incidents occurring in its operations (i.e. events that may disrupt its proper functioning).

Efficient and safe functioning of the payment system enables NBP to perform other basic tasks, contributing in particular to the stability of the financial system in Poland.

The objectives, scope and basic principles of the payment system oversight as well as the criteria for the assessment of the overseen infrastructure and oversight tools are presented in detail in the document adopted by the NBP Management Board entitled "Narodowy Bank Polski payment system oversight policy".¹⁴

1.2.4. The role of the catalyst

The role of the catalyst consists in the impact of NBP on the functioning of institutions and entities significant for the payment system in a way other than through the exercise of

¹² See Chapter 2.

¹³ See, in particular "Principles for financial market infrastructures", CPSS-IOSCO (currently, CPMI-IOSCO) 2012, <https://www.bis.org/cpmi/publ/d101a.pdf>, access: October 2019.

¹⁴ The first document in this regard, entitled "Narodowy Bank Polski payment system oversight policy" was adopted by the NBP Management Board in April 2004. The current version of the document is available at: https://www.nbp.pl/en/system_platniczy/payment-system-oversight-policy-Oct-2019.pdf.

regulatory, operational and oversight powers. It manifests itself, among others, in initiating or supporting the activities of many other entities and institutions in the payment system. This is mainly supported by the activities of the Payment System Council and cooperation with other entities.

Since July 1998, the coordination of the activities of NBP, the Polish Bank Association (ZBP), banks operating on the Polish market and other domestic institutions associated with the payment system has been provided by the Payment System Council, which acts as an advisory and consultative body to the NBP Management Board.¹⁵ The Payment System Council defines the strategic directions of payment system development, carries out ongoing analysis and assessment of the Polish payment system and legal regulations pertaining thereto. It also undertakes measures with the aim of integrating actions of the banking sector in the scope of the payment system and develops proposals of measures related in particular to:

- mitigation of systemic risk in the payment system,
- streamlining of payment transactions and increasing their safety, effectiveness and availability,
- limitation of financial exclusion,
- promotion of safe innovation in payments.

The Payment System Council is chaired by the Vice President of NBP and the deputy is the President of ZBP. Members of the Council also include: a representative of the Minister of Finance holding the rank of the secretary of state or undersecretary of state, a member of the NBP Management Board appointed by the President of NBP, the Chairperson of the KNF, the President of the Office of Competition and Consumer Protection, the President of KIR SA, the President of KDPW SA, the Chairman of the Clearing Agents Committee, presidents of several commercial banks appointed by the ZBP and the Director of the DSP acting as the Secretary of the Council. The Payment System Council meets at least four times a year at meetings resulting in communications published on the NBP website¹⁶ and draws up annual reports on its activities, submitted to the NBP Management Board for approval.

In matters related to the functioning of the payment system, NBP cooperates, in particular, with the following domestic institutions:

- Ministry of Finance – the cooperation consists mainly in participating in the legislative process in the scope of regulations concerning the banking system, the payment system and the payment services market, including undertaking actions aimed at introducing EU regulations into the Polish law;
- KNF - besides engagement in the oversight, the cooperation also involves participation in working groups dealing with financial innovation,
- Ministry of Development – the cooperation comprises activities (mainly legislative) related to the development of non-cash transactions,
- ZBP - the cooperation consists in the participation of NBP representatives in the committees, councils and working groups organised by the ZBP.

¹⁵ The Council was appointed pursuant to Resolution No 14/98 of the Management Board of Narodowy Bank Polski of 10 June 1998 on the appointment of a consultative and advisory body to the Management Board of Narodowy Bank Polski, called the Payment System Council, http://www.nbp.pl/systemplatniczy/rada/RSP_tekst_ujednolicony_10_05_2018.pdf, access: October 2019.

¹⁶ <https://www.nbp.pl/home.aspx?f=/systemplatniczy/rada/rada.html>

1.3. The role of other public and private institutions

1.3.1. Ministry of Finance

The Ministry of Finance is a governmental administration authority supporting, among others, the minister responsible for financial institutions. The Ministry of Finance deals, inter alia, with drafting of legal regulations for individual sectors of the financial market, including the payment system and takes measures aimed at maintaining financial stability, including the cooperation with the Bank Guarantee Fund (BFG), the KNF and NBP within the Financial Stability Committee. The Minister of Finance issues treasury securities: Treasury bills and Treasury bonds.

Since 2006, the Financial Market Development Council has been operating under the auspices of the Minister of Finance as a consultative and advisory body. Besides the Minister of Finance, the Council is composed of, among others: the President of NBP, the Chairperson of the KNF, Presidents of KDPW S.A. and the Warsaw Stock Exchange (GPW SA), BondSpot SA, the ZBP and the BFG. The Council's objective is to support the development of the financial market in Poland. Its tasks include, in particular: assessment of the current state and the outlook of financial market development, the analysis of the legal status of the financial market as well as drafting financial market regulations and issuing opinions concerning the identification of barriers to the development of this market, improvement of trading in financial instruments and protection of financial services customers as well as formulating proposals of measures aimed at development of the financial market.

1.3.2. Polish Financial Supervision Authority

The main authority exercising microprudential supervision of the Polish financial market is the KNF Board supported by its office - the Polish Financial Supervision Authority (UKNF), which supervises the financial market infrastructure and its participants. Pursuant to the Act on Financial Market Supervision,¹⁷ the KNF supervises, in particular, the banking, pension and insurance sectors, payment institutions, payment service offices, electronic money institutions, rating agencies, credit unions and the National Association of Cooperative Savings and Credit Unions as well as - pursuant to the Act on Capital Market Supervision¹⁸ - among others, over KDPW SA, KDPW_CCP SA, operators of clearing houses, settlement arrangements and platforms for trading in financial instruments, over brokerage and custody services as well as investment funds and commodity exchanges.

As part of the exercised supervision, the KNF grants authorisations for the entities that make up the market infrastructure. In particular - pursuant to the Act on Settlement Finality and the Act on Trading in Financial Instruments¹⁹ - the KNF oversees securities settlement sys-

¹⁷ Act of 21 July 2006 on Financial Market Supervision (Journal of Laws of 2019 item 298, as amended).

¹⁸ Act of 29 July 2005 on Capital Market Supervision (Journal of Laws of 2018 item 1417, as amended).

¹⁹ Act of 29 July 2005 on Trading in Financial Instruments (Journal of Laws of 2018, item 2286, as amended).

tems.²⁰ In accordance with the Act on Settlement Finality, maintaining of securities settlement systems requires a KNF license to operate:

- a clearing house (except for systems operated by KDPW SA, KDPW_CCP SA and NBP) - issued after consultation with the President of NBP pursuant to the Act on Trading in Financial Instruments;
- CCP - issued after the consultation with the college pursuant to Regulation No 648/2012 (European Market Infrastructure Regulation, EMIR);²¹
- CSD - issued pursuant to Regulation No 909/2014 (Central Securities Depositories Regulation, CSDR).²²

Moreover, pursuant to the Act on Payment Services, the KNF grants authorisation for the provision of payment services as a domestic payment institution, which in the case of an application for the provision of the acquiring service is issued after consultation with the President of NBP, and as a domestic electronic money institution.

The tasks of the KNF also include day-to-day supervision of entities forming the payment system infrastructure, including control activities, i.e. on-site inspections. The KNF also issues decisions concerning the admission of financial instruments to trading and keeps records of such decisions. The objective of financial market supervision is to ensure confidence in the financial market, its proper functioning, stability, security and transparency, compliance with fair trading rules, and to protect the interests of market participants.

The KNF also participates in the drawing up of draft legislation on the financial market, carries out information activities (publication of warnings and announcements) and participates in the resolution of disputes between market participants. While carrying out its tasks, the KNF cooperates with the European Securities and Markets Authority (ESMA) as well as with the European Commission and the ECB.

1.3.3. European Central Bank

The shape and functioning of the Polish payment system is also influenced by the ECB, which, in accordance with Articles 127(4) and 282(5) of the Treaty on the Functioning of the European Union,²³ holds consultative powers in the process of adopting the EU law and draft national legislation on matters falling within its competence. Under the fifth indent

²⁰ The term “securities settlement system” used in this report also refers to other financial instruments. Pursuant to Article 3(1) of the Act on Trading in Financial Instruments, securities comprise shares, pre-emptive rights, rights to shares, subscription warrants, depositary receipts, bonds, mortgage bonds, investment certificates and other transferable securities issued under the relevant regulations of the Polish or foreign law and derivative rights. On the other hand, financial instruments represent a broader category which, in addition to securities, also includes other financial instruments, including participating rights in collective investment undertakings, money market instruments and derivatives. In addition, the concept of the securities settlement system covers all processes leading to the settlement of transactions in financial instruments, including clearing. This term is used with the same meaning in the Act of 24 August 2001 on the Settlement Finality in Payment and Securities Settlement Systems and the Rules of Oversight of these Systems (Journal of Laws of 2019, item 212).

²¹ 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 L 201, 27.07.2012, as amended).

²² 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 (OJ L 257 of 28.08.2014).

²³ Treaty on the Functioning of the European Union (OJ C 326 of 26.10.2012).

of Article 2(1) of the EU Council Decision,²⁴ these include issues relating to payment and settlement systems. Article 127(4) of the aforementioned Treaty and the aforementioned decision of the EU Council are not covered by the derogation referred to in Article 139(2) of the Treaty, which means that they apply to Poland. Although ECB opinions are not binding on the bodies involved in the legislative process and therefore do not suspend the legislative procedure, they have a significant impact on the law-making process. The activities and standards developed by the ECB and the committees of the European System of Central Banks (including the Market Infrastructure and Payments Committee (MIPC), Euro Retail Payments Board (ERPB) and Euro Cyber Resilience Board (ECRB)) represent a significant reference point for the activities of NBP.

1.3.4. Krajowa Izba Rozliczeniowa SA

KIR SA (National Clearing House) is a key entity in the infrastructure of the Polish payment system. Its shareholders include NBP, certain banks and the ZBP. The clearing house provides comprehensive clearing services (it is the operator of retail payment systems: Elixir, Euro Elixir and Express Elixir, and until recently was also the operator of the Inkart system) and provides technological solutions for the banking and payment sector. The activities of KIR SA comprise providing:

- interbank settlements in zloty and euro,
- services supporting non-cash payments, including card, mobile, internet and invoice payments,
- shared services and conducting R&D activities for the banking sector,
- services supporting the participation of the banking sector in programmes addressed to public administration.

1.3.5. KDPW Group

The KDPW Group is a key element of post-trade capital market infrastructure. It comprises: KDPW SA and KDPW_CCP SA.

KDPW SA is an institution responsible for managing and supervising the depository of securities and the settlement system for transactions concluded in trading in financial instruments. KDPW SA also provides services to issuers of securities, such as intermediation in the payment of dividends to shareholders, assimilation, exchange, conversion and split of shares, exercising the subscription rights. The shareholders of the company are the State Treasury, GPW SA and NBP, each with equal share.

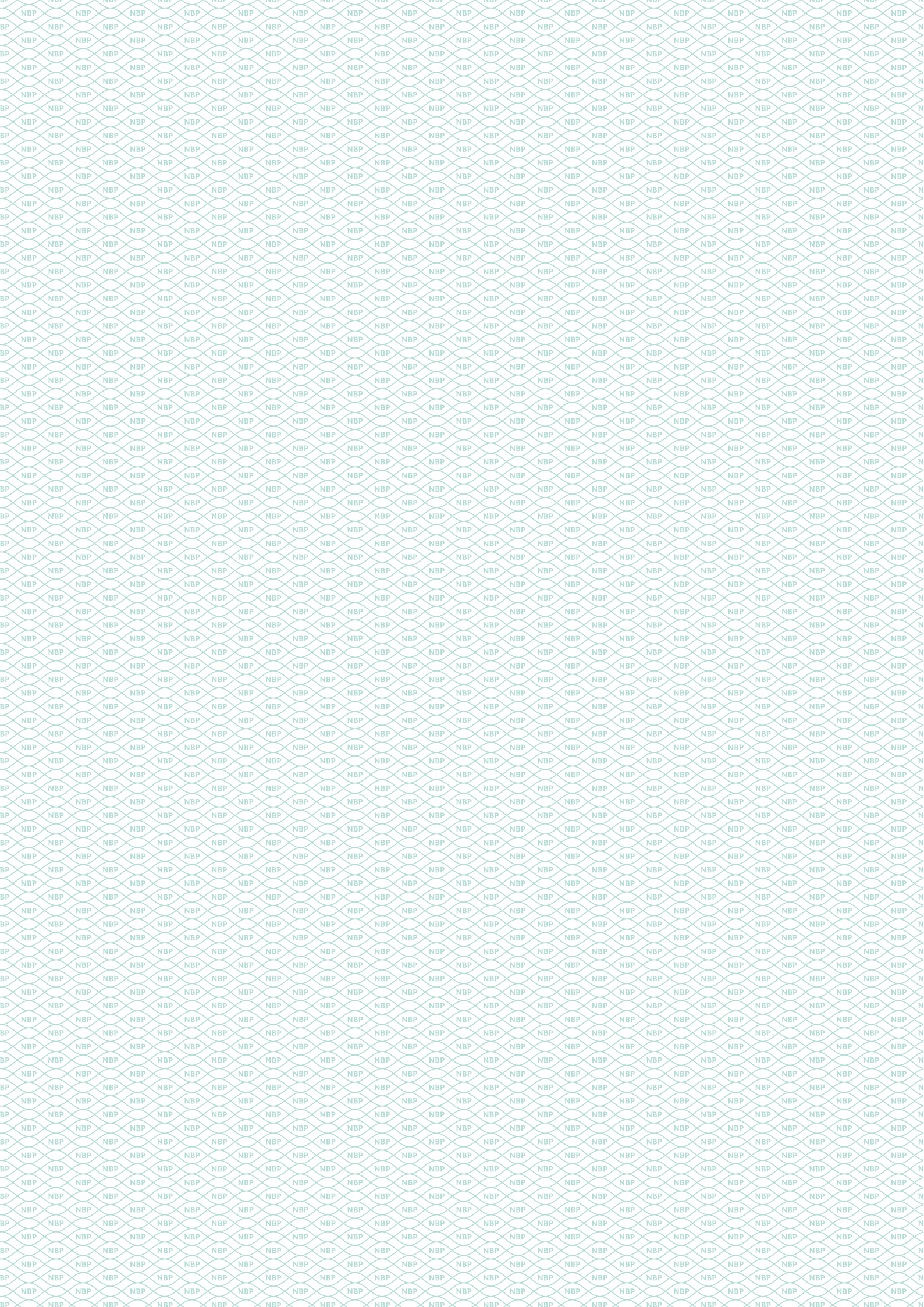
KDPW_CCP SA acts as a clearing house with CCP status. The company is responsible for clearing of transactions concluded on the spot and futures markets, both in the organised and non-organised trade as well as providing the system for securing transaction liquidity clearing. An important feature of KDPW_CCP SA is that it owns funds, which can be used within the aforementioned system, which has a positive impact on the clearing safety. The sole shareholder of KDPW_CCP S.A. is KDPW SA.

²⁴ Council Decision No 98/415/EC of 29 June 1998 on the consultation of the European Central Bank by national authorities regarding draft legislative provisions (OJ L 189 of 3.07.1998).

1.3.6. Other entities

Many other institutions, both public and private also play an important role in the functioning of the Polish payment system. They include:

- public institutions and bodies responsible for protection of the rights of first-tier payment system participants (i.e. customers of payment service providers), e.g. the Office of Competition and Consumer Protection and the Financial Ombudsman;
- unions and associations of payment service providers, e.g. independent banks chambers representing the sector in discussions on the payment system and often engage various actions in the area of the payment system, e.g. standardisation; such associations include the ZBP and the National Association of Cooperative Banks;
- global and domestic payment organisations (e.g. card organisations) operating payment schemes; in the case of Poland, they include, among others, the following organisations: Visa, Mastercard, American Express, Diners Club and Polski Standard Płatności sp. z o.o.;
- payment system operators: First Data Polska SA operating KSR, Polski Standard Płatności sp. z o.o. operating BLIK payment system and Blue Media SA operating BlueCash instant payment system;
- operators of financial instrument trading platforms, i.e. GPW SA and BondSpot SA;
- institutions and bodies responsible for developing of norms and standards, i.e. Polski Komitet Normalizacyjny (the Polish Committee for Standardization) and its technical committees;
- other non-governmental organisations and bodies representing relevant participants in the payment system, e.g. consumers, merchants or other traders, or bringing together different actors, acting in the field of the payment system, e.g. the Coalition for Cashless Transactions and Micropayments or the Cashless Poland Foundation.



Chapter 2

Legal framework of the Polish payment system



Legal framework of the Polish payment system

2.1. General overview

The functioning of the payment system in Poland is regulated by generally applicable acts of law, such as statutes, regulations of the Council of Ministers or regulations of the minister competent for financial institutions as well as lower rank acts, such as resolutions of the NBP Management Board or ordinances of the President of NBP. Moreover, the shape of the Polish payment system is significantly influenced by EU legal acts, i.e. directives requiring implementation to the Polish legal system as well as regulations and their implementing acts, which are binding in their entirety and directly applicable.²⁵

2.2. Subjective regulations

NBP is one of the entities which plays a key role in the development of the Polish payment system. The functioning of NBP is regulated by the Act on Narodowy Bank Polski, which defines, among others, its legal status, the purpose of its activity and tasks, the organisation, detailed rules for appointing and dismissing its bodies and rules of cooperation with state authorities. In accordance with the Act on Narodowy Bank Polski, tasks of NBP include, among others: organising payments, establishing the conditions necessary for the development of the banking system and undertaking actions aimed at enhancing the stability of the financial system and mitigating systemic risk. Moreover, in accordance with the above mentioned Act, the tasks of the NBP Management Board include a periodical evaluation of payments, cash circulation as well as foreign exchange transactions. Article 51(1) of the Act on Narodowy Bank Polski defines entities for which NBP holds accounts, while subparagraph 2 forms the basis for the NBP Management Board to issue a resolution on terms and conditions for opening and operating bank accounts. Pursuant to the provisions of the Banking Act and the Act on Narodowy Bank Polski, the governing bodies of NBP (the President and the Management Board) are authorised to issue detailed regulations falling within their competence.

The key regulations regarding banks operation in Poland are set out in the Banking Act, which lays down principles of providing banking services, establishing and organising banks, their branches and representative offices of foreign banks as well as branches of credit institutions and the banking supervision. In addition, the law contains provisions on recovery plans, early intervention, liquidation and bankruptcy of banks. In accordance with the Banking Act, the State Treasury or banks together with banking chambers of commerce may establish clearing houses in the form of commercial companies in order to exchange payment orders and determine mutual claims resulting from these orders. KIR SA plays such a role in Poland. The cooperative banks are operated according to the Act on the functioning

²⁵ The requirements set out in the EU regulations on the payment system were developed in accordance with international standards contained in the document entitled „Principles for financial market infrastructures”, CPSS-IOSCO, 2012.

of cooperative banks, their association and associating banks²⁶ as well as the Banking Act and the Act on Cooperative Law.²⁷ The Act on the functioning of cooperative banks defines rules of organisation, conduct of business and association of cooperative banks and banks associating cooperative banks as well as the establishment and operation of the protection system and integrated association. The Act on Credit Unions²⁸ sets out rules of establishment, organisation and operation of credit unions and the National Association of Cooperative Savings and Credit Unions as well as their supervision.

The Act on Payment Services lays down, inter alia, rules of business conduct by payment institutions, small payment institutions, account information service providers, payment service offices, electronic money institutions and branches of foreign electronic money institutions, including agents services.

The rules of operation of the BFG are instituted by the Act on the Bank Guarantee Fund²⁹ which defines, inter alia, the purpose, tasks and organisation of the BFG, the rules of operating the mandatory deposit guarantee scheme, preparing and carrying out recovery of financial institutions likely to fail, including, inter alia, the protection of clearing and settlement systems in the recovery process and collecting and using information by the Fund. Electronic money within the meaning of the Act on Payment Services and funds received in exchange for electronic money do not fall under the purview of the BFG guarantee protection.

Apart from NBP and banks, KDPW SA, KDPW_CCP SA and brokerage houses are the key entities of the securities settlement infrastructure. The functioning of KDPW SA is regulated by the Act on Trading in Financial Instruments. Pursuant to Article 46 of this Act, it operates in the form of a joint stock company. Its shares are solely registered shares. The Act enlists entities eligible as shareholders of KDPW SA, which include operators of a regulated market, investment firms, banks, the State Treasury, NBP and other entities dealing with securities registration, clearing or settlement of transactions in securities. The Act also defines the tasks of KDPW SA, the minimum amount of its equity, the procedure for enacting and content of its rules and their amendment, rules for participation and registration of securities and rules for running the compensation scheme.

Acting as a CSD, KDPW SA is also subject to the CSDR regulation, which lays down uniform EU requirements for the provision of settlement services and rules of establishment and operation of CSDs. The Regulation and its implementing acts³⁰ regulate in detail the procedure of CSD licensing and its supervision by so-called competent and relevant supervisory authorities as well as organisational requirements, including the establishment of a user committee and outsourcing, conduct of business rules, including participation and fees, services requirements, including those related to integrity of issues, securities segregation and settlement finality, prudential requirements, including management of legal, business, operational, investment

²⁶ Act of 7 December 2000 on the functioning of cooperative banks, their association and associating banks (Journal of Laws of 2018, item 613, as amended).

²⁷ Act of 16 September 1982 Cooperative Law (Journal of Laws of 2018, item 1285, as amended).

²⁸ Act of 5 November 2009 on Credit Unions (Journal of Laws of 2018, item 2386, as amended).

²⁹ Act of 10 June 2016 on the Bank Guarantee Fund, Deposit Guarantee Scheme and Resolution (Journal of Laws of 2019, item 795, as amended).

³⁰ In particular, Commission Delegated Regulation (EU) No 2017/392 of 11 November 2016 supplementing Regulation (EU) No 909/2014 of the European Parliament and of the Council with regard to regulatory technical standards on authorisation, supervisory and operational requirements for central securities depositories (OJ L 65 of 10.03.2017).

risk and capital requirements as well as the requirements concerning operational links. In accordance with the aforementioned regulation, only CSDs authorised under this regulation may operate securities settlement systems. They may also provide services across the EU after a prior notification of the competent supervisory authority. Moreover, they have the right to access other market infrastructure providers (CCPs and trading platforms which also have an access to CSD services and other CSDs) and may offer additional banking services, however, only after obtaining of the relevant license.

The rules of operation of KDPW_CCP SA as a company to which KDPW SA has outsourced the clearing of transactions are set out in the Act on Trading in Financial Instruments and, in particular, in the EMIR Regulation, under which the company was authorised as the CCP. This regulation and its implementing acts lay down uniform requirements for CCPs, including the procedure of licensing a CCP to offer services in the EU. Such licenses shall be granted by the competent authority after consulting the college composed, among others, of representatives of the market participants supervisors (CCP clearing members, trading venues and the central securities depository), ESMA (without voting rights) as well as the central bank of issue of the most relevant currency for the CCP³¹ in which clearing is performed in that CCP. The regulation and its implementing acts³² also outline detailed organisational requirements, including the establishment of a risk committee, business continuity and outsourcing, conduct of business rules, including participation, fees, segregation and portability of assets and positions, the right to use funds by a CCP and the requirements concerning interoperability arrangements with other CCPs.

Moreover, the Act on Trading in Financial Instruments establishes requirements on the operation of the clearing and settlement houses carrying out clearing and settlement of transactions in financial instruments. In accordance with Article 68a of the Act, these clearing and settlement houses may be operated only by a joint stock company. Launching a clearing or settlement house requires an authorisation of the KNF issued after consultation with the President of NBP. The company operating a clearing or settlement house may participate in settlements performed by NBP. The Act also defines the scope of the activity of the clearing and settlement houses, the minimum capital, the procedure for adoption and content of rules and their amendment.³³

The Act on Trading in Financial Instruments together with its implementing acts and EU law also establish rules on operation of financial instruments trading platforms, i.e. the regulated market, the alternative trading system (ATS)³⁴ and the organised trading facility

³¹ In accordance with Article 1 of Commission Delegated Regulation (EU) No 876/2013 of 28 May 2013 supplementing Regulation (EU) No 648/2012 of the European Parliament and of the Council with regard to regulatory technical standards for colleges of central counterparties (OJ L 244 of 2013), the most relevant Union currencies shall be the three currencies with the highest relative share in the CCP's average end-of-day open positions across all financial instruments cleared by the CCP, calculated over a period of one year, provided that each individual share exceeds 10%.

³² In particular, Commission Delegated Regulation (EU) No 153/2013 of 19 December 2012 supplementing Regulation (EU) No 648/2012 of the European Parliament and of the Council with regard to regulatory technical standards on requirements for central counterparties (OJ L 52, 23.02.2013, as amended).

³³ The authorisation to operate the clearing house was granted to the IRGiT SA which has not undertaken activities in that scope so far.

³⁴ Alternative trading system or "ATS" means a multilateral system outside a regulated market which brings together buying and selling offers in financial instruments in such a way that transactions are concluded within that system in accordance with specific rules and in a non-discretionary manner.

(OTF).³⁵ With regard to the regulated market, the Act defines the legal form of the market operator, capital, organisational and prudential requirements, the authorisation procedure by the KNF and the contents of the rules. Moreover, the aforementioned legal act sets out the conditions for conducting brokerage activities by brokerage houses and other investment firms.³⁶ The Act defines the legal form of a brokerage house, the capital, organisational and prudential requirements, the remedial procedure, the authorisation procedure by the KNF to provide brokerage services by investment firms and its scope as well as the course of the business, including the obligation to apply the best execution, the outsourcing requirements, the obligation to employ staff with appropriate qualifications (i.e. investment advisers or securities brokers), the obligation to ensure security and continuity of services provided, and the obligation to protect the interests of clients and confidential information. In accordance with the Act, brokerage houses may establish chambers of commerce and provide brokerage services across the EU. The Act also establishes the rules on conducting brokerage and custody activities by banks as well as rules of performing the profession of securities broker and investment advisor. The Act on Trading in Financial Instruments also sets out the rules of services entailing providing information on transactions through an approved publication arrangement (APA), a consolidated tape provider (CTP) and an approved reporting mechanism (ARM).

The Act on Trading in Financial Instruments reflects Directive 2014/65/EU (Markets in Financial Instruments Directive II, MiFID II) in the Polish law system in this respect.³⁷ It establishes rules on investment firms authorisation and the conduct of their business, trading platforms operators and information sharing service providers, the course of providing investment services and conduct of business by third country firms as well as rules of supervision of the aforementioned entities. The provisions are supplemented by Regulation No 600/2014/EU (Markets in Financial Instruments Regulation, MiFIR).³⁸

The EMIR Regulation sets out rules of trade repositories oversight and of their operation. In accordance with the Regulation, trade repositories are subject to a registration obligation and direct supervision by the ESMA.

In order to assist individuals in disputes with financial market entities, an institution of the Financial Ombudsman was established in Poland according to the Act on the handling of complaints by financial market entities and the Financial Ombudsman.³⁹ This Act sets out rules for handling complaints by financial market entities submitted by their clients, the activities of the Financial Ombudsman and rules of the Financial Education Fund. The activities of the Financial Ombudsman focus on providing advice, making interventions and participating in amicable proceedings, including support during court proceedings.

³⁵ Organised trading facility or “OTF” means a multilateral system which brings together on a discretionary basis third-party buying and selling offers in bonds, structured finance products, emission allowances, derivatives or wholesale energy products executed by delivery other than a regulated market or an ATS.

³⁶ Pursuant to Article 3(33) of the Act, an investment firm is a brokerage house, a bank conducting brokerage activities, a foreign investment firm conducting brokerage activities in the territory of the Republic of Poland and a foreign legal person established in a country other than a Member State conducting brokerage activities in the territory of the Republic of Poland.

³⁷ Directive 2014/65/EU of the European Parliament and of the Council of 15 May 2014 on markets in financial instruments, amending Directive 2002/92/EC and Directive 2011/61/EU (OJ L 173/349 of 12.06.2014).

³⁸ Regulation (EU) No 600/2014 of the European Parliament and of the Council of 15 May 2014 on markets in financial instruments (OJ L 173, 12.06.2014, as amended).

³⁹ Act of 5 August 2015 on examining the complaints by entities of the financial market and on the Financial Ombudsman (Journal of Laws of 2018, item 2038, as amended).

2.3. Legal framework of payment services market

The key regulations on the payment services market in Poland are set out in the Act on Payment Services, which establishes rules for provision of payment services, as well as conditions for issuing and redeeming electronic money and rules for exercising supervision of entities providing payment services and of payment schemes. This Act has been adapted to the requirements of Directive 2015/2366/EU (Payment Services Directive II, PSD II),⁴⁰ designed to create a coherent legal framework for the payment services market in the EU, taking into account the development of new technologies. It should be noted that with the implementation of PSD II, new types of payment services have been introduced in the Act on Payment Services, such as the payment initiation service (PIS) or the account information service (AIS). They are based on access to a payment account, however, are performed by providers who may not operate the account. As a consequence, the catalogue of payment service providers has been extended to include also providers providing the above-mentioned services.

The Act on Payment Services implements also the regulations introduced by Directive 2009/110/EC (Electronic Money Directive II, EMD II)⁴¹ regarding the issuance, redemption and distribution of electronic money as well as the provision of payment services by electronic money institutions and oversight of those entities. Moreover, the Act has implemented the provisions of Directive 2014/92/EU (Payment Accounts Directive, PAD)⁴² establishing rules on the transparency and comparability of fees for consumers payment accounts, payment account switching domestically and the facilitation of cross-border account-opening for consumers as well as rules concerning holding a payment account with basic features. The Act provides that the payment account with basic features may be opened by a consumer who does not have another payment account in the Polish currency in the Republic of Poland (RP). This account enables the consumer to deposit and withdraw money on preferential terms, place transfer orders and direct debits as well as perform payment card transactions.

Moreover, under Article 4a(5) of the Act, the Regulation of the Minister of Development and Finance on identifiers and settlement numbers assigned to certain payment service providers and unique identifiers assigned to accounts maintained by these providers was issued.⁴³ This regulation outlines, inter alia, rules on assigning unique identifiers to payment accounts held by non-bank payment service providers. The Act and its implementing regulations require these providers to assign unique identifiers to payment accounts in accordance with the Bank Account Number (NRB) standard in relation to accounts used for domestic settlements and the International Bank Account Number (IBAN) standard for accounts used for cross-border settlements. This will allow them to participate more effectively in the domestic and European payment systems.

⁴⁰ Directive 2015/2366/EU of the European Parliament and the Council of 25 November 2015 on payment services in the internal market, amending Directives 2002/65/EC, 2009/110/EC and 2013/36/EU and Regulation (EU) No 1093/2010, and repealing Directive 2007/64/EC (OJ L 337, 2.12.2015, as amended).

⁴¹ Directive 2009/110/EC of the European Parliament and of the Council of 16 September 2009 on the taking up, pursuit and prudential supervision of the business of electronic money institutions amending Directives 2005/60/EC and 2006/48/EC and repealing Directive 2000/46/EC (OJ L 267, 10.10.2009, as amended).

⁴² Directive 2014/92/EU of the European Parliament and of the Council of 23 July 2014 on the comparability of fees related to payment accounts, payment account switching and access to payment accounts with basic features (OJ L 257 of 28.08.2014).

⁴³ Regulation of the Minister of Development and Finance of 5 July 2017 concerning identifiers and sort codes assigned to certain providers of payment services and unique identifiers assigned to payment accounts operated by such providers (Journal of Laws of 2017, item 1360).

The Banking Act defines possible methods of monetary settlements through banks, i.e. cash settlements (by cashier's cheque or by paying cash to the creditor's account) and non-cash settlements (in particular, by means of a credit transfer, direct debit, settlement cheque or payment card).

Rules concerning cross-border credit transfers and direct debits are laid down in Regulation No 924/2009,⁴⁴ recently amended by Regulation No 2019/518.⁴⁵ It aims to ensure that charges for cross-border payments in euro across the EU are the same as those for corresponding national payments of the same value in the currency of a Member State. The Regulation No 260/2012⁴⁶ lays down rules for credit transfers and direct debits in euro in the EU, including technical and commercial requirements, currently only fulfilled by SEPA (Single Euro Payment Area) schemes. Uniform technical and commercial requirements in relation to card payment transactions across the EU are laid down in Regulation No 2015/751.⁴⁷ It introduces, inter alia, rules for executing card-based payment transactions and granting licences. Due to the fact that it establishes the separation of card payment schemes and entities handling transactions, it prohibits restrictions on co-badging and it imposes limits on the interchange fee paid for a single card payment transaction.

Directive 2015/849/EU⁴⁸ on the prevention of the use of the financial system for money laundering or terrorist financing has been implemented into the Polish legal framework by the Act on Counteracting Money Laundering and Terrorist Financing.⁴⁹

2.4. Legal framework of payment systems and payment schemes

The regulations concerning the functioning of the key infrastructure of the payment system, i.e. the payment and securities settlement systems, are set out in the Act on Settlement Finality and in the relevant provisions of the Act on Bankruptcy Law⁵⁰ and the Act on Restructuring Law.⁵¹ Those regulations shall ensure, inter alia, the finality of the settlement in the systems, with particular regard to the provisions concerning the elimination of risks arising from the declaration of bankruptcy or the opening of restructuring proceedings against an entity participating in such a system.

⁴⁴ Regulation (EC) No 924/2009 of the European Parliament and of the Council of 16 September 2009 on cross-border payments in the Community and repealing Regulation (EC) No 2560/2001 (OJ L 266 of 9.10.2009).

⁴⁵ Regulation (EU) No 2019/518 of the European Parliament and of the Council of 19 March 2019 amending Regulation (EC) No 924/2009 as regards certain charges on cross-border payments in the Union and currency conversion charges (OJ L 91/36 of 29.03.2019).

⁴⁶ Regulation (EU) No 260/2012 of the European Parliament and of the Council of 14 March 2012 establishing technical and business requirements for credit transfers and direct debits in euro and amending Regulation (EC) No 924/2009 (OJ L 94 of 30.03.2012).

⁴⁷ Regulation (EU) No 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 19.05.2015).

⁴⁸ Directive 2015/849/EU of the European Parliament and of the Council of 20 May 2015 on the prevention of the use of the financial system for the purposes of money laundering or terrorist financing, amending Regulation (EU) No 648/2012 of the European Parliament and of the Council and repealing Directive 2005/60/EC of the European Parliament and of the Council and Commission Directive 2006/70/EC (OJ L 141 of 5.06.2015).

⁴⁹ Act of 1 March 2018 on counteracting money laundering and terrorist financing (Journal of Laws of 2019, item 1115, as amended).

⁵⁰ Act of 28 February 2003 Bankruptcy Law (Journal of Laws of 2019, item 498).

⁵¹ Act of 15 May 2015 Restructuring Law (Journal of Laws of 2019, item 243, as amended).

The aforementioned legal acts implement into the Polish legal system, inter alia, Directive 98/26/EC (Settlement Finality Directive, SFD)⁵², designed to mitigate the risk related to the transfer of financial instruments and funds, in particular the risk of insolvency of system participants. Based on this Directive, the Act on Settlement Finality defines systemically important systems in relation to which settlement order protection resulting from the settlement finality principle applies. In accordance with this principle, orders entered into the system cannot be challenged under any procedure (e.g. bankruptcy or restructuring proceedings) or revoked by a party to a transaction from the moment specified by the system operation rules. The Settlement Finality Act establishes also rules of oversight of the above mentioned systems and confers on NBP powers in relation to payment systems and on KNF, in cooperation with NBP, in relation to securities settlement systems.

The Act on Payment Services lays down operation rules of payment schemes, including payment card systems. According to this Act, the oversight power of payment schemes operated by payment organisations is conferred upon the President of NBP. This oversight shall, in particular, consist in granting licenses to operate and changing the rules of the payment scheme or assessing its operation. In this way, within the scope of the Act, the oversight was extended to the payment card systems operating in Poland, e.g. Visa and Mastercard.

The manner of performing interbank clearing and interbank settlements is defined by the Ordinance No 30/2017 of the President of NBP. This ordinance determines the general principles of interbank clearing and settlement in zloty and euro, it defines interbank clearing and settlement and regulates where a payment order can be sent for interbank clearing and where interbank settlement in zloty and in euro is carried out. Furthermore, it regulates, inter alia, interbank clearing by banks operating accounts of other banks and performing interbank settlements by way of direct exchange of payment orders between banks and registration of liabilities or receivables arising thereof as well as rules of settlement in large-value payment systems operated by NBP, i.e. SORBNET2 system (in zloty) and TARGET2-NBP system (in euro).

Ordinance No 7/2017 of the President of NBP on the manner of numbering banks and bank accounts lays down, inter alia, rules of assigning bank numbers, register numbers of their organisational units, sort codes used to identify units in interbank clearing or interbank settlements (i.e. in practice, in order to ensure the efficient participation of banks in payment systems) and rules of numbering bank accounts operated by banks and rules of handling them in the event of ownership transformation. In accordance with this ordinance bank account numbers corresponding to NRB standards (for domestic clearing) and IBAN standards (for cross-border clearing) are mandatory in the banking system.

⁵² Directive 98/26/EC of the European Parliament and of the Council of 19 May 1998 on settlement finality in payment and securities settlement systems (OJ L 166, 11.06.1998, as amended).

2.5. Legal framework of securities settlement systems

The underlying legal acts concerning the functioning of the capital market in Poland include the Act on Trading in Financial Instruments and the Act on Public Offering.⁵³ In terms of the functioning of the securities settlement system, apart from the Act on Settlement Finality, the Act on Trading in Financial Instruments is of greatest importance. It regulates rules, procedures and conditions for undertaking and conducting business of financial instruments trading, rights and obligations of entities participating in such trading and exercising supervision in this respect. In particular, it specifies a catalogue of financial instruments (including securities), rules for their dematerialisation and transfer of rights contained therein, types of financial instrument trading platforms (regulated market, ATS and OTF) and rules for their operation (including rules related to conducting of algorithmic trading and use of high-frequency algorithmic trading techniques), the method of conducting business by a systematic internaliser,⁵⁴ rules of operation of securities depository (including rules of maintaining depository accounts, securities accounts and omnibus accounts) and a register of derivatives (including rules of maintaining settlement accounts and derivative accounts) as well as rules of clearing and settlement of transactions in financial instruments. These provisions largely reflect the regulations of MiFID II.

Detailed requirements on operation of the depository and the securities settlement systems by the CSD are also contained in the CSDR, which sets out rules for provision of services (maintaining the integrity of the issue, securities segregation or settlement finality), prudential requirements (including legal, business, operational, investment risks management as well as capital requirements), settlement discipline requirements, an obligation to record securities in a book-entry form as well as requirements on harmonisation of settlement cycle and links between CSDs. Transactions in financial instruments are also subject to the Act on Certain Financial Collateral Arrangements⁵⁵ and the Act on Bonds⁵⁶ as well as Regulation No 236/2012 on short selling and certain aspects of credit default swaps.⁵⁷

National legislation on capital market is complemented by the MiFIR. With respect to trading venues and investment firms, including those operating as systematic internalisers, it sets out detailed requirements on pre- and post-trade transparency and the storage and reporting of transaction data to competent authorities. MiFIR also introduces an obligation to conclude transactions on a regulated market, ATS or OTF for certain classes of derivatives that are subject to CCP clearing. In addition, operators of regulated markets must ensure that all derivative transactions concluded on those markets are cleared by a CCP. The regulation imposes the requirement on the CCPs and operators of trading venues to ensure non-discriminatory access to the services provided. The obligation to monitor the compliance with the regulation has been imposed on ESMA and on national supervisory authorities, which

⁵³ Act of 29 July 2005 on public offering, conditions governing the introduction of financial instruments to the organised trading, and on public companies (Journal of Laws of 2019, item 623, as amended).

⁵⁴ It is an investment firm which – in an organised, frequent, systematic way and at a substantial volume – concludes transactions on own account by executing client orders outside a regulated market, ATS or OTF, while not operating an ATS or an OTF.

⁵⁵ Act of 2 April 2004 on certain financial collateral arrangements (Journal of Laws of 2016, item 891, as amended).

⁵⁶ Act of 15 January 2015 on bonds (Journal of Laws of 2018, item 483).

⁵⁷ Regulation of the European Parliament and of the Council (EU) No 236/2012 of 14 March 2012 on short selling and certain aspects of credit default swaps (OJ L 86, 24.03.2012, as amended).

are additionally equipped with the right of product intervention⁵⁸ and measures to restrict concentration of positions.

MiFID II and the MiFIR replaced MiFID I⁵⁹ of 2004. The package of these regulations was introduced after the outbreak of the global financial crisis in 2008 to fill the gaps identified by the European Commission during the review of MiFID I.

An important segment of the financial market is the derivatives market, where most transactions are concluded through bilateral negotiations between counterparties,⁶⁰ outside trading platforms. This significantly reduces the transparency of the market and creates a considerable asymmetry of information between market participants, which can negatively affect the stability of the financial system in crisis situations. Therefore, following the outbreak of the global financial crisis in 2008, regulatory actions were taken with the aim to improve the transparency and stability of the functioning of this market. The obligation to clear through CCPs certain OTC derivative transactions, to apply prudential and operational requirements by parties to transactions not covered by the above mentioned CCP clearing obligation and to report data on all derivative transactions to dedicated trade repositories has been introduced.⁶¹ In the EU, these issues are governed by the EMIR, which, together with implementing acts, lays down prudential requirements for CCPs, in particular regarding the way a CCP should manage its exposure in relation to clearing participants and other CCPs with which it has links, i.e. credit and liquidity risk, rules on collecting margin, contributions to clearing funds, holding of a dedicated resource, liquidity provision and sequencing of use of such resources in the event of default of a clearing participant, as well as requirements on accepted collateral and investment policy. The EMIR lays down specific requirements for parties to transactions which are not subject to clearing obligation through a CCP, in particular it imposes the requirement of collecting margin, monitoring of the value of collateral and holding adequate capital by parties to transactions. In addition, this regulation defines the scope and manner in which data is collected, stored and made available by trade repositories and sets out detailed organisational and operational requirements, in terms of information protection, access to services for obliged entities and the publication and making information received available.

On the other hand, the issues of financial transactions in securities (i.e. *repo*,⁶² securities lending or sell/buy back, SBB) and their reuse are established by Regulation 2015/2365⁶³ (Securities Financing Transactions Regulation, SFTR). These transactions enable investors to use the securities held by them as a collateral in raising external financing. As in the case of OTC derivatives, the need to increase transparency and reduce risks occurring in this market area has emerged also with regard to SFT transactions as a result of the global financial crisis.

⁵⁸ The right of a competent authority to prohibit or restrict marketing, distribution or sale of certain financial instruments or a type of financial activity or practice.

⁵⁹ Directive 2004/39/EC of the European Parliament and of the Council of 21 April 2004 on markets in financial instruments (OJ L 145 of 30.04.2004).

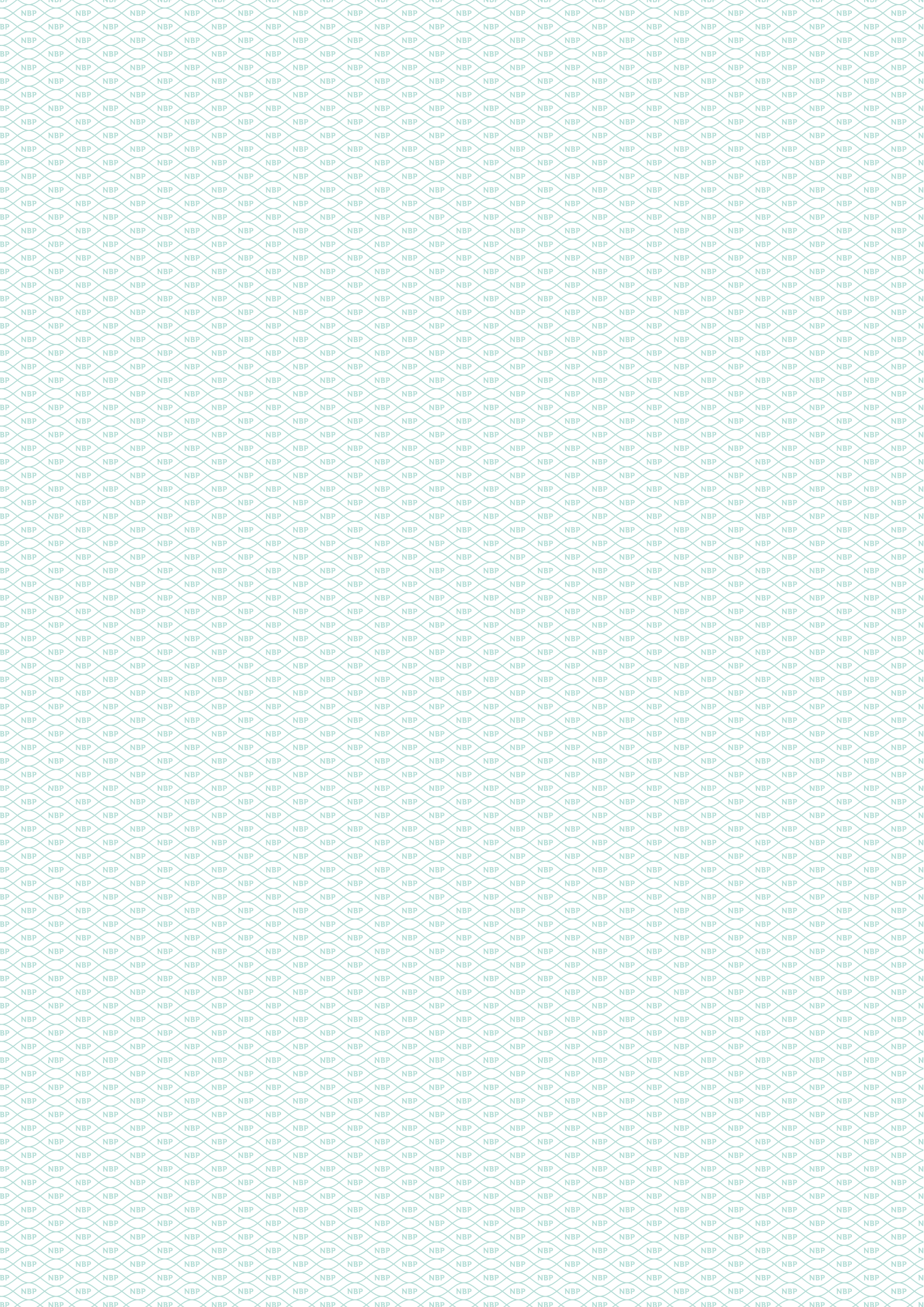
⁶⁰ According to data of the European Commission, these derivatives account for 95% of the entire derivatives market.

⁶¹ Decisions in this respect were taken at the G20 Summit in Pittsburgh in September 2009.

⁶² A transaction in which one party sells certain securities and simultaneously agrees to repurchase them at a later date at a predetermined price (the so-called repurchase price).

⁶³ Regulation (EU) No 2015/2365 of the European Parliament and of the Council of 25 November 2015 on transparency of securities financing transactions and of reuse and amending Regulation (EU) No 648/2012 (OJ L 337 of 23.12.2015).

Consequently, the SFTR requires counterparties to report the details of SFT transactions to trade repositories registered in the EU (not applicable to central banks), to inform investors about investment funds entering into such transactions and to obtain prior approval and risk reporting in case of reuse of securities received as collateral.



Chapter 3

Forms of payment (payment instruments)



Forms of payment (payment instruments)

3.1. General overview

Pursuant to Article 63 of the Banking Act,⁶⁴ payments can be performed in cash or non-cash form. In both forms of settlements, paper or IT data carriers may be used.

Cash payments are performed with the use of cash, including by paying cash to the creditor's account and by cashier's cheque.⁶⁵ On the other hand, non-cash payments include transactions carried out in particular by credit transfer, direct debit, payment cards and settlement cheques.

3.2. Cash payments

Cash means banknotes and coins that are legal tender⁶⁶ expressed in the monetary unit of zloty (PLN).⁶⁷ Pursuant to the Constitution of the Republic of Poland, NBP has the exclusive right to issue the Polish currency. NBP is also responsible for its value.⁶⁸

The Polish zloty has the following denominations:

- banknotes: 10 zł; 20 zł; 50 zł; 100 zł; 200 zł; 500 zł,
- coins: 1 gr; 2 gr; 5 gr; 10 gr; 20 gr; 50 gr; 1 zł; 2 zł; 5 zł.

At the end of 2018, banknotes accounted for approximately 98% of the total value of currency in circulation. Cash is currently widely accepted in shops and service outlets. It is mainly used to make low-value payments. NBP survey covering the data for 2016, which focused on the factors affecting the volume of cash transactions in Poland,⁶⁹ indicated that 80% of payments up to 10 zloty are performed using cash. The value and volume structure of payment instruments used in retail payments, including cash and non-cash payment instruments, may be determined, among others, on the basis of consumer or enterprise surveys (with respect to cash) and statistical data collected by NBP (with respect to non-cash payment instruments) and may vary depending on the adopted methodology and date of the survey. It should be added that the use of cash in daily payments in 2016 was assessed to amount to 53.9% (option "2016c"

⁶⁴ Payments can be carried out through banks if at least one of the parties to the settlement (debtor or creditor) has a bank account.

⁶⁵ Cheque settlements are subject to the regulations of the Act of 28 April 1936 - Cheque Law (Journal of Laws of 2016, item 462).

⁶⁶ In accordance with the Act on Narodowy Bank Polski, banknotes and coins issued by NBP are legal tender in the territory of the Republic of Poland and should be accepted.

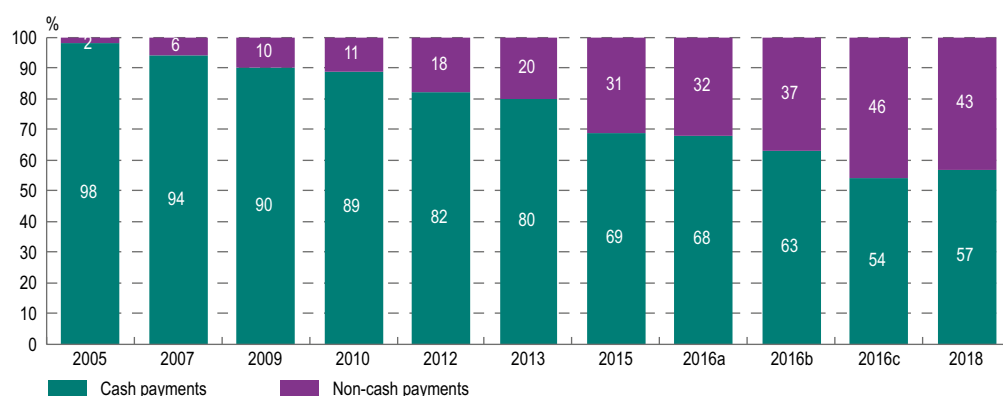
⁶⁷ The 1/100th part of the zloty monetary unit is called grosz (gr).

⁶⁸ Article 227 of the Constitution of the Republic of Poland of 2 April 1997 (Journal of Laws of 1997, No. 78, item 483, as amended).

⁶⁹ A. Manikowski, "Raport z badania czynników oddziałujących na wielkość obrotu gotówkowego w Polsce" [Report of the study on factors affecting the volume of cash transactions in Poland], NBP Warsaw 2017, p. 58; <https://www.nbp.pl/systemplacniczy/obrot-gotowkowy/raport-gotowka-2016.pdf>, access: October 2019.

in Chart 3.1); in terms of value, its share was 40.7% of daily payments. In another nationwide representative consumer survey conducted by NBP in 2016,⁷⁰ the structure of payments made by Poles in purchases in shops and for services, including online purchases, amounted to: cash 63.4%, payment cards 32.5%, credit transfers 4.1% (variant “2016b” in Chart 3.1). On the other hand, in the survey of entrepreneurs carried out in 2016, the share of cash payments in the number of retail payments was estimated at 68.1% (the “2016a” option in Chart 3.1). In accordance with the results of the consumer survey conducted in 2018, respondents declared that they use cash to carry out 57% of transactions at physical point-of-sale (POS).⁷¹

Chart 3.1. Share of cash and non-cash payments in the number of retail payments in Poland⁷²



Source: NBP study.

Cash settlements also include a cashier’s cheque. It is an instruction given by the issuer to the bank to debit its account with the amount stated in the cheque, and to pay out this amount to the cheque holder or a person designated in the cheque. In Poland, cashier’s cheques have not gained popularity and are currently used in several dozen transactions per year.

Poczta Polska SA is also authorised to provide certain financial services, including the execution of postal orders.⁷³ A postal order is used to transfer cash between persons not using bank accounts. In such a case, one post office accepts a cash payment (and the commission) from the sender and the other pays the amount to the recipient of the transfer.⁷⁴

⁷⁰ T. Kozłiński, “Wybrane wyniki badania Polaków nt. korzystania z usług bankowych i płatności 2016” [Selected results of the survey of Poles concerning the use of banking services and payments 2016], NBP, Warsaw 2017. The structure of payments in the survey does not comprise payments for monthly fees for electricity, gas, rent, mobile phone, internet, etc. https://www.nbp.pl/systemplatniczy/obrot_bezgotowkowy/Polacy-na-temat-uslug-bankowych_2016.pdf access: October 2019.

⁷¹ M. Polasik, M. Jakubowska, A. Meler, M. Makowska, “Zwyczajne płatnicze a rozwój sieci akceptacji kart w Polsce: badanie konsumenckie 2018” [Payment habits vs. the development of card acceptance networks in Poland: consumer survey 2018], Polasik Research, research report, Toruń 2019, cited after: “Polacy zwolennikami płatności bezgotówkowych” [Poles as supporters of non-cash payments], “Rzeczpospolita”, 6 June 2019. Consumer survey conducted by Kantar Polska on a representative national sample of 1500 respondents by the CATI method.

⁷² Consumer surveys of payment instruments used in cash and non-cash payments were performed only in the years presented in the chart.

⁷³ Poczta Polska SA, <https://www.poczta-polska.pl/finanse/przekazy/przekazy-krajowe/przekaz-pocztowy-krajowy/> access: October 2019.

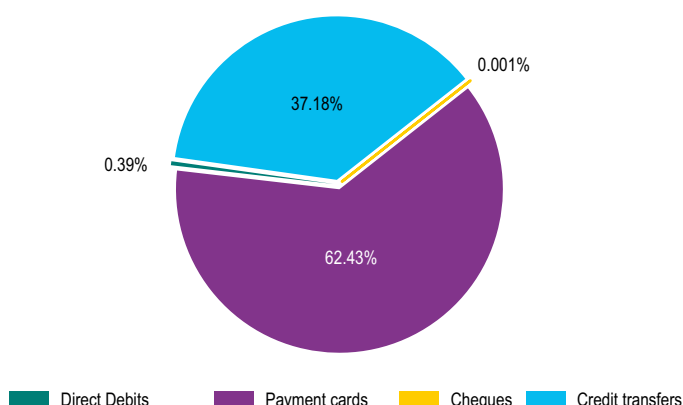
⁷⁴ Poczta Polska SA provides a postal money transfer service using not only cash but also other forms of payment, i.e. the service can be paid for not only in cash at a post office, but also using non-cash forms of payment, including payment card or BLIK service.

The core network of Post Office outlets at the end of 2018 comprised 7047 offices and agency outlets.

3.3. Non-cash payments

The number of non-cash transactions is growing steadily. Most transactions in 2018 were performed using payment cards. Their share in the total number of non-cash transactions was 62.4%. The second type of non-cash settlements in terms of use was credit transfer (37.2% of the total number of non-cash transactions). The lowest number of payments were made by direct debit (0.4%) and cheques (0.001%). It should be noted that still in 2014, in terms of the number of transactions, credit transfers represented 51.1% of all non-cash transactions. In 2015, for the first time in history, their share fell below 50% and amounted to 45.3%, with the payment card becoming the dominant non-cash instrument (it reached 54.2%). The structure of non-cash transactions for individual payment instruments is presented in Chart 3.2.

Chart 3.2 Share of individual non-cash instruments in the total number of non-cash transactions in Poland in 2018



Source: NBP study.

3.3.1. Payment cards

A payment card⁷⁵ is a payment instrument issued by banks and other licensed financial institutions in cooperation with payment organisations, such as

Visa, Mastercard, Diners Club and American Express. The basic transactions that can be carried out with the use of payment cards include:

- transactions at physical points-of-sale,
- payments in online shops,
- cash withdrawal from an ATM,
- cash withdrawal during a non-cash transaction (cash back).

⁷⁵ In accordance with the Act on Payment Services, a payment card is a card that entitles to withdraw cash or allows to place a payment order through a merchant or a clearing agent, accepted by the merchant to receive funds due to him.

Over the past few years, payment cards have become one of the most popular payment instruments in Poland. According to the survey results, in 2011 their share was estimated at only 16.5%.⁷⁶ On the other hand, two independent studies conducted in 2016 showed that the quantitative share of payment card-based payments in Poland in all retail payments performed by consumers ranged from 33% to 42.5%⁷⁷ and, according to the latest survey available for 2018, it amounted to 38%.⁷⁸

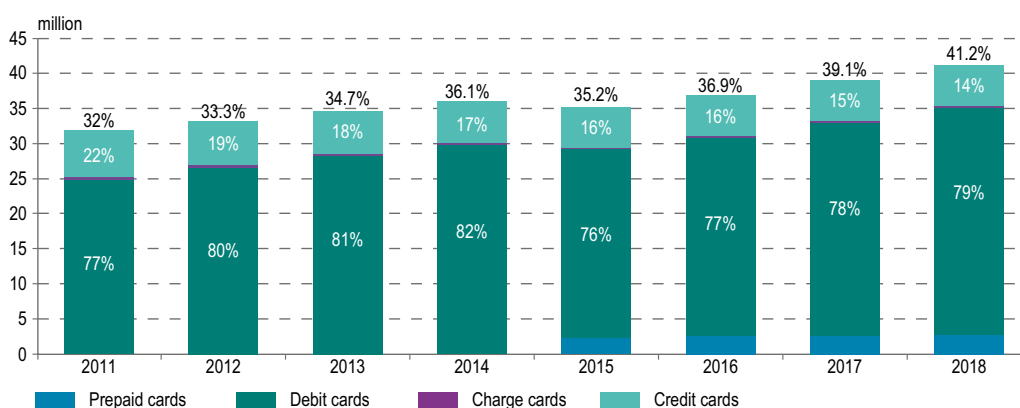
3.3.1.1. Issuing cards

The number of payment cards issued is growing rapidly. At the end of 2008, there were 30.3 million payment cards in Poland and at the end of 2018 their number increased to 41.2 million.

From the point of view of transaction settlement, payment cards can be divided into debit, credit, charge and prepaid cards. A debit card allows for performing debit transactions up to the amount of funds available on the account. A credit card allows for performing transactions up to the credit limit (made available by the card issuer) while the credit drawn should be repaid within the time limit specified by the issuer. In the case of failure to repay the entire amount of the debt within the prescribed period, contractual interest is accrued on the outstanding amount. A charge card offers a deferred payment date and the outstanding amount must be repaid at the end of the settlement period, usually once a month. A prepaid card, on the other hand, requires a pre-funding from the account to which it is assigned.

Among all payment cards issued in Poland, debit cards are the most common. At the end of 2018, they accounted for 79% of all cards issued, while credit cards accounted for 14%, prepaid cards for 6% and charge cards for 1%. Chart 3.3 presents the number of payment cards issued in 2011-2018 by type of card.

Chart 3.3. Number of payment cards issued in Poland in 2011-2018 (millions)



Source: NBP study.

⁷⁶ T. Koźliński, “Zwyczaje płatnicze Polaków” [Payment habits of Poles], Warsaw 2013, p. 123 https://www.nbp.pl/systemplatniczy/zwyczaje_platnicze/zwyczaje_platnicze_Polakow.pdf.

⁷⁷ A. Manikowski, “Raport...”, *op. cit.*, p. 58, T. Koźliński, “Wybrane...”, *op. cit.*, p. 48. In both of the above mentioned studies, the respondents were consumers.

⁷⁸ M. Polasik, M. Jakubowska, A. Meler, M. Makowska, “Zwyczaje...” *op. cit.*

Apart from payment cards issued by banks based in Poland, there are also cards issued by electronic money institutions registered in the EU and payment institutions (e.g. Revolut or Monese) and banks, including the so-called challenger banks - i.e. relatively small and relatively young banks focusing on providing selected banking or payment services (e.g. N26 or Monzo).⁷⁹

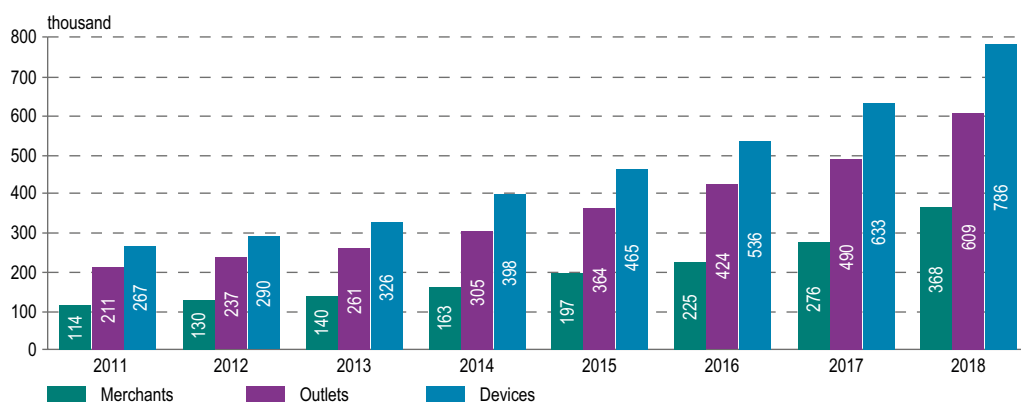
3.3.1.2. Acceptance of payment cards

Parallel to the popularity of payment cards in Poland, the number of places where payment cards are accepted is growing. Between 2011 and 2018, the number of merchants, card accepting agencies and terminals at physical points-of-sale (POS)⁸⁰ tripled (Chart 3.4). As at the end of 2018, there were 368 thousand merchants and 609 thousand outlets accepting payment cards and 786 thousand POS terminals on the Polish market.

It should be added that not all commercial, business or public institutions accept payment cards. According to the survey from 2016,⁸¹ card payment was possible in the case of about 24% of entrepreneurs, including more than 60% of shops and more than 50% of HoReCa sector companies (hotels, restaurants, cafés).⁸²

The development of payment card acceptance networks is supported by the activities of the Cashless Poland Foundation.⁸³ It offers free payment terminals for entities that have not accepted payments by cards so far.

Chart 3.4. Network of payment card acceptance in Poland in 2011-2018 (thousands)



Source: NBP study.

⁷⁹ Current information on solutions available in Poland in this area is available in the cyclical NBP report "Assessment of the Polish payment system functioning".

⁸⁰ Imprinters, i.e. devices used for manual acceptance of cards, i.e. without internet connection, are classified herein as POS terminals. Imprinters were withdrawn from the Polish market in 2014.

⁸¹ M. Polasik, "Market of retail payments in Poland. Range of acceptance - Transaction volumes - Opportunities for innovation", research report, Polasik Research, December 2017, p. 47.

⁸² In the report by M. Polasik, "Payment market...", op. cit., p. 48 it was indicated that payment cards were most often accepted in the following sectors: catering (59% of transactions), hotels and motels (56%), petrol stations (81%), cosmetic, medical shops and pharmacies (79%), clothing and footwear shops (76%), smaller grocery shops (69%) and super- and hypermarkets (100%).

⁸³ The Cashless Poland Foundation was established in September 2017, whereas the Cashless Poland Support Programme was launched in January 2018. In 2018, as a result of the activities of the Foundation, the number of POS terminals increased by about 100 thousand.

3.3.1.3. Contactless cards

Over the last 10 years, the payment card market in Poland has undergone significant changes as a result of the introduction of contactless technology which significantly speeds up and facilitates payments at physical points-of-sale.⁸⁴ The first contactless cards were issued in Poland in December 2007. At the end of 2018, 84% of all payment cards issued in Poland had this function. At the same time, a network of outlets accepting contactless cards was developed. At the end of 2018, almost 100% of POS terminals offered acceptance and performance of contactless payments the use of cards. Alongside the simplicity and convenience of payment for consumers, the popularisation of this method of retail payments was possible given intensive marketing campaigns organised by Visa and Mastercard payment organisations and banks issuing cards as well as owing to the introduction of self-regulation by the above mentioned payment organisations, card issuers and clearing agents (based on the recommendation of the Payment System Council of 30 September 2013), the aim of which was to increase the protection of holders of cards with a proximity function and thus increase the security of using such cards and the trust in them on the part of cardholders.

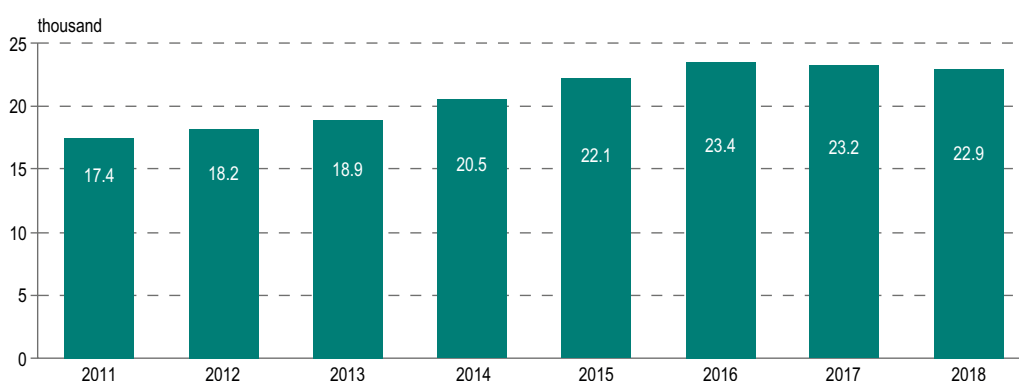
The share of contactless transactions in the total number of payment card transactions in Poland in 2018 Q4 amounted to 76.5%.

It is worth noting that the introduction of contactless technology enabled rapid development of contactless mobile payments in Poland, thanks to, among others, widely developed network of acceptance for contactless payment cards. Proximity POS terminals support not only card payment but also payments with the use of smartphones.⁸⁵

3.3.1.4. ATMs and the cash back service

Apart from non-cash payments, payment cards also allow for cash transactions, i.e. cash withdrawals from ATMs or at physical points-of-sale when paying by card (cash back). At the end of 2018, 22.9 thousand ATMs and 197.5 thousand points-of-sale offering the cash back service operated in Poland. Chart 3.5 presents the number of ATMs in 2011-2018.

Chart 3.5. Number of ATMs in 2011-2018 (thousands)



Source: NBP study.

⁸⁴ A contactless card transaction at a POS terminal up to PLN 50 does not require a PIN. As of 2020, the limit for contactless transactions without a PIN will be increased to PLN 100.

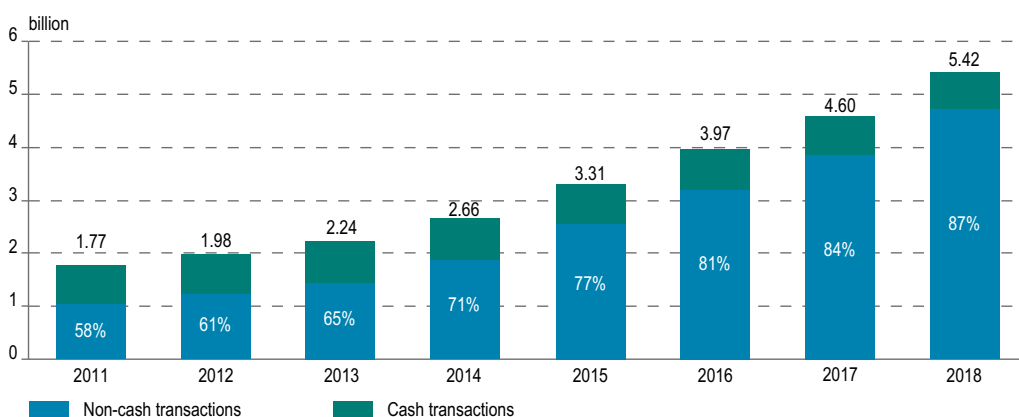
⁸⁵ More in the Chapter 3.3.4.

It is worth noting that the number of ATMs is much smaller than the number of outlets offering cash back services. However, ATMs account for the vast majority of cash transactions performed with the use of payment cards (97% in terms of number and 99% in terms of value of transactions - according to the data for 2018).

3.3.1.5. Number and value of card transactions

The Polish market has seen a continuous increase in the number and value of transactions with payment cards issued by banks operating in Poland. In 2011-2018, the number of transactions increased from 1.8 billion to 5.4 billion, i.e. three-fold (Chart 3.6), whereas the number of non-cash payments in 2018 accounted for as much as 87% of all card transactions, while the remaining 13% involved cash (mainly at ATMs).

Chart 3.6. Number of payment card transactions and share of non-cash transactions in 2011-2018 (billions)

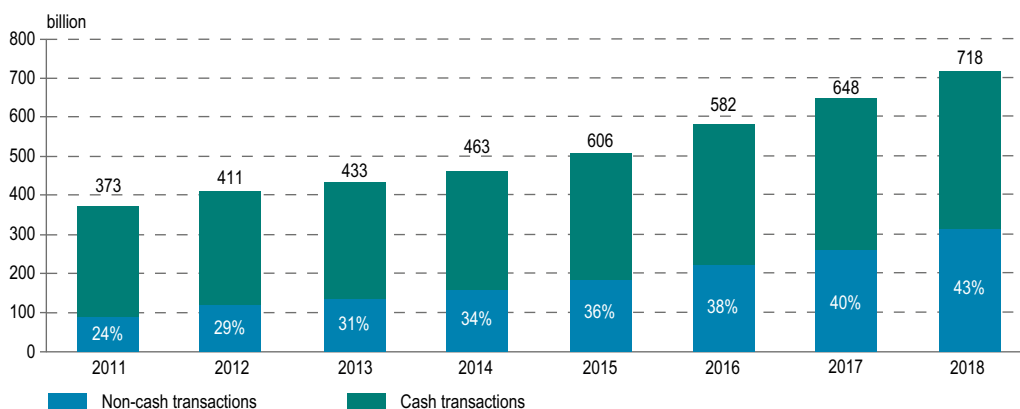


Source: NBP study.

In the same period, the value of non-cash transactions increased from PLN 373 billion to PLN 718 billion, i.e. two-fold. It is worth noting that the share of non-cash transactions in the value of transactions with payment cards in 2018 reached 43% and it was much lower than in the case of the number of transactions (87% - Chart 3.6). This was mainly the result of the fact that cash transactions (representing 57% of all card transactions in terms of value) are executed less frequently than card payments, but for much higher amounts.⁸⁶

⁸⁶ In 2018, the average value of an ATM cash transaction was PLN 510 and for a non-cash transaction – PLN 66.

Chart 3.7. Value of payment card transactions and share of non-cash transactions therein in 2011-2018 (in PLN billion)



Source: NBP study.

The data presented above show that popularity of non-cash transactions with payment cards has been steadily increasing for many years, compared to cash transactions made with their use.

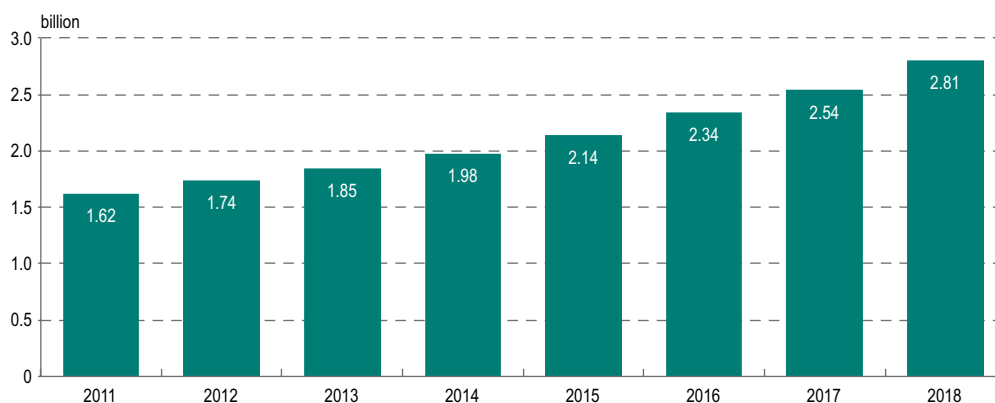
3.3.2. Credit transfer

A credit transfer consists in issuing to the bank by the owner of a bank account (payer) an instruction to debit the account with a specified amount and credit that amount to the payee's account.⁸⁷ A credit transfer may be executed via electronic banking, in particular internet or mobile banking⁸⁸ or at a bank branch. If the payer and the payee have accounts in the same bank, the transfer is processed immediately. If the payer's and payee's accounts are kept in different banks, the payment is usually processed within a few hours or on the next day (depending on the time of the placing an order). Since 2012, customers of some banks in Poland have been able to make instant payments which enable crediting the payee's account within seconds.

The number of transactions executed via a credit transfer is steadily increasing but its share in the total number of non-cash transactions is constantly decreasing. In 2011, credit transfers in terms of volume represented 60.8% (1,625 million) of all non-cash transactions, and in 2018 - only 37.2% (2,807 million).

⁸⁷ In accordance with Article 3(4) of the Act on Payment Services, a credit transfer means a payment service consisting in crediting a payee's payment account in the case if such a payment transaction from a payer's payment account is performed by the payment service provider operating the payer's payment account, based on an instruction given by the payer.

⁸⁸ Through a desktop computer, laptop, tablet or mobile phone.

Chart 3.8. Number of credit transfers in Poland in 2011-2018 (billions)

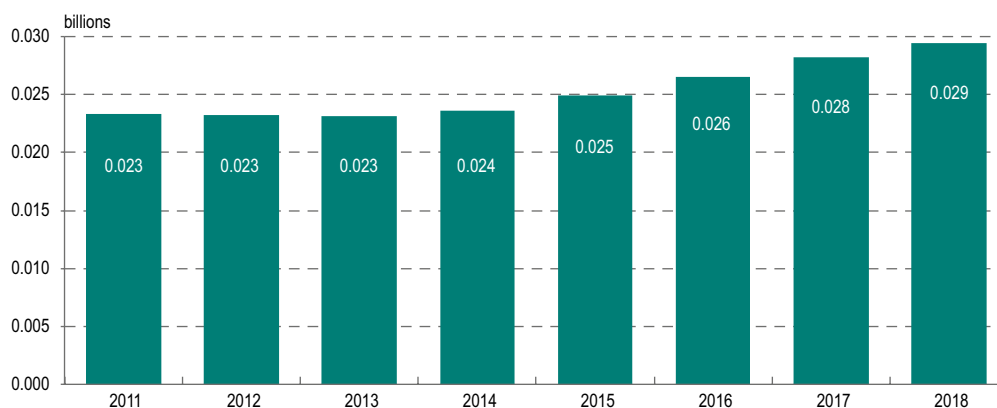
Source: NBP study.

3.3.3. Direct debit

In order to perform a direct debit,⁸⁹ it is necessary that the payer and the payee hold accounts with banks which have concluded an agreement on the use of direct debit. It is also necessary for the payer to agree that his or her account be debited on a specified date with the amount of the payer's liability for the product or service provided.⁹⁰ The payer has the right to cancel a direct debit transaction under execution without a reason. In the case of a natural person who does not carry out economic activity, the payment can be cancelled within 30 days of the date on which the account was debited, other operators may do so within five working days. If a direct debit is cancelled, the funds are immediately returned to the payer's account. The number of direct debit transactions in Poland has remained at a similar level for years; in 2011 it amounted to 23.3 million, and in 2018 - to 29.4 million.

⁸⁹ In accordance with Article 3(2) of the Act on Payment Services, direct debit means a payment service consisting in debiting a payer's payment account with the specific amount as a result of a payment transaction initiated by the payee performed on the basis of the consent given by the payer to the payee, to the payee's payment service provider or to the payer's payment service provider.

⁹⁰ Payments due to charges for electricity, heat, gas, rent or telecommunication services as well as an instalment of the loan, insurance premiums, etc.

Chart 3.9. Number of direct debit transactions in Poland in 2011-2018 (billions)

Source: NBP study.

3.3.4. Mobile payments

Over the recent years, a dynamic development of mobile payments has been observed worldwide, including Poland. These are payments made using a mobile device (e.g. a phone, a tablet, a watch). They can be divided into:

- proximity payments - using NFC technology and made mainly at POS terminals and vending machines,⁹¹ parking meters or motorway toll gates;
- remote payments - via internet connection or GSM technology and used primarily in online shops, between users (i.e., *peer-to-peer* mobile payment, P2P), with parking and public transport charges, and to a lesser extent at POS terminals.

The available mobile solutions also enable cash withdrawals (at ATMs and cash desks in shops in the form of cash back), based on both proximity and remote technologies.

The development of mobile payments in Poland was initiated more than 10 years ago by mPay, which offered remote mobile payments for parking, city transport or charging pre-paid phone accounts.⁹² SkyCash has become another entity operating in this area. In 2012, the offering of contactless mobile payments based on the SIM-centric model was launched, using NFC technology and a SIM card on which payment card data were stored. In the following year, bank applications enabling mobile payments, i.e. IKO and Peopay (used to pay in physical and online shops and between users - P2P) appeared on the market. Soon after, in 2015, Polski Standard Płatności sp. z o.o. implemented the BLIK⁹³ payment system based on IKO application. The creation of a new model of contactless mobile payments, i.e. HCE

⁹¹ A vending machine (also known as a “automatic dispenser”) is a stand-alone machine where it is possible to buy individual products, usually food - e.g. drinks, snacks.

⁹² M. Kisiel, “Niekartowe schematy płatności bezgotówkowych w Polsce” [Non-cash payment schemes in Poland], Wrocław 2014, p. 43-55, https://www.nbp.pl/systemplatniczy/obrot_bezgotowkowy/niekartowe-Polska.pdf, access: October 2019.

⁹³ More information on the BLIK system can be found in the NBP cyclical study entitled “Informacja o rozliczeniach i rozrachunkach międzybankowych” [<https://www.nbp.pl/home.aspx?f=/systemplatniczy/publikacje/rozrachunki.html>], access: October 2019.

(host card emulation), created by payment organisations in 2014, constituted a substantial development in mobile payments in Poland. The HCE model is also based on NFC technology, however, no SIM card with the payment card number recorded on it is necessary. The execution of transactions in the HCE model is based on an application that stores payment card data in the cloud. This solution is currently used in mobile applications: Google Pay (available in Poland since November 2016) and Apple Pay (available in Poland since June 2018). Both solutions offer proximity payments in physical shops by bringing a mobile device close to a contactless card reader as well as in applications and on websites.

Table 3.1 shows the m-payment solutions which are currently most common, including their areas of use.

Table 3.1. Mobile payments in Poland - solutions and their basic functions

Mobile solution	Payment technology	Payment possibility	Area of use	Date of launch
mPay	Internet, USSD*, IVR**	remote payments	city transport, parking fees, telephone top-ups	2003
SkyCash	Internet, USSD, IVR	remote payments	city transport, parking fees, telephone top-ups	2010
Mobile bank application	Internet, HCE, NFC, QR codes	remote and proximity payments	POS, P2P, Internet, ATM	2009
IKO	Internet, HCE, BLIK codes*** (since 2015)	remote and proximity payments	Internet, ATM, POS, P2P	March 2013
Peopay	Internet, HCE, QR codes, BLIK codes (since 2018)	remote and proximity payments	POS, P2P, Internet, ATM	June 2013
BLIK	Internet, BLIK codes	remotely	Internet, ATM, POS, P2P	February 2015
Google Pay	HCE	remote and proximity payments	POS, Internet, ATM	November 2016
Apple Pay	HCE	remote and proximity payments	POS, Internet, ATM	June 2018

* USSD - unstructured supplementary service data.

** IVR - interactive voice response.

*** One-off six-digit BLIK codes for POS and online shop payments and ATM cash withdrawals as well as nine-digit BLIK cheque codes.

Source: NBP study.

It should be noted that the dynamic development of mobile payments in Poland has been driven by several factors, including:

- strong commitment of banks and payment organisations in offering innovative banking products and services, including mobile banking and innovative payment services;
- a joint initiative of several banks to set up the BLIK mobile payment system;
- positive, several years' experience of customers related to payments with contactless cards;

- a highly developed network of contactless payment card acceptance (contactless POS terminals handle both card and mobile payments);⁹⁴
- a rapidly growing choice of smartphone models equipped with NFC technology;
- implementation of payment services offered by Google and Apple on the Polish market (as one of the first in Europe).

It is also worth adding that modern mobile payments currently represent one of the most secure forms of payment, mainly due to the token service (where the data on the payment card is replaced with another digit string, i.e. a token, as a result of which they become inaccessible to third parties)⁹⁵ and biometric security features (e.g. the use of a fingerprint or face shape recognition to confirm transactions by the user). It should also be noted that most of the mobile solutions in Poland use payment cards, thus making the possibilities offered by payment card systems available; e.g. in the case of fraud, affected customers can claim back lost funds under the chargeback procedure.

3.3.5. Settlement cheque

A settlement cheque makes it possible to transfer the amount specified in the cheque from the debtor's account to the account of the bearer or the person indicated in the cheque, without a possibility of cash withdrawal. The cheque can be presented for payment to any bank, but it must be delivered to the drawee.⁹⁶

In Poland, cheques have never been widely used as a form of cash settlement, and recently, in view of the intensively developing payment card market, their importance is marginal. In 2014, 106 thousand settlement cheques were cleared, while in 2018 only 82 thousand were cleared.

3.3.6. Electronic money instrument

The electronic money instrument is another form of non-cash payments. Its source of money is electronic money, i.e. a record of monetary value issued with an obligation to redeem this electronic money (in the form of a record).

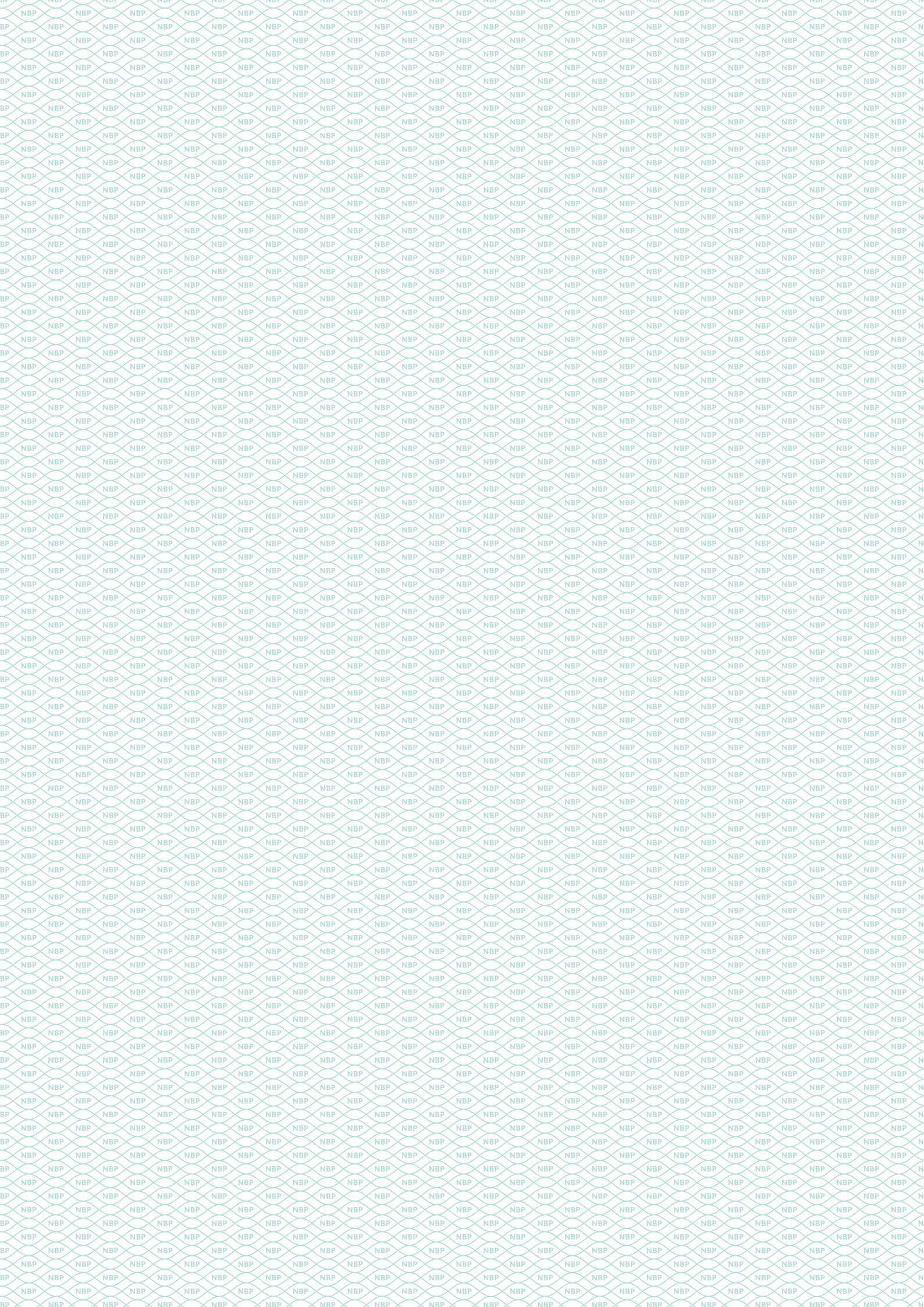
Until 2018, there were no domestic entities issuing electronic money.⁹⁷

⁹⁴ A smartphone equipped with: NFC module, the appropriate version of the operating system and the payment application in the phone.

⁹⁵ Tokenization is a process that allows encrypting sensitive payment card data. It is used for both online and contactless payments. In the tokenization process, the payment card and transaction data are replaced by the digital equivalent - a token, which is a randomly generated number. When authorising payments, instead of the payment card details, only the token is disclosed to the merchant. Tokens are subject to ISO standardisation, thus merchants, settlement agents and publishers can process them in a similar way to transactions performed directly with a payment card.

⁹⁶ The bank indicated by the drawee (cheque issuer) to pay the amount indicated on the cheque.

⁹⁷ The first licence for issuing electronic money and providing payment services in the role of a domestic electronic money institution was issued by the Polish Financial Supervision Authority on 23 April 2019 for Billon Solutions sp. z o.o. - a Polish-British entity operating in the area of fintech (financial technology means a combination of technology and innovation to compete with traditional forms of providing financial services).



Chapter 4

Payment schemes



Payment schemes

4.1. General overview

An important element of the payment infrastructure in Poland are the payment schemes which comprise card payment schemes,⁹⁸ such as: Visa, Mastercard, American Express and Diners Club and payment schemes related to payment instruments other than payment cards: BLIK, YetiPay, mPay, SkyCash and Snoopay payment schemes.

A payment scheme is a set of rules on the execution of payment transactions, the issuance and acceptance of payment instruments by payment service providers and the processing of payment transactions performed with the use of payment instruments, including the payment card system.⁹⁹ In other words, a payment scheme is a way of managing the functioning of a payment instrument in payment transactions, determined by the payment organisation, primarily concerning its relationship with so-called participating entities that have concluded an agreement with the payment organisation for the issuance of a payment instrument (issuers of a payment instrument) and for the provision of an acquiring service (clearing agents).¹⁰⁰ The rules laid down by the payment organisation affect the relationship between an issuer of a payment instrument and a payer (the user of the payment instrument, initiating a payment transaction with its use or placing a payment order) and the relationship between a clearing agent and a merchant (i.e. the recipient of the funds subject to a payment transaction other than a consumer, i.e. the trader - a merchant and the point-of-sale which allows payments to be performed through specific payment instruments).

A payment scheme is managed by a payment organisation. It makes decisions on scheme operation. In particular, a payment organisation shall lay down common rules for the participants in the scheme for the use of a payment instrument in payment transactions, including rules on issuance of a payment instrument, security of its use and the acceptance of a payment instrument by clearing agents.

An issuer of a payment instrument shall, on the basis of an appropriate authorisation, provide a payment service of payment instrument issuing and releasing it at the disposal of a payer (the user of a payment instrument), and subsequently execute payment transactions with the use of that instrument. On the other hand, a clearing agent acts for the benefit of a merchant. It provides the acquiring payment service, which consists in enabling the acceptance of payment instruments (enabling a payment to be made with a given trader using the specific payment instrument), processing of payment transactions initiated with the payment instrument and finally transferring the money to the account of the payee (merchant). In other words, the

⁹⁸ According to the terminology used in Regulation No 2015/751, a card payment scheme is defined as a system of payment cards (Article 2(16) of the Regulation).

⁹⁹ Article 2(26a) of the Act on Payment Services. The definition of a payment scheme within the meaning of this Act does not include direct debit schemes (SEPA Direct Debit, SDD) and credit transfer schemes (SEPA Credit Transfer, SCT), the schemes of the Single Euro Payments Area (SEPA) and domestic (non-SEPA) credit transfer and direct debit schemes. The execution of payment transactions with these payment instruments does not involve the provision of an acquiring service. The funds are transferred directly to the payee's account.

¹⁰⁰ see Article 2 and subsequent of the Act on Payment Services.

clearing agent enters into an agreement with the trader (cash recipient) to accept payment with payment instruments. Under such agreement payment transactions are handled, resulting in the transfer of funds to the merchant (execution of payment transactions).

Processing of payment transactions encompasses activities of a technical and operational nature, including in particular: initiation of a transaction, along with authentication¹⁰¹ of the payment instrument or the user of that instrument, verification of the data enabling the transaction to be carried out with the payment instrument and system availability, connectivity between payment service providers or handling of transmitted messages in order to transfer the funds. The processing therefore comprises any activities and messages that constitute the so-called payment transaction authorisation service. These are technical activities consisting of verifying a payment instrument (its validity), the identity of the user who uses it (whether it is the person authorised to use the payment instrument), the availability of funds on the account linked to the payment instrument (sending the so-called authorisation request to the issuer of the payment instrument)¹⁰² as well as sending payment orders to the payment system or to the issuer with the purpose to transfer funds to the merchant.

The acquiring service can be provided at physical points-of-sale (usually at POS terminals) as well as by means of distance communication, with the use of web browsers or mobile applications (e.g. in online shops, when purchasing public transport tickets or paying for parking).

The acquiring service does not include clearing and settlement of payment transactions within the meaning of the Act on Settlement Finality. These processes are defined by payment system rules.

4.2. Types of payment schemes

Payment schemes can be classified, in particular, according to:

- type of payment instrument functioning within the scheme,
- number of entities involved in the execution of a payment transaction.

¹⁰¹ Authentication, is an action carried out by the provider. It allows the provider to verify the payment instrument, including its individual security features. Authentication is aimed at checking whether: 1) the payment order originates from a user authorised to use a given payment instrument and 2) whether a/the payment order was placed using the appropriate payment instrument (verification of information concerning the payment card - e.g. card number, expiry date, whether the card has been cancelled, PIN verification), including the use of its individual security features (e.g. PIN code or CVC2/CVV2 in the case of transactions carried out without physical use of the card, additional passwords used for internet transactions in the case of 3-D Secure function). The authentication cannot be treated as the authorisation of a payment transaction within the meaning of Article 40(1) of the Act on Payment Services, which is performed by the payer (rather than the provider) and means granting of the consent for the execution of a transaction according to the procedure in a manner arranged in the agreement with the provider. In practice, both the authorisation and the authentication are generally performed simultaneously.

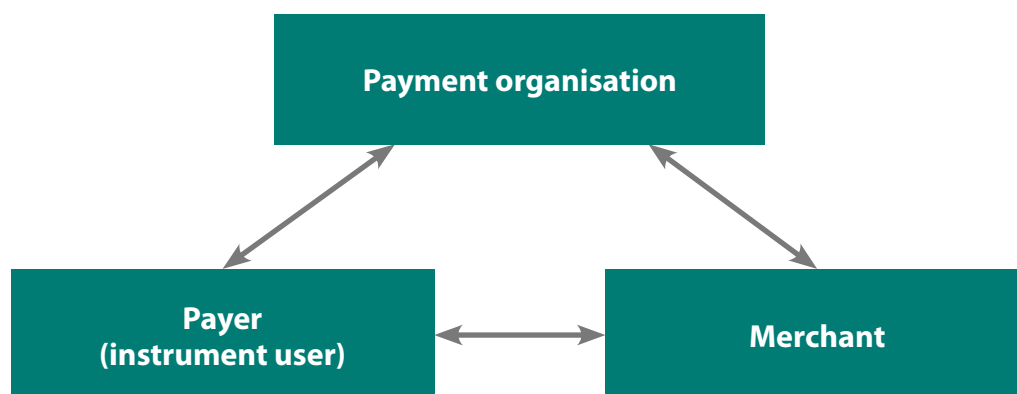
¹⁰² "Payment transaction authorisation handling" should be distinguished from the concept of "authorisation" referred to in the previous footnote. The payment transaction authorisation service is a technical process which involves sending a request by the merchant to the issuer of the payment instrument concerning the availability of funds on the account linked to the payment instrument operated by the issuer. This results in a message from the issuer of the payment instrument displayed e.g. on the POS terminal screen. It shows whether the transaction authorised by the payer can be executed („consent" or „refusal" of the bank).

When classifying the schemes according to the first of the above criteria, card payment schemes and payment schemes of other payment instruments are distinguished. The first of the aforementioned types of schemes is based on payment cards or instruments for which payment cards are used. The second category of payment schemes defines processing rules of other types of payment instruments, in particular mobile applications, electronic wallets or web applications.

The criterion of the number of entities involved in the payment transactions processing provides for distinction between three-party payment schemes and four-party payment schemes.

In a three-party payment scheme, a payment organisation (apart from managing the scheme and processing payment transactions) provides both the service of issuing payment instruments to payers and the acquiring service for merchants within the scheme. In a three-party payment scheme, the following parties are therefore involved in the execution of a payment transaction: the payment organisation (which is at the same time the issuer of the payment instrument and the clearing agent), the payer and the merchant.¹⁰³

Figure 4.1. A three-party payment scheme model



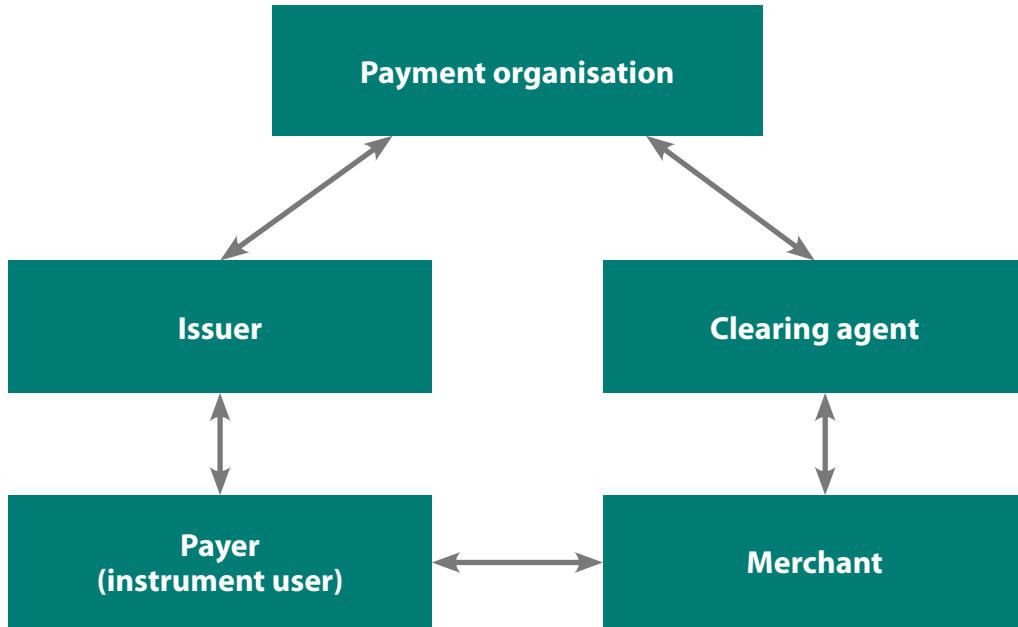
Source: NBP study.

In a four-party payment scheme, a payment organisation does not act as either an issuer or a clearing agent but entrusts these roles to other payment service providers.

Within a four-party payment scheme, entities involved in the processing of payment transactions include, apart from a payment organisation, issuers acting on behalf of payers and clearing agents providing an acquiring service to merchants.

¹⁰³ Where a payment organisation under a three-party payment scheme entrusts the service of issuing a payment instrument or an acquiring service to other payment service providers, that scheme shall be treated as a four-party payment scheme (cf. Article 1(5) of Regulation 2015/751).

Figure 4.2. A four-party payment scheme model

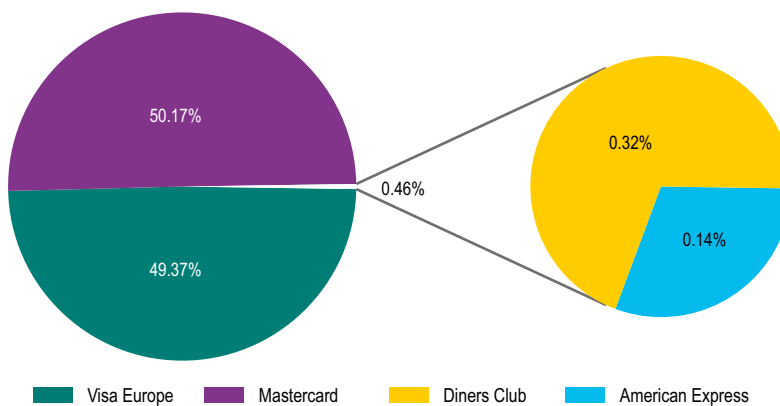


Source: NBP study.

4.3. Card payment schemes

At the end of 2018, four card payment schemes operated in Poland: Visa, Mastercard, Diners Club and American Express.

Chart 4.1. Market share of card payment schemes in 2018 (by transaction value)



Note: The chart shows the market share of card payment schemes in 2018 by value of domestic debit and credit card transactions (including payment transactions within the meaning of Article 2(9) of Regulation 2015/751, in accordance with Article 2(16a) of the Act on Payment Services) where providers of both a payer and a payee operate in Poland. The data were collected under the Act on Payment Services and comprise reporting of payment instruments issuers and payment scheme operators.

Source: NBP study.

4.3.1. Visa

Visa is a four-party card payment scheme. Within the scheme, Visa Europe Limited, a limited liability company registered in England and Wales with its registered office in London, plays the role of a payment organisation. Visa was originally owned by a dispersed shareholding structure of the European financial institutions (including banks). In 2016, it was reorganised and became a wholly owned subsidiary of Visa International Holdings Limited and part of Visa Inc. Visa provides services of authorisation, clearing and settlement of payment transactions with payment instruments handled by the Visa system.

In Poland, the Visa system processes debit, credit and prepaid cards. Visa payment card can be also used for transactions at points-of-sale (at POS terminals), on the internet as well as to withdraw or deposit cash at ATMs and CDMs.¹⁰⁴

The process of authorisation, clearing and settlement of payment transactions within the Visa system

After entering into an agreement with a merchant for the delivery of goods or services, the payer (through the merchant) or the merchant initiates a payment transaction using the payer's Visa payment card. Subsequently, a clearing agent sends an authorisation request on behalf of the merchant to the Visa payment organisation, which forwards it to the payment card issuer. The issuer, after verifying the payer and the payment instrument, responds to the authorisation request, providing Visa with information on the consent or its absence for the execution of the payment transaction. The payment organisation forwards the response to the clearing agent, who informs the merchant on the result of the authorisation via a payment terminal (or so-called ePOS in the case of internet payments).¹⁰⁵ In the case of a positive response to the authorisation request, funds are blocked on the account linked to the payment card, i.e. a payment account for a debit card or a technical account for a credit card.

Subsequently, depending on the decision of the payment card issuer, the transaction is transferred to one of the clearing systems used to process card transactions. At the end of 2018, payment transactions performed with Visa cards within the territory of Poland were cleared in the following payment systems:

- PNNSS operated by Visa Europe Limited,¹⁰⁶
- KSR operated by First Data Polska SA.¹⁰⁷

4.3.2. Mastercard

The Mastercard system is a four-party card payment scheme. Mastercard Europe SA with its registered office in Waterloo (Belgium) operates as the payment organisation in the Mastercard system.

¹⁰⁴ Cash Deposit Machine.

¹⁰⁵ For online transactions, additional authentication within the 3-D Secure service is required. Its use requires the user to additionally confirm the payment with a one-off SMS password or a push notification in the mobile application.

¹⁰⁶ The PNNSS system carries out multilateral netting of mutual claims and obligations of its participants (clearing of payments on a multilateral netting basis). On the other hand, settlement (actual cash transfer) is carried out by a clearing agent using the Elixir and SORBNET2 systems. The clearing agent for the PNNSS is one of the Polish commercial banks.

¹⁰⁷ See Chapter 5.3.6 for details on the rules of operation of the KSR.

Mastercard Europe SA is fully controlled by Mastercard International Incorporated, a company established in the United States. Mastercard International Incorporated is owned by Mastercard Incorporated. Mastercard Europe SA offers services of authorisation, clearing and settlement of payment transactions performed with the use of payment instruments processed in the Mastercard system. Payment instruments handled by the Mastercard system in Poland include debit cards (including prepaid cards) and credit cards (including charge cards). Mastercard payment card can be also used to make transactions at points-of-sale (at POS terminals), on the internet as well as to withdraw or deposit cash at ATMs and CDMs.

The process of authorisation, clearing and settlement of payment transactions within the Mastercard system

After entering into an agreement with a merchant for the delivery of goods or services, a payer (through the merchant) or a merchant initiates a payment transaction with the payer's Mastercard payment card. Subsequently, a clearing agent sends an authorisation request on behalf of the merchant to the Mastercard Europe SA payment organisation, which forwards it to the payment card issuer. The issuer, after verifying the payer and the payment instrument,¹⁰⁸ responds to the authorisation request, providing Mastercard Europe SA with information on the consent or its absence for the execution of the payment transaction. The response is forwarded by the payment organisation to the clearing agent, who informs the merchant on the result of the authorisation at a payment terminal. In the case of a positive response to the authorisation request, funds are blocked on the account linked with the payment card, i.e. a payment account for a debit card or a technical account for a credit card.

Subsequently, depending on the decision of the payment card issuer, the transaction is transferred to one of the clearing systems used to process card transactions. At the end of 2018, payment transactions carried out within the territory of Poland with payment cards issued under the Mastercard payment system were cleared in the following payment systems:

- GCMS operated by Mastercard Europe SA,¹⁰⁹
- KSR operated by First Data Polska SA.

4.3.3. Diners Club

In Poland, the Diners Club system operates according to both a three- and four-party model, by granting licenses for issuing payment cards to other payment service providers. The Diners Club system is managed by Diners Club Polska Sp. z o.o. (DCP). DCP manages the Diners Club system in Poland on the basis of the sub-licensing agreement concluded between Diners Club International, Diners Club Bank AG with its registered office in Vienna and DCP.

The Diners Club system processes credit cards (including charge cards).¹¹⁰ Diners Club payment card can be also used to perform transactions at points-of-sale (at POS terminals), on the

¹⁰⁸ In the case of internet transactions, additional authentication of the payment card user may take place at this time within the 3-D Secure service.

¹⁰⁹ The GCMS system carries out multilateral netting of mutual receivables and liabilities of its participants (clearing of payments on a multilateral netting basis). On the other hand, settlement (actual cash transfer) is carried out by a clearing agent using the Elixir and SORBNET2 systems. The clearing agent for the GCMS is one of the Polish commercial banks.

¹¹⁰ Currently, in the four-party model, only charge cards are issued, due to the legacy of Diners Club payment card usage in Poland.

internet as well as to withdraw cash at the ATMs. Due to the direct links between DCP and Diners Club International, the cards issued under the Diners Club system enable payment transactions worldwide.

The process of authorisation, clearing and settlement of payment transactions within the Diners Club system

After entering into an agreement with a merchant for the delivery of goods or services, the payer (through the merchant) or the merchant initiates a payment transaction with the payer's Diners Club payment card. Subsequently, the entity acting as an agent¹¹¹ of the DCP, sends - on behalf of the merchant - an authorisation request concerning the transaction. Depending on whether the specific payment transaction was initiated with a card issued directly by the DCP or by another payment service provider, either the DCP or that provider shall respond. After verifying the payer and the payment instrument,¹¹² the agent receives a reply to the question sent, i.e. information about the consent or lack of consent to execute the payment transaction and informs the merchant on the result of the authorisation. In the case of a positive answer, funds are blocked on the technical account linked with the credit card or payment account linked to the debit card (in this case the available card limit is reduced).

The amount due to the merchant is settled by the agent (transfer of funds for disposal) with whom DCP has concluded an agreement. In order to receive funds, the agent provides the DCP payment organisation with a list of transactions executed for merchants. The DCP then transfers the funds to the agent via a clearing agent, either by crediting the relevant account or by authorising the debiting of the account where the funds are held. In the case of cross-border transactions (to the benefit of the clearing agent in another country or performed with a foreign card), clearing of funds between entities that have concluded a franchise agreement with Diners Club in different countries is carried out through the DCISC system (Diners Club International Service Centre), under which clearing agents allocate funds to the benefit of these entities. Settlement shall be performed on a net basis.

4.3.4. American Express

In Poland, the American Express system has been operating in accordance with the three-party model since January 2017. The system is managed by American Express Limited based in New York, and a Spanish branch of American Express Europe SA is responsible for issuing cards in Poland.

American Express issues payment cards, including charge cards. At present, only cards for corporate (business) customers are issued in Poland. Cards for individual clients are issued in the UK and settled in US dollars or euros.

¹¹¹ See Article 2(1) of the Act on Payment Services.

¹¹² In the case of internet transactions, additional authentication of the payment card user may place at this time within the 3-D Secure service.

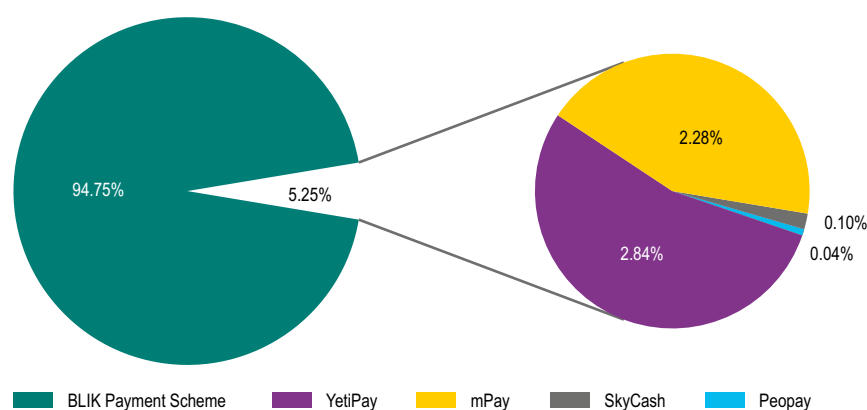
The process of authorisation, clearing and settlement of payment transactions within the American Express system

After entering into an agreement with a merchant for the delivery of goods or services, the payer (through merchant) or the merchant initiates a payment transaction with the payer's American Express payment card. Subsequently, the entity acting as a clearing agent in the American Express scheme sends an authorisation request on behalf of the merchant to the American Express central authorisation system, which allows for authorisation service of all payment cards issued under the scheme. After receiving the authorisation request, the issuer generates a response, which is returned to the clearing agent. The agent forwards it to the merchant. Clearing of transactions is carried out for each clearing agent, but takes into account only those transactions that have been properly authorised. Clearing of transactions takes place after the clearing agent submits clearing files to American Express, where the accuracy of these files is verified first. These files are then submitted for clearing, where the positions of American Express participant are netted. As a result a report is issued, serving as a basis for the settlement. This process is automated. Within the process, American Express provides its accounting agent with clearing reports. The agent converts the reports received into settlement orders and transmits them, via SWIFT (Society for Worldwide Interbank Financial Telecommunication),¹¹³ to the clearing agent of American Express participants.

4.4. Payment schemes of other payment instruments

At the end of 2018, the following payment schemes were in operation in Poland: BLIK, mPay, SkyCash, Snoopay, YetiPay and Peopay.¹¹⁴

Chart 4.2. Market share of other payment schemes in 2018 (by transaction value)



Source: NBP study.

¹¹³ The Association for Global Interbank Financial Telecommunications was established in 1973 by banks. It aims to ensure international communication regarding payments. Its registered office is located in Belgium.

¹¹⁴ The analysis carried out by NBP in 2019 showed that the current form of provision of the Peopay service does not allow for its qualification as a payment scheme, therefore, in June 2019, Peopay was deleted from the List of Payment Schemes supervised by the President of NBP available at the NBP website https://www.nbp.pl/en/system_platniczy/list-of-systems-and-schemes.pdf.

4.4.1. BLIK Payment Scheme

BLIK Payment Scheme is a four-party scheme managed by Polski Standard Płatności Sp. z o.o. The basic payment instrument is a mobile application, which enables execution of payment transactions in zloty. The application user – a client of the issuer of a payment instrument (currently only banks are the issuers) – can make BLIK transactions at points-of-sale, on the internet as well as withdraw or deposit cash at ATMs and CDMs. The mobile application also enables payments to another user (P2P transaction).

Participation in the BLIK payment scheme is linked to participation in the BLIK payment system. A participant may not use a BLIK payment scheme without entering into a participation agreement in the BLIK payment system.

The process of authorisation, clearing and settlement of payment transactions within the BLIK payment scheme

Basically, the authorisation process of a payment transaction under the BLIK payment scheme proceeds as in the case of four-party card payment schemes. The clearing and settlement process is carried out according to the procedure presented in Chapter 5.3.5.

4.4.2. Other payment schemes

Other payment schemes operating in Poland at the end of 2018 comprised mainly three-party schemes, some of which (e.g. SkyCash, mPay) have partially outsourced acquiring services to other payment service providers. Payment instruments issued by these schemes include mobile applications (e.g. SkyCash, YetiPay) or electronic wallets (e.g. mPay, Smoopay, Peopay).

Chapter 5

Interbank clearing and settlement - payment systems



Interbank clearing and settlement - payment systems

5.1. General overview

Interbank settlement in Poland is carried out mainly through payment systems. A payment system is a formal arrangement between at least three institutions where common rules for clearing or processing their payment orders apply.¹¹⁵ Payment systems are categorised as either large-value payment systems or retail payment systems. Polish banks clear large-value payment orders (involving mainly interbank money market and foreign exchange market operations and securities market operations) most often in NBP¹¹⁶ and retail payment orders - in retail payment systems operated by external entities.

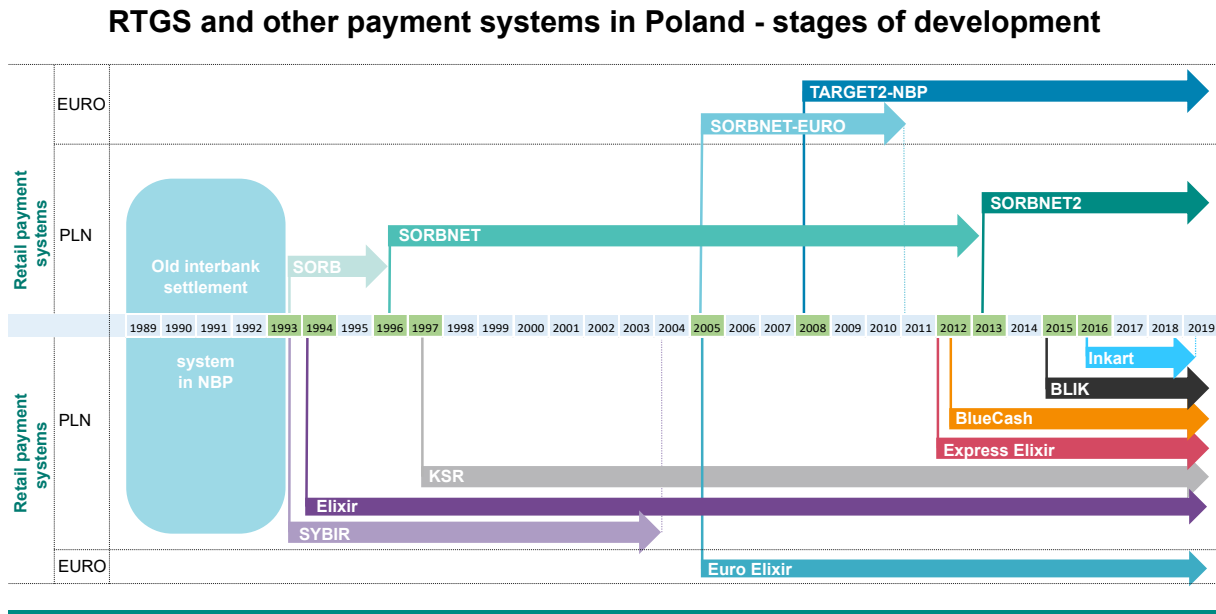
NBP is the operator of two large-value payment systems where interbank payments are settled on a real-time gross settlement basis (RTGS) in central bank money: the SORBNET2 system for payments in zloty and the TARGET2-NBP system for payments in euro. These systems are also used for interbank settlement of payments resulting from the exchange of payment orders processed in retail payment systems, such as Elixir (for payments in zloty) and Euro Elixir (for payments in euro), operated by KIR SA, and financial instrument clearing and settlement systems operated by KDPW_CCP SA and KDPW SA, respectively.

The vast majority (in terms of volume) of interbank operations is settled in retail payment systems with net settlement operated by KIR SA: Elixir for payments in zloty and Euro Elixir for payments in euro. Moreover, KIR SA is an operator of an instant payment system in zloty Express Elixir, which enables transfer of funds between bank clients' accounts in near real time. There are other retail payment systems in Poland – parallel with the systems operated by KIR SA - BLIK mobile payment system operated by Polski Standard Płatności sp. z o.o., BlueCash instant payment system operated by Blue Media SA and KSR operated by First Data Polska SA.

¹¹⁵ In accordance with Article 1(1)(1) of the Act on Settlement Finality, a payment system is “a legal relationship governed by the Polish law between at least three institutions, of which at least one must be an institution referred to in subparagraph 5(a) to (d) or (h) [the institutions referred to in paragraph 5(a) to (d) or (h) include: NBP, other state central bank, a domestic bank, a foreign bank branch, a credit institution, a branch of a credit institution, a credit union, the National Association of Cooperative Savings and Credit Unions, an investment company and a public authority] except an indirect participant, with common rules, applicable to the participants, for the execution of settlement orders referred to in subparagraph 12(a), subject to Article 2a”.

¹¹⁶ Large-value payments can also be processed in Elixir, since it manages the so-called settlement guarantee mechanism.

Figure 5.1. Development of payment systems in Poland



Source: NBP study.

5.2. Large-value payment systems

A large-value payment system handles payment orders between banks with a relatively high unit transaction value and high priority.¹¹⁷ There are two large-value payment systems within the Polish payment system: SORBNET2 for payments in zloty and TARGET2-NBP for payments in euro. Both systems are owned and operated by NBP¹¹⁸ while TARGET2 is operated by a group of three central banks (3CBs), comprising Banque de France, Deutsche Bundesbank and Banca d'Italia. Large-value payment systems are classified as systemically important systems pursuant to the Act on Settlement Finality and therefore both systems were notified to ESMA as so-called designated systems under the SFD.¹¹⁹

¹¹⁷ "Principles for financial market infrastructures", CPSS-IOSCO 2012, p. 8.

¹¹⁸ TARGET2-NBP is operated by NBP as regards the legal side of transactions, whereas as regards the operational side, it is managed by 3CBs.

¹¹⁹ The list of EU payment and securities settlement systems designated under Article 10(1) of the SFD can be found on ESMA website: https://www.esma.europa.eu/sites/default/files/library/designated_payment_and_securities_settlement_systems.pdf, access: October 2019. The list of systems designated under Article 22(1) of the Act on Settlement Finality is available on the NBP website: <https://www.nbp.pl/systemplatniczy/nadzor/lis.pdf>, access: October 2019.

5.2.1. SORBNET2

The SORBNET2 system was launched on 10 June 2013. It replaced the SORBNET system that had been operating since 1996. As a consequence, the Polish RTGS system has become more modern and safer. The use of communication standards offered by the SWIFT international telecommunications network and the application of new technological solutions enhanced the reliability of the system operation and its efficiency and thus, the security and effectiveness of interbank transactions.

5.2.1.1. Rules of operation

The SORBNET2 rules of operation are set out in Ordinance No. 30/2017 of the President of NBP, the Resolution No 9/2013 of the NBP Management Board and in agreements concluded between NBP and SORBNET2 participants. The aforementioned legal acts of the NBP governing bodies set out the criteria for participation in the system and general settlement rules. In addition, the participation agreement lists entities authorised to send payment orders, types of operations performed by authorised entities, rules for placing and processing payments and system security rules.

5.2.1.2. Participation in the system

Pursuant to § 13(1) of Ordinance No 30/2017 of the President of NBP, NBP, a bank, including the central bank of another state, a so-called ancillary system operator (i.e. the payment system, the system for clearing or settlement of financial instruments), the National Association of Cooperative Savings and Credit Unions and the BFG may be participants in the system. The criteria for accessing the system and holding accounts are defined in § 13 of the aforementioned Ordinance and in Resolution No 9/2013 of the NBP Management Board. Pursuant to the aforementioned acts, applicants for participation in SORBNET2 are required to meet the following requirements:

- financial standing of an entity has been recognised as sound by NBP,
- an entity meets specified technical requirements and has passed connectivity tests in the production environment.

Pursuant to Article 51(1)(4) of the Act on Narodowy Bank Polski ancillary systems operators are obliged to obtain additionally the consent of the President of NBP to hold an account with NBP. Detailed rules on opening and holding accounts for SORBNET2 participants with NBP are outlined in agreements concluded by NBP with the participants.

SORBNET2 operates current accounts for 44 banks (as at 31 December 2018) and the National Association of Cooperative Savings and Credit Unions as well as accounts for KIR SA (including an escrow account accumulating liquidity of banks participating in Express Elixir and a technical account for settlement of Elixir within three settlement sessions) as well as KDPW SA and KDPW_CCP SA. NBP is also a SORBNET2 participant.

5.2.1.3. Types of operations

SORBNET2 processes banks' payments related to transactions concluded on the interbank money market and foreign exchange market, transactions in securities and operations between banks and NBP. It can be used for processing of payments sent by banks on their own behalf

or on behalf of their customers. Payments related to monetary policy operations are also processed in SORBNET2.

The basic advantage of the use of the system from the point of view of both an individual and an institutional customer is the speed and security of payment settlement. Due to the fact that payments are accepted continuously, it takes less than several seconds from entering a payment order by the sender into the system to its receipt by the payee's bank. Another important advantage of the system is the lack of limitations regarding the value of payment, which enables settlement of liabilities between natural persons and commercial entities in accordance with their needs.

Moreover, the system is used for settlement of banks' liabilities resulting from the so-called ancillary systems, i.e.: settlement orders (net positions) crediting or debiting banks' accounts due to exchange of orders in the Elixir system (operated by KIR SA) as well as settlement orders of the cash leg of transactions in financial instruments, submitted by KDPW SA and KDPW_CCP SA and NBP Domestic Operations Department, which is the operator of the SKARBNET4 system.

5.2.1.4. Settlement

SORBNET2 operates full-time, i.e. from 7.30 a.m. to 6.00 p.m.,¹²⁰ on every working day from Monday to Friday, except public holidays. Payments classified in SORBNET2 as client orders are accepted and settled only until 4.00 p.m. or 4.15 p.m. depending on the type of message, whereas interbank payments - until 6.00 p.m. After 6.00 p.m., payment orders are rejected.

The settlement of payments takes place in SORBNET2 in Y-Copy mode. It means that a payment to a designated system participant will reach it once NBP has performed settlement in SORBNET2 on participant accounts in that system.

In SORBNET2, the SWIFT service is used for communication between participants within the system. Therefore, system participants must have access to the SWIFTNet network, i.e. SWIFT Secure IP Network (SIPN) for the exchange of orders and messages. The issuance and receipt of payments and messages as well as their transmission for settlement in SORBNET2 may be carried out by a participant in an automated manner, using the participant's own dedicated internal application or directly from the SWIFT terminal (in the case of participants with a small volume of payments).

In an emergency mode, certain number of interbank messages deemed urgent by a participant may be sent by e-mail to the designated address of the DSP in the form of a PDF file, signed by authorised persons and authenticated by a qualified electronic signature. It can also be delivered in the form of a paper document, from which an authorised DSP employee enters data into the system.

SORBNET2 ensures real-time gross settlement through banks' current accounts held with NBP. The system handles payments sent by banks, NBP, KIR SA, KDPW SA and KDPW_CCP SA. Banks may perform credit operations by sending orders debiting only their own accounts.

¹²⁰ Except 24 December and the last operating day of the year, when the system works between 7.30 a.m. and 4.00 p.m.

NBP, KIR SA, KDPW SA and KDPW_CCP SA are authorised by banks to send orders debiting also the banks' accounts.

The orders are settled provided that a participant has sufficient funds on an account (the balance of funds on an account cannot fall below zero). Orders with a deferred date of settlement may be sent to the system (for a maximum of five operational days ahead). Such orders are placed in a payment queue for the next days. Settlement of net positions resulting from the settlements processed by KIR SA takes place in SORBNET2 within three settlement sessions per day. Settlement of net positions sent by KDPW S.A. also takes place in SORBNET2 within three settlement sessions per day.

Depending on the availability of funds on the participant's account, orders are either settled on an ongoing basis or placed in the central queue until sufficient funds for their settlement are accumulated. When the funds are available, the payer's account is debited and the beneficiary's account is credited simultaneously. The payer receives a confirmation that the transaction has been completed and the beneficiary receives the confirmation that its account has been credited. Additionally, participants can monitor the clearing and handle the payment queue using the SORBNET2 Monitoring Module (MMS2). This function is optional and available in two variants: user-to-application (U2A) and application-to-application (A2A). Queued payments are cleared automatically (in accordance with the sender's priority) when sufficient cover is provided.

In SORBNET2, there is a queuing optimisation facility which checks possibility to settle queued orders by their bilateral or multilateral offsetting. This means that in the case where a participant does not hold sufficient funds on its current account in SORBNET2 and a potential clearing of mutual payments between participants does not result in a negative balance on any current account, all pending payments in the queue will be cleared upon triggering of the mechanism. Orders that remain in the queue at the end of the day are automatically rejected back to a sender. At the end of the day, the system automatically generates and sends statements of current accounts to the banks.

5.2.1.5. Credit and liquidity risk

SORBNET2, which is the RTGS system, does not create credit risk for participants.

Banks have access to liquidity through the use of their funds during the business day, which are simultaneously recognised as funds held as the reserve requirement. Moreover, NBP extends interest-free, secured intraday credit under a relevant agreement. The credit may be extended to banks which are at the same time participants of SORBNET2 and SKARBNET4 or of a KDPW SA system. Banks can access the intraday credit on any business day, provided that they submit to NBP a collateral in the form of an assignment of securities denominated in zloty and deposited in

SKARBNET4 or in KDPW SA, i.e., respectively, Treasury bills or NBP bills, or Treasury bonds and other debt securities accepted by NBP as collateral.¹²¹ Before day closure, SORBNET2 generates credit repayment orders. The intraday credit not repaid on time is automatically

¹²¹ The list of debt securities eligible as collateral for the Lombard credit, the intraday credit and repo operations is published on the NBP website.

converted into a loan that should be repaid on the next business day (overnight), bearing interest at the rate of the Lombard credit. If the bank fails to provide the funds to repay the loan together with the interest due by 10.30 a.m. on the next business day, NBP shall sell securities to cover the bank's liabilities. If a bank fails to repay the intraday credit by 6 p.m. twice in a given month, it shall lose the right to receive the intraday credit from NBP over the next 30 days.

5.2.1.6. Fee policy

NBP charges fees for maintaining and operating banks' current accounts in SORBNET2 in accordance with the "Table of Banking Fees and Commissions applied by Narodowy Bank Polski", which is attached as an annex to the Resolution of the NBP Management Board on banking fees and commissions applied by Narodowy Bank Polski.¹²²

5.2.1.7. Statistical data

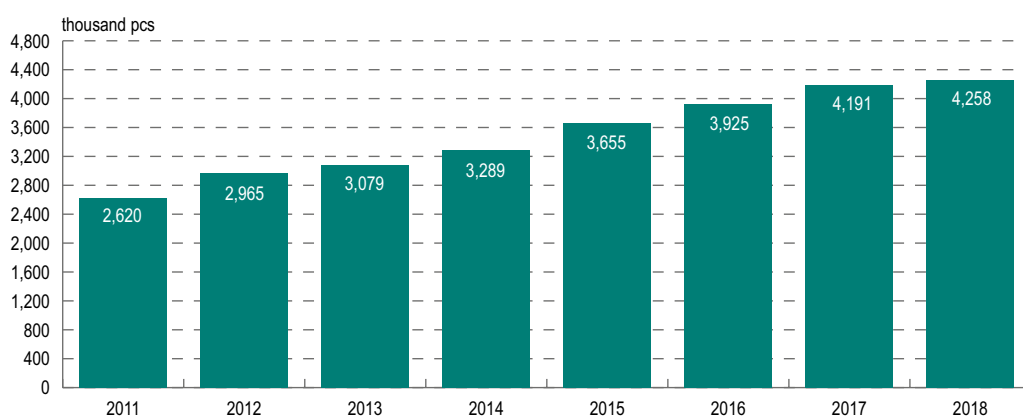
In 2018, 4,258 thousand orders were settled in SORBNET2 (in 2017 - 4,191 thousand) for the amount of PLN 77.9 trillion (in 2017 - PLN 73.1 trillion). It means an increase in the number of settled orders by 67.1 thousand (1.6%) and an increase in their value by PLN 4.8 trillion (6.5%) compared to 2017. The average value of a single transaction amounted to PLN 18.3 million and increased by 4.9% in relation to the previous year (PLN 17.4 million in 2017).

The average number of payments processed monthly in SORBNET2 in 2018 amounted to 354,867 (in 2017 - 349,278), while the average monthly trading value reached PLN 6.5 trillion (in 2017 - PLN 6.1 trillion). In 2018, the average daily number of transactions amounted to 16,898 (in 2017 - 16,699) and the average daily value of transactions reached PLN 309.1 billion (in 2017 - PLN 291.2 billion).

In order to illustrate the development of SORBNET2 (handling large value payments in zloty) from the perspective of processed transactions, information on the volume and value of orders settled in SORBNET (operating until 9 June 2013) and SORBNET2 (operating since 10 June 2013) in 2011-2018 is presented below.

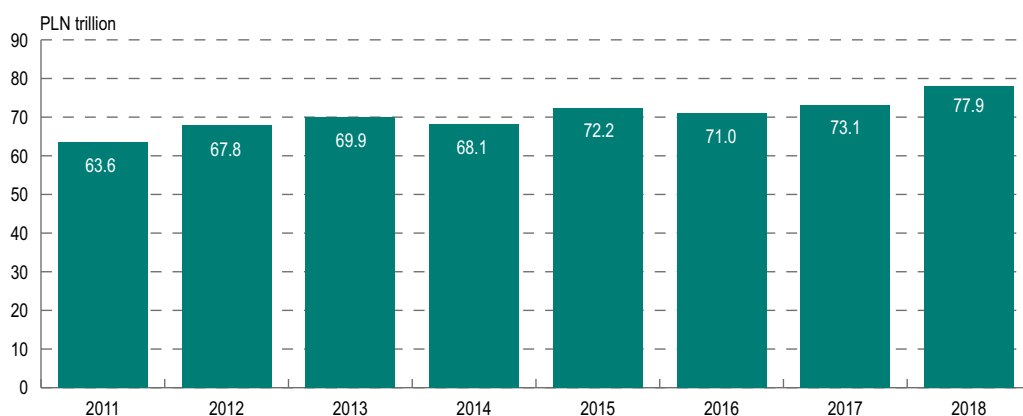
In accordance with the data presented in Chart 5.1, the annual number of orders shows a stable upward trend. This demonstrates an increase in demand for settlement of large-value payments in zloty.

¹²² Resolution No. 29/2014 of the NBP Management Board of 5 June 2014 on bank commissions and fees applied by Narodowy Bank Polski.

Chart 5.1. Number of orders settled in SORBNET and SORBNET2 in 2011-2018 (thousand pcs)

Source: NBP study.

The value of orders settled in SORBNET2 in 2011-2018 also shows an upward trend, although the annual value of orders in 2014 and 2016 was lower than in previous years. Both the volume and value of orders settled during the year confirm the gradual development of SORBNET2.

Chart 5.2. Value of orders settled in SORBNET and SORBNET2 in 2011-2018 (PLN trillion)

Source: NBP study.

5.2.2 TARGET2-NBP

TARGET2-NBP launched on 19 May 2008, is an RTGS system for settlement of payments in euro. It is the Polish component of TARGET2 - the pan-European RTGS system for payments in euro, in which 25 central banks participated at the end of 2018. The launch of TARGET2-NBP was one of the most important moments of the integration of the Polish payment system with the European infrastructure. NBP is one of five non-euro area central banks (besides the central banks of Bulgaria, Croatia, Denmark and Romania) which allowed national banking community to have direct access to settlement in euro in TARGET2.

TARGET2 is one of the largest and most significant global payment systems. It is used to settle payments in euro in central bank money. This system consists of national components, which are operated by EU central banks in accordance with TARGET2 legal framework, in particular, in compliance with the Guideline of the European Central Bank on a Trans-European Automated Real-time Gross settlement Express Transfer system (TARGET2) (ECB Guideline)¹²³ and the TARGET2 Agreement, which lays down the terms and conditions for participation of non-euro area central banks in this system.

The major change introduced upon the launch of TARGET2, compared to the first generation system – TARGET, is full technological centralisation. TARGET2 was developed on the so-called Single Shared Platform (SSP),¹²⁴ which enables to offer the same services to all participants. Notwithstanding technological harmonisation, however, it has remained legally decentralised, i.e. it consists of RTGS systems (called TARGET2 components) operated independently by participating central banks.

In June 2015 significant changes to the system architecture were introduced with the launch of TARGET2-Securities (T2S) platform for the settlement of transactions in securities and the launch in November 2018 of the TARGET Instant Payments Settlement (TIPS)¹²⁵ platform for the settlement of immediate payments. The settlement in euro on these two platforms is governed by TARGET2 rules. NBP has introduced the necessary infrastructure adaptations enabling cooperation with the T2S and TIPS platforms and thus reached readiness to provide a full range of services offered in TARGET2-NBP to participants.

5.2.2.1. Rules of operation

Ordinance No 30/2017 of the President of NBP provides the legal basis for interbank settlements in euro in TARGET2-NBP. The terms and conditions of opening and holding accounts in TARGET2-NBP by NBP are specified in Resolution No 9/2013 of the NBP Management Board. Detailed rules on opening and operation of accounts in euro for TARGET2-NBP participants by NBP are outlined in agreements concluded by NBP with the participants.

5.2.2.2. Participation in the system

NBP, a bank, an ancillary system operator and the National Association of Cooperative Savings and Credit Unions may be TARGET2-NBP participants pursuant to § 20(1) of Ordinance No 30/2017 of the President of NBP. Pursuant to Article 51(1)(4) of the Act on Narodowy Bank Polski, to participate in TARGET2, ancillary systems operators are obliged additionally to obtain the consent of the President of NBP to maintain an account with NBP.

As at 31 December 2018, accounts in euro were held for 21 entities in TARGET2-NBP: NBP, 17 banks and 3 entities managing ancillary systems, i.e. KIR SA, KDPW SA and KDPW_CCP SA.

¹²³ Guideline of the European Central Bank of 5 December 2012 on a Trans-European Automated Real-time Gross Settlement Express Transfer system (TARGET2) (OJ L 30/1 of 30.01. 2013).

¹²⁴ The SSP platform for the Eurosystem was developed and is operated by three central banks: Deutsche Bundesbank, Banque de France and Banca d'Italia.

¹²⁵ The T2S and TIPS platforms for the Eurosystem were developed and are operated by four central banks: Deutsche Bundesbank, Banco de España, Banque de France and Banca d'Italia.

5.2.2.3. Types of operations performed

At the end of 2018, 21 TARGET2-NBP participants held accounts on the SSP platform. One of them had an additional account opened on the T2S platform, while none had an account on the TIPS platform. Taking this into account, it should be noted that the most important functionality used by TARGET2-NBP participants is the settlement of domestic and cross-border payments in euro and the settlement of ancillary systems, i.e. the settlement of domestic and cross-border orders processed in the Euro Elixir system operated by KIR SA, as well as orders sent by KDPW SA and KDPW_CCP SA.

5.2.2.4. Settlement

The SSP platform consists of several modules. The basic module is the so-called Payment Module (PM), in which accounts are maintained and payments settled. Direct participants in TARGET2 holding an account in PM submit orders on their own behalf and on behalf of their customers. In addition to placing orders on their own behalf, they are also authorised to designate other entities, satisfying certain criteria, as their indirect participants or so-called addressable BIC holders.¹²⁶ However, indirect participants and addressable BIC holders do not have a direct access to the system, but send and receive orders via the direct participant. In order to grant direct access to authorised entities to process orders, a direct participant may use an additional service offered in TARGET2 - the multi-addressee access. Regardless of the method of handling orders for the above mentioned entities, orders are always recorded on a direct participants' account.

The SSP platform operates from Monday to Friday¹²⁷ from 7.00 a.m. to 6.00 p.m. The cut-off time for client orders is 5.00 p.m. and for interbank orders - 6.00 p.m.

The SSP platform is accessible via the internet to a functionally limited extent,¹²⁸ and via the SWIFT¹²⁹ network. Placing orders and exchange of payment messages in PM take place via the SWIFTNet FIN Y-copy service, with the use of specific payment messages.

The orders are processed provided that a participant has sufficient funds on the account (balance of funds on an account cannot be negative).

Apart from placing orders, TARGET2 participants have access to a number of services supporting the settlement of payments on the SSP platform, such as the prioritisation of payments, reservation of liquidity, determining the settlement date or placing orders up to five operational days before the settlement date. Participants can also use expanded mechanisms both for monitoring of available liquidity and managing queued orders. Moreover, the SSP platform introduced sophisticated settlement optimisation facility, supporting smooth pay-

¹²⁶ Business Identifier Code - an international code assigned by SWIFT which enables unambiguous identification of a financial institution.

¹²⁷ The system is not available on New Year's Day, Good Friday and Easter Monday, 1 May and 25 and 26 December (Christmas). The same operational calendar shall apply for the settlement in euro on the T2S platform. It is only possible on business days when the SSP platform is open. Instant payment orders processed on the TIPS platform, in accordance with the SEPA instant credit transfer scheme (SCT Inst), can be settled 24 hours a day on any calendar day.

¹²⁸ At the end of 2018, none of the TARGET2-NBP participants used this service.

¹²⁹ Unlike the SSP platform, network service providers for the T2S and TIPS platforms can be both SWIFT and SIA/Colt.

ment processing. For ancillary systems, the SSP platform offers several settlement procedures which allow for the selection of settlement rules most suited to the needs of a given entity.

5.2.2.5. Credit and liquidity risk

As an RTGS system, TARGET2-NBP, like SORBNET2, does not create credit risk for participants.

NBP offers intraday credit in euro which is an important liquidity management tool available in TARGET2-NBP. It is a credit extended and repaid on the same operating day. It is secured by way of assignment of securities accepted by the ECB, i.e. Treasury bonds deposited with KDPW SA, which are subject to fixing on the Treasury BondSpot Poland (TBSP) market operated by BondSpot SA.¹³⁰ Since NBP is a non-euro area central bank, the funds in euro, from which the credit is extended to participants, are obtained by NBP from a euro area commercial bank under a separate agreement.

The intraday credit in euro is an important element of liquidity source for banks, in particular since the settlement of payments in TARGET2-NBP is only possible up to the account balance. Orders for which there is no sufficient cover are queued and in the case of a shortage of funds on the account at the end of the operating day, they are rejected. By extending intraday credit to its participants, NBP supports smooth clearing in TARGET2-NBP and liquidity management by participants.

5.2.2.6. Fee policy

NBP charges commissions and fees for managing an account in the system and other activities, in accordance with the Resolution No 29/2014 of the NBP Management Board. The Resolution adopts general principles concerning fees in TARGET2, set out in the ECB Guideline. Detailed information on charging individual types of fees is outlined in the TARGET2-NBP participation agreement.

In accordance with the TARGET2 rules, a direct participant shall pay fees, in particular, for registering an indirect participant and an addressable BIC holder and for granting multi-addressee access. In addition, if accounts on the T2S and TIPS platforms are linked to the participant's PM account, the participant shall also bear the fees associated with the use of these platforms.

5.2.2.7. Statistical data

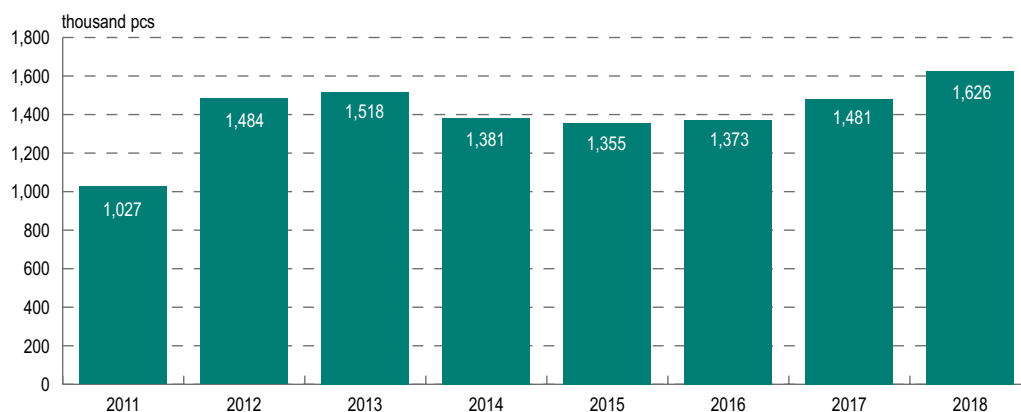
In order to depict the development of TARGET2-NBP in terms of processed transactions, information on the volume and value of orders settled in the system in 2011-2018 is presented below.

According to the data presented in Chart 5.3, an increase in the number of orders settled in TARGET2-NBP was observed almost every year, with the exception of 2014 and 2015, when a decrease was recorded. However, this was a short-term change and a recovery of an upward trend has been observed since 2016. In 2018, 1,626 thousand transactions were processed in TARGET2-NBP. It was the highest number of orders settled in this system over the year. This means that the number of orders settled in 2013 (1,518 thousand), representing the previous

¹³⁰ The current list of Treasury bonds eligible as a collateral for intraday credit in euro is published on the NBP website.

maximum was exceeded. Compared to 2017, the number of payments settled increased by 144 thousand in 2018 (i.e. by 9.8%).¹³¹

Chart 5.3. Number of orders settled in TARGET2-NBP in 2011-2018 (thousand pcs)

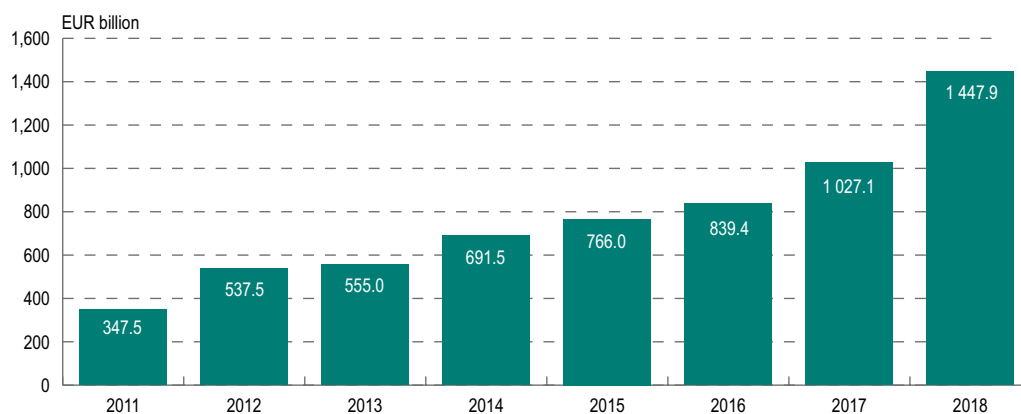


Note: Data on volume and value of orders settled are reported without so-called technical liquidity transfers carried out by banks and NBP, in particular without transfers of funds between the participant's own accounts, in accordance with an algorithm developed by ECB and do not cover transactions carried out on an account opened on the T2S platform. The data on the volume and value of orders in 2011 take into account transaction turnover in SORBNET-EURO, connected to TARGET2 in 2011. SORBNET-EURO participants were indirect participants in TARGET2-NBP. Banks used this form of NBP intermediation in accessing TARGET2 until 18 November 2011. The SORBNET-EURO system was closed in 2011

Source: NBP study.

As regards the value of orders settled in TARGET2-NBP, an upward trend continues in this area. It was particularly strong in the last two years. The value of orders settled in 2018 in TARGET2-NBP amounted to EUR 1,447.9 billion and as compared to 2017, it grew by EUR 420.8 billion, i.e. 41%. Chart 5.4 demonstrates annual values of the orders settled in TARGET2.

Chart 5.4. Value of orders settled in TARGET2-NBP in 2011-2018 (EUR billion)



Source: NBP study.

¹³¹ The percentages provided in this subparagraph have been calculated on the basis of non-rounded data.

5.2.3 Development prospects

On 6 December 2017, the Governing Council of the ECB approved a proposal to consolidate TARGET2 and the T2S platform, which is scheduled to be implemented in November 2021. The main focus of the project is to enable TARGET2 to exploit advanced solutions available on the T2S platform. The primary objective of consolidating TARGET2 and the T2S platform is to centralise and harmonise those functionalities that are used in different business areas and, consequently, to reduce costs, increase efficiency, harmonise and streamline many areas. An important element of consolidation is implementation of a flexible and effective liquidity management model. In addition, within the consolidated system, enabling settlement also in currencies other than the euro as well as enabling participants to use offers of various network service providers is planned. It is also worth emphasising that the settlement of payments in the consolidated infrastructure will be based on messages compliant with the ISO 20022 standard.

5.3. Retail payment systems

A retail payment system processes a large number of payment orders with a relatively low transaction unit value (e.g. in the form of credit transfer) executed between individuals and economic operators.¹³²

In accordance with the document “Narodowy Bank Polski payment system oversight policy”, retail payment systems can be divided into three categories: systemically important, prominently important and other systems. Systemically important retail systems include the largest system in terms of the number of payment orders executed as well as systems where the scope of possible interruptions would be significant for the financial system stability (currently the Elixir payment system belongs to this category).

Prominently important retail payment systems include payment systems which settle at least 25% of payment orders processed within retail payment systems in a given currency (currently the Euro Elixir payment system belongs to this category).

Other retail payment systems include payment systems which do not meet the criteria of either systemically important payment system or prominently important retail payment system (e.g. BlueCash and Express Elixir).

5.3.1. Elixir

In accordance with Article 67 of the Banking Act, the State Treasury or banks, together with banking chambers of commerce can establish clearing houses in the form of commercial companies in order to transfer payment orders and set mutual claims resulting from these orders. In Poland, KIR SA plays such a role. The rules of payment orders transfer through KIR SA are set forth in relevant regulations on clearing. The rules define both mutual claims of KIR SA and participants as well as the schedule of transfer of orders in Elixir and Euro Elixir systems operated by the clearing house.

¹³² As defined in the ECB document entitled “Revised Oversight Framework for Retail Payment Systems”, https://www.ecb.europa.eu/pub/pdf/other/Revised_oversight_framework_for_retail_payment_systems.pdf, accessed in October 2019.

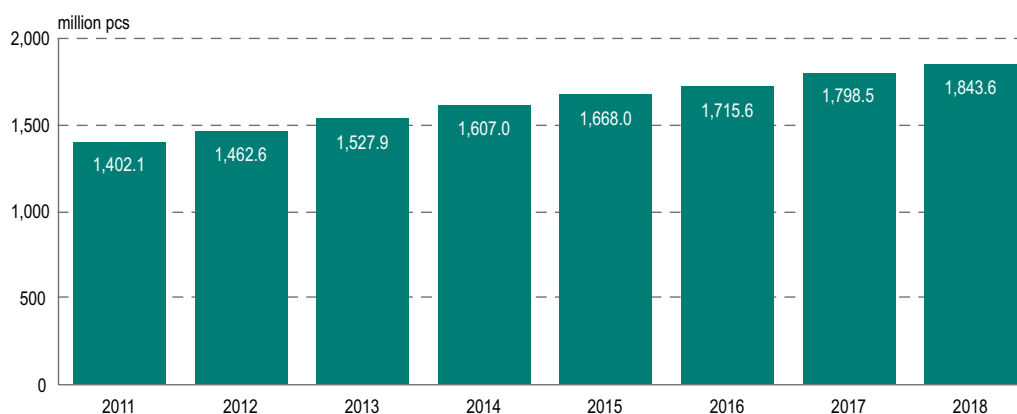
The Elixir payment system has been operating since 1994. It is the largest electronic interbank clearing system in Poland. It has been notified to ESMA as a designated system under the SFD. As at the end of 2018, 40 banks participated in the system.

The model of multilateral offsetting of transfers processed between banks has been applied within the system.¹³³ It enables efficient and secure clearing of orders between participating banks through the electronic transfer of payment messages and information between its participants. Moreover, it enables clearing of orders submitted by ancillary systems. Credit and debit orders are processed in Elixir. The orders submitted to the system are cleared within one of three Elixir sessions, in accordance with the “Schedule of clearing flows in the Elixir and Euro Elixir systems”, taking place from Monday to Friday, excluding public holidays,¹³⁴ while the settlement is carried out in the SORBNET2 system.

Apart from standard messages for credit transfer or cash deposit, Elixir also supports a set of messages for direct debit in the basic scheme and in business-to-business (B2B) scheme. Since July 2018, Elixir enables banks’ customers to make payments in accordance with the split payment mechanism.¹³⁵

In 2018, the turnover in the Elixir system amounted to PLN 5.3 trillion. The number of orders reached 1,843.6 million. During this period, Elixir processed, on average, about 7.3 million transactions daily with the total value of PLN 20.1 billion.

Chart 5.5. Number of orders cleared in Elixir in 2011-2018 (million pcs)

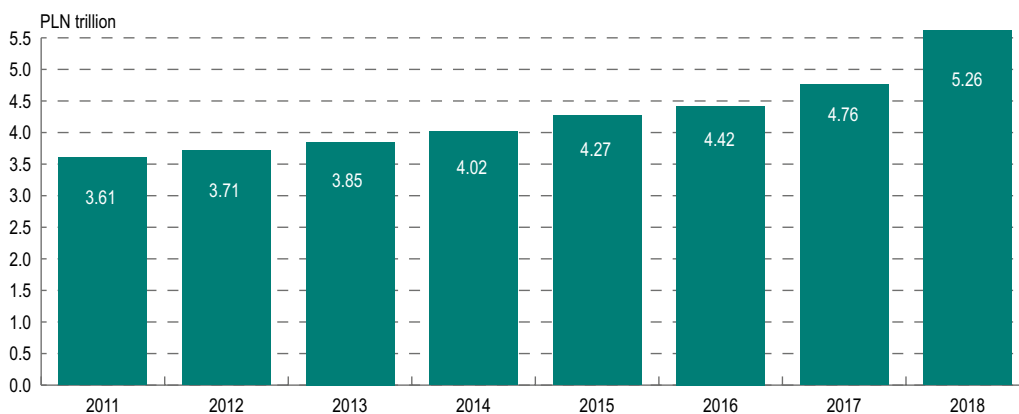


Source: NBP study.

¹³³ In accordance with Article 1(16) of the Act on Settlement Finality, netting means the conversion into one net claim or one net obligation of each participant’s mutual obligations and claims resulting from the exchange of settlement orders between the participants.

¹³⁴ The session schedule is available online at: <https://www.kir.pl/en/banks/elixir/system-elixir/>, access: October 2019. Two settlement sessions are held on 24 and 31 December.

¹³⁵ It applies to transactions between VAT taxable persons and involves a possibility of paying VAT to a dedicated bank account - a VAT account.

Chart 5.6. Value of orders cleared in ELIXIR in 2011-2018 (PLN trillion)

Source: NBP study.

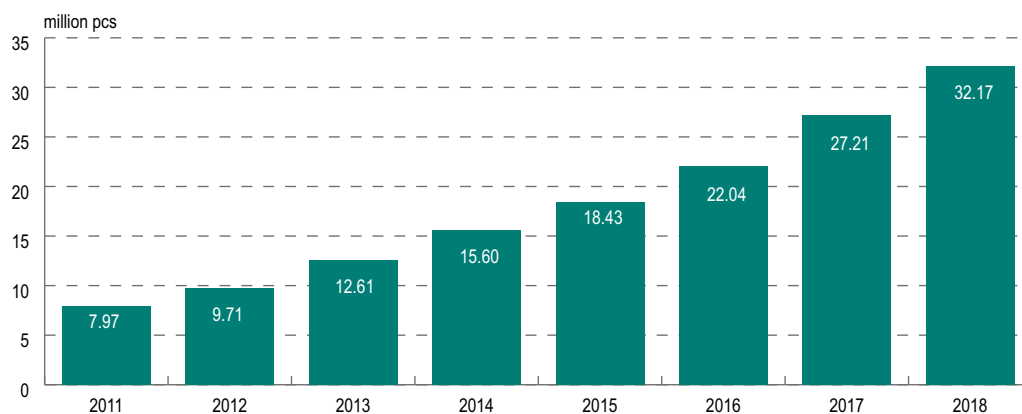
5.3.2. Euro Elixir

The Euro Elixir payment system operated by KIR SA has been functioning on the Polish market since 2005. The system processes both domestic orders denominated in euro, sent between banks in Poland participating in Euro Elixir as well as cross-border orders transfer between Euro Elixir system participants and the participants of external clearing systems to which Euro Elixir is connected. As early as in the first months of its operation, the system started to transmit cross-border payment orders to the pan-European clearing house, STEP2. In the subsequent years, the scope of cross-border order transfer was extended by establishing direct cooperation with clearing institutions from other European countries associated in EACHA.¹³⁶ This ensures pan-European addressability and processing of payment orders across the EU. Since 2008, Euro Elixir has been only handling payments under the SEPA Credit Transfer (SCT)¹³⁷ scheme while the settlement is carried out directly in the TARGET2-NBP system.

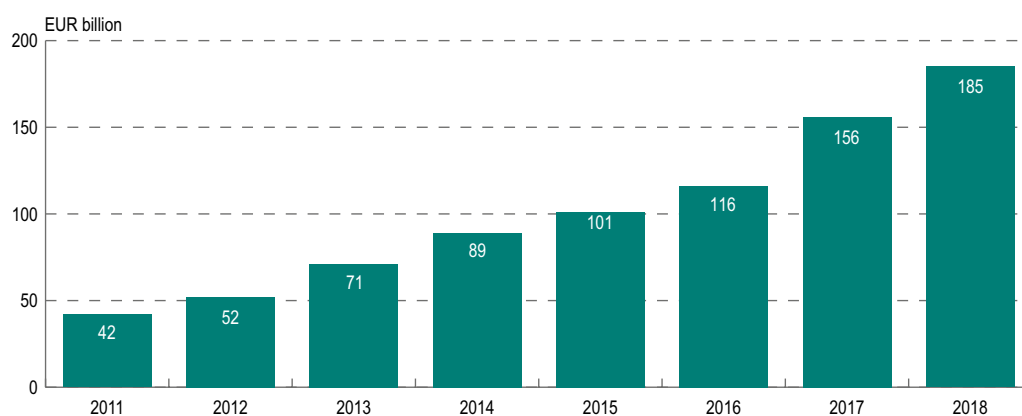
In 2018, the system processed 32.2 million of transactions with the value of 185 billion euro. Over the last 10 years, the number of orders settled during the day increased from 17.6 thousand to 126.1 thousand, i.e. almost 7 times.

¹³⁶ KIR SA cooperates, among others, with EBA Clearing (within STEP2) and some other clearing houses associated in the European Automated Clearing House Association (EACHA).

¹³⁷ A single scheme for handling credit transfers in euro within the European market.

Chart 5.7. Number of orders cleared in Euro Elixir in 2011-2018 (million pcs)

Source: NBP study.

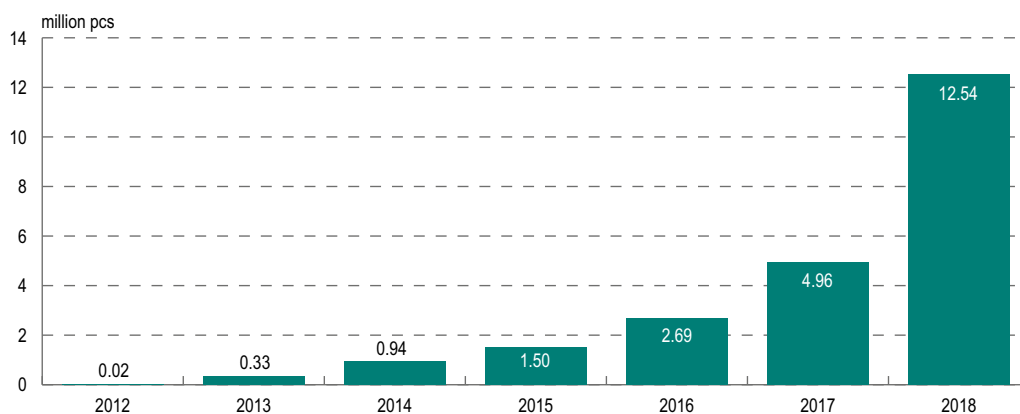
Chart 5.8. Value of orders cleared in Euro Elixir in 2011-2018 (EUR billion)

Source: NBP study.

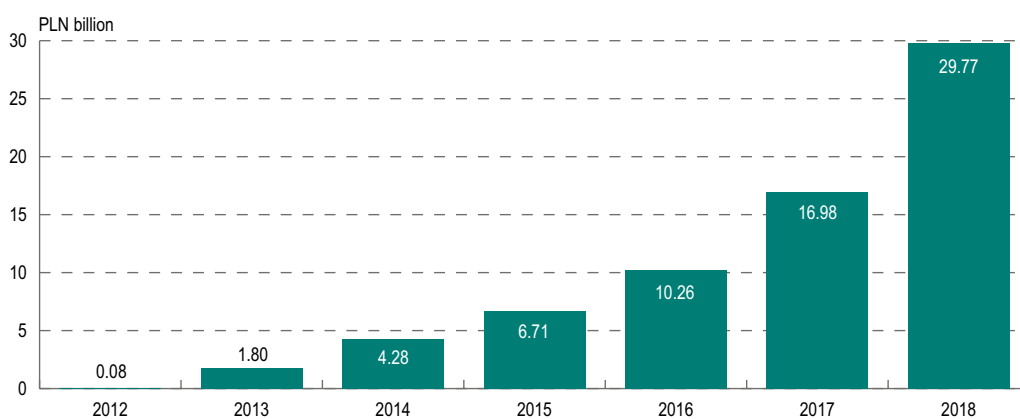
5.3.3. Express Elixir

The Express Elixir system operated by the KIR SA has been functioning on the Polish market since June 2012, based on the approval of the President of NBP of 28 December 2011. Initially, it was called the Instant Payment Clearing System. The system was established in order to process funds transfers between the originator and the recipient, in the close to real time. An end beneficiary of the instant payment service is the bank's client and each bank decides on how to access the service. The functioning of Express Elixir is based on a dedicated escrow account maintained for KIR SA by NBP. Banks participating in the system transfer to this account funds up to which they can send instant transfers (including the value of payment orders received).

In 2018, the turnover in Express Elixir amounted to PLN 29.8 billion and the number of processed transactions reached 12.5 million.

Chart 5.9. Number of orders cleared in Express Elixir in 2012-2018 (million pcs)

Source: NBP study.

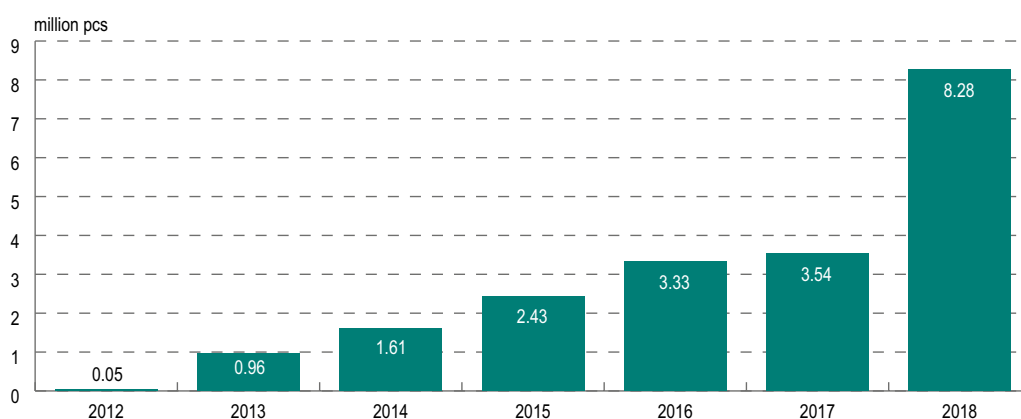
Chart 5.10. Value of orders cleared in Express Elixir in 2012-2018 (PLN billion)

Source: NBP study.

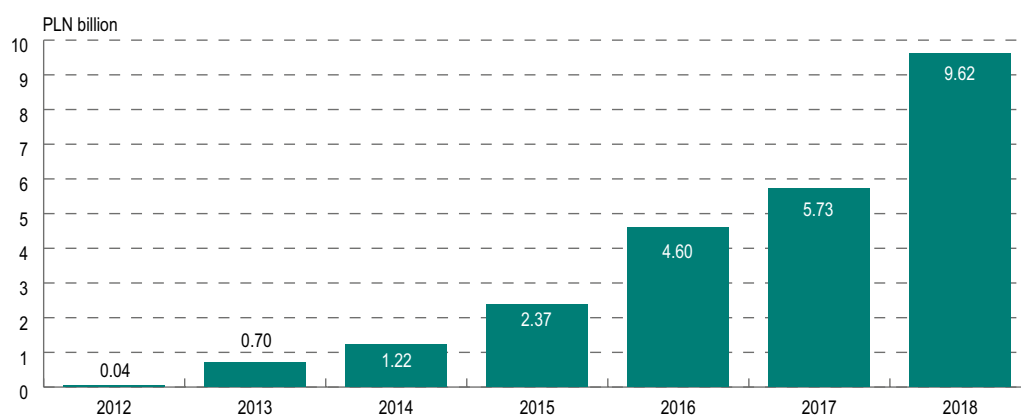
5.3.4. BlueCash

The BlueCash payment system has been in operation since November 2012 based on the approval of the President of NBP of 25 November 2011. The system is operated by Blue Media SA. BlueCash is an instant payment system processing payment orders in the close to real time. Instant transfers settled in BlueCash may be initiated via the internet or mobile banking or at a bank branch. The settlement of orders in the BlueCash system takes place in the money of a commercial bank (instead of the money of the central bank).

In 2018, in BlueCash, 8.3 million transactions with the total value of PLN 9.6 billion were processed.

Chart 5.11. Number of orders settled in BlueCash in 2012-2018 (million pcs)

Source: NBP study.

Chart 5.12. Value of orders settled in BlueCash in 2012-2018 (PLN billion)

Source: NBP study.

5.3.5. BLIK

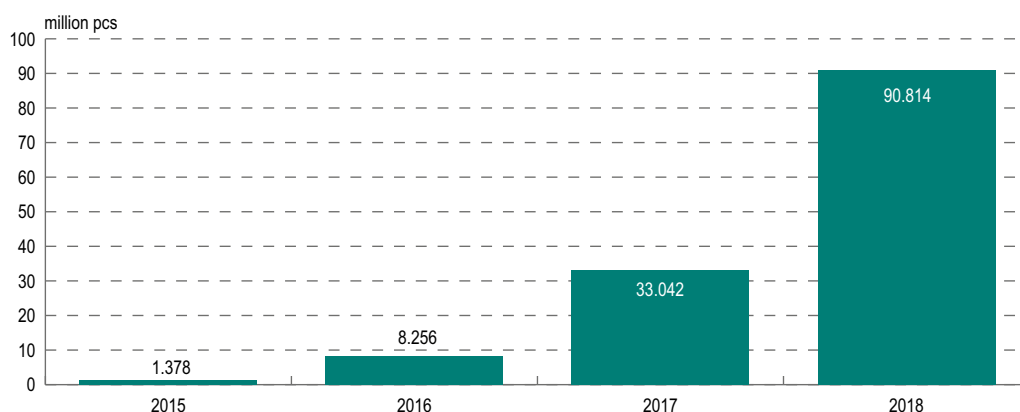
The BLIK payment system is operated by Polski Standard Płatności sp. z o.o. on the basis of the approval of the President of NBP of 12 November 2014. The system enables payments with the use of mobile devices. Transactions can be initiated via the internet, at physical points-of-sale, in public transport, public offices as well as between users (P2P).¹³⁸ Moreover, the system enables cash withdrawals from ATMs.

¹³⁸ P2P payments in BLIK are mobile payments between users of mobile phones. This service enables immediate transfer of money to another person without the need to provide a bank account number, only by entering their phone number or dialling from a list of contacts. In order to activate the service, BLIK user only needs to match his/her phone number with the bank account number in the application.

Payments made using the BLIK mobile application are cleared through two channels. P2P payments (BLIK transfer by phone) are currently cleared by Express Elixir while the remaining payments are cleared on a multilateral offsetting basis by Elixir with the settlement in SORBNET2.

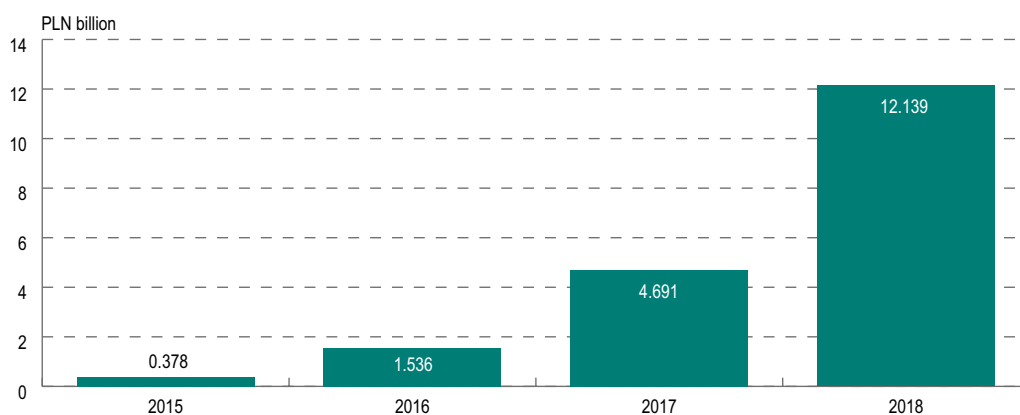
In 2018, the value of transactions processed in BLIK amounted to PLN 12.1 billion whereas the number of transactions reached 90.8 million.

Chart 5.13. Number of orders processed in BLIK in 2015-2018 (million pcs)



Source: NBP study.

Chart 5.14. Value of orders processed in BLIK in 2015-2018 (PLN billion)



Source: NBP study.

5.3.6. Card transaction clearing systems

5.3.6.1. Krajowy System Rozliczeń (National Clearing System)

The KSR has been operating on the Polish financial market since 1997. It is a system of retail payments in zloty. The system operator is First Data Polska SA.

Payment transactions performed with the use of payment cards issued under the Visa and Mastercard systems are subject to clearing in the KSR. The participants of the system are payment card issuers and clearing agents. The following transactions may be executed in the system:

- non-cash operations, including payments in POS terminals,
- cash operations, including cash withdrawals from ATMs,
- other cash and non-cash operations, i.e. a cash withdrawal,

cash back together with the preceding non-cash transaction.

In 2018, the value of transactions executed in the KSR system amounted to PLN 18.2 billion whereas the number of transactions reached 71.6 million.

5.3.6.2. VISA clearing system

Most payments performed with the use of payment cards with the VISA logo are cleared in the PNNSS system operated by Visa Europe Limited. This system is not subject to Polish law and is not supervised by NBP.

5.3.6.3. Mastercard clearing system

Most payments performed with the use of payment cards with the Mastercard logo are cleared in the GCMS system operated by Mastercard Europe SA. This system is not subject to Polish law and is not supervised by NBP.

Chapter 6

Securities settlement systems



Securities settlement systems

6.1. General description

In Poland, trading in financial instruments comprises platforms for trading in equities, debt instruments (including a platform designated for handling treasury securities) and derivatives as well as the market for transactions concluded bilaterally outside trading platforms, covering mainly interbank transactions.¹³⁹

Transactions in financial instruments may be concluded in organised trading (on regulated market or ATS), as well as outside this trading (as direct transactions or transactions conducted through an organised trading platform - OTF). Equity and standardised derivatives (futures contracts and options) are traded on the GPW Main Market and (in the case of equity) on NewConnect, operated by GPW SA, debt instruments are traded on Catalyst market operated by GPW SA and BondSpot SA, while Treasury securities are traded on the TBSP market.

In accordance with the Act on Trading in Financial Instruments, investment firms may be parties to transactions on regulated market, with a few exceptions.¹⁴⁰ This means that trading on domestic regulated markets must be carried out through investment firms (the so-called brokerage obligation). Therefore, an investor wishing to purchase (sell) financial instruments is required to conclude service agreement with the investment company, through which it will be able to place orders (of purchase or sale) related to financial instruments.

Financial instruments traded on the Polish capital market may occur in the traditional form of a document or in the form of an entry in the register of securities (dematerialised securities) or derivatives. With respect to securities traded in the form of a document (non-dematerialised), the transfer of rights from such securities takes place, as a rule, together with the transfer of their ownership under the general rules of civil law. The issue of handling of non-documentary financial instruments is more complex. The reason is that it requires the existence of a dedicated infrastructure enabling safe and reliable recording of financial instruments introduced to trading and efficient handling of all related processes in the post-trading phase.¹⁴¹ This infrastructure includes a securities depository and a system for recording derivative instruments, and a system for clearing and settlement of transactions related to the aforementioned financial instruments.

The system of recording financial instruments in Poland has a two-tier structure (the so-called intermediate system).¹⁴² The first tier, the central level, comprises the booking accounts kept in the financial instruments record system for participants of this system. As a rule, these

¹³⁹ The issue of trading in financial instruments is discussed in more detail in cyclical NBP reports - "Financial System Development in Poland", available online: <https://www.nbp.pl/homen.aspx?f=en/systemfinansowy/rozwoj.html>.

¹⁴⁰ The detailed list of entities which can be parties to transactions concluded on regulated market is specified in Article 31 of the Act on Trading in Financial Instruments.

¹⁴¹ To ensure the security of clearing and settlement and to prevent the theft, counterfeiting or misappropriation of financial instruments.

¹⁴² Contrary to the direct system where investors are identified by the CSD or by the issuer, cf. "Principles for financial market infrastructures", CPSS-IOSCO 2012, p. 8.

accounts do not enable identification of persons entitled to receive the rights under financial instruments. The second tier consists of accounts maintained by the participants of the aforementioned system, i.e., investment firms, custodian banks and other entities authorised to operate such accounts. Unlike booking accounts, these accounts enable identification of eligible persons.

In Poland, securities are recorded within the first tier of recording on depository accounts maintained in the KDPW SA system. The second tier consists of securities accounts and omnibus accounts operated by the participants of this system.¹⁴³ Derivatives admitted to organised trading are registered within the first tier on settlement accounts maintained in the KDPW_CCP SA system. The second tier consists of derivative accounts held by the participants of the above mentioned system.¹⁴⁴

Securities that are subject to public offering, organised trading or issued by the State Treasury or NBP are subject to mandatory dematerialisation. In accordance with the Act on Trading in Financial Instruments,¹⁴⁵ they are dematerialised upon their registration in the central securities depository (securities dematerialisation).¹⁴⁶ In the post-trade phase, transactions in the aforementioned securities as well as other financial instruments in the form other than a document, require, in order to transfer the rights incorporated therein, recording in relevant register (dematerialisation of securities trading). This record shall be entered by means of settlement based on the results of the clearing performed by the clearing house.

There are two depository, clearing and settlement systems in Poland: the SKARBNET4 system operated by NBP and systems operated by the KDPW Group. The first one handles transactions in Treasury bills and NBP bills concluded on primary and secondary markets (TBSP and interbank market). On the other hand, the systems operated by the KDPW Group handle transactions involving other financial instruments concluded on the markets operated by GPW SA and BondSpot SA and outside organised trading. As a rule, clearing of transactions is carried out by a central counterparty (CCP) in a clearing system operated by KDPW_CCP SA, while with regard to Treasury bills and NBP bills, the clearing and settlement is performed in the SKARBNET4 system.

¹⁴³ Article 57 of the Act on Trading in Financial Instruments.

¹⁴⁴ Article 57a of the Act on Trading in Financial Instruments.

¹⁴⁵ Article 5(1) of this Act.

¹⁴⁶ Act of 9 November 2018 amending certain acts in connection with the strengthening of supervision over the financial market and protection of investors in this market (Journal of Laws of 2018, item 2243) introduces the obligation of dematerialisation and registration in the central depository for bonds, mortgage bonds (except for mortgage bonds whose unit nominal value exceeds the equivalent of EUR 100,000) and investment certificates, regardless of whether the said securities are introduced to organised trading. As of 1 July 2019, these securities cannot be used in physical form (document). Bank securities issued pursuant to the Banking Act are not subject to mandatory dematerialisation. Moreover, the Act of 30 August 2019 amending the Act - Commercial Companies Code and certain other acts (Journal of Laws of 2019, item 1798) introduces the mandatory dematerialisation of non-public companies' shares as of 1 January 2021.

6.2. Infrastructure for trading in financial instruments

6.2.1. GPW SA

Apart from GPW SA, the GPW Group also comprises BondSpot SA, GPW Benchmark SA and companies operating on the commodity market, i.e. Towarowa Giełda Energii SA, IRGiT SA and InfoEngine SA. GPW SA was established as the sole shareholder company of the State Treasury in April 1991. In November 2010, its shares were first listed on the Warsaw Stock Exchange. The State Treasury remains the major shareholder of the Exchange (35.0% in share capital, 51.8% of votes at general meeting of shareholders).

Currently, GPW SA organises trading in securities and derivative instruments on the GPW Main Market (regulated market for equity and derivative instruments), NewConnect market (ATS for shares of small and medium-sized enterprises) and on the Catalyst retail market (regulated market and ATS for debt instruments). The Catalyst wholesale market segment (also regulated market and ATS) is organised by BondSpot SA, a subsidiary of GPW SA.

In particular, a brokerage house, a bank conducting brokerage activities, a foreign investment firm and a credit institution can become Exchange members. The securities traded on markets organised by GPW SA are registered in KDPW SA, which assigns ISIN¹⁴⁷ codes to them. The issuer of financial instruments admitted to trading on the aforementioned markets is obliged to hold the LEI¹⁴⁸ code which may be assigned and renewed by KDPW SA.

Stock exchange sessions are held from Monday to Friday from 8.30 a.m. to 5.05 p.m. During the sessions, Exchange members may place buy and sell orders and conclude transactions in financial instruments. On the other hand, outside the sessions, so-called special trades may be concluded: block trades, repurchase or resale (buy-in/sell-out, BISO) and the acquisition of major holdings. Orders may be placed by exchange brokers and clients of Exchange members using direct electronic access.¹⁴⁹ GPW SA operates a fully automated system of trading in financial instruments, based on the so-called order-driven system.¹⁵⁰ Transactions are concluded automatically using the UTP (Universal Trading Platform) system, to which the client systems of the Exchange members are connected. The UTP system developed by NYSE¹⁵¹ Euronext, which replaced the WARSET system (Warsaw Stock Exchange Trading System)¹⁵² in April 2013, has enabled entering of a much larger number of orders, the use of algorithmic

¹⁴⁷ International Securities Identification Number (ISIN) is a 12-character alphanumeric code, as defined in ISO 6166, identifying financial instruments admitted to trading on organised financial markets and indices composed of such instruments.

¹⁴⁸ Legal Entity Identifier, LEI (code identifying a legal entity) is a 20-character alphanumeric code, defined in accordance with ISO 17442, which identifies entities concluding transactions on financial markets.

¹⁴⁹ Direct electronic access enables a market member sharing its own connection with the GPW SA IT system, for placing orders via the market member's IT system (direct access) or without using such a system (sponsored access).

¹⁵⁰ The prices are determined by buy and sell orders placed by investors.

¹⁵¹ New York Stock Exchange.

¹⁵² The IT system developed by Hewlett-Packard supporting GPW SA in 2000-2013.

trading¹⁵³ on a wider scale, and listing of selected financial instruments on special terms (e.g. a market with a mandatory market maker) owing to its improved efficiency. The UTP system is used for trading in the continuous trading system (where the vast majority of transactions are performed),¹⁵⁴ in the single-price auction system, with prices fixed once or twice a day (used for less liquid stocks) and in market maker's system. The UTP is also used for special off-session transactions and transactions associated with the Initial Public Offering (IPO). Issuer's market makers and market makers who place purchase and sale offers and conclude transactions on their own account, according to offers, operate on GPW SA.

Immediately after concluding the transaction, GPW SA prepares contract notes, which it provides in real time to the Exchange members (transactions concluded in the continuous and single-price system are anonymous - the parties to the transaction do not know each other) and to KDPW_CCP SA. Transactions concluded through GPW SA are cleared by KDPW_CCP SA by way of novation, while the settlement is performed by KDPW SA.

6.2.1.1. GPW Main Market

Trading on GPW Main Market involves mainly:

- on the spot market (continuous and single-price quotations with two daily fixings) - shares and rights to shares and pre-emptive rights, ETF (exchange-traded fund) units, investment certificates and structured notes;
- on the forward market (continuous quotations) - futures contracts (index, share, currency, interest rate and contracts for Treasury bonds) and index options;
- in the market maker system¹⁵⁵ (continuous trading) - structured instruments, i.e. option warrants, structured certificates and structured bonds.

Spot market instruments are listed on the main market (the market of official quotations with higher requirements for issuers) or on the parallel market (lower requirements for issuers).

6.2.1.2. NewConnect market

The NewConnect market was launched in August 2007. Shares, rights to shares and pre-emptive rights to shares issued by small and medium-sized enterprises are traded on NewConnect. The issuer uses the assistance of an authorised advisor who cooperates with it in introducing the shares on the market. Quotations are provided in a continuous and single-price system (with one or two fixings per day).

¹⁵³ Pursuant to Article 3(2b) of the Act on Trading in Financial Instruments, algorithmic trading is the purchase or sale of financial instruments using a computer algorithm that automatically determines individual parameters of orders to purchase or sell such instruments, including the moment of placing the order, its validity period, price or number of instruments subject of the order or the method of managing the order after it has been placed, processed without or with limited human intervention.

¹⁵⁴ The price of financial instruments during a session is determined on a continuous basis and transactions are concluded at different prices.

¹⁵⁵ Under this system, a market maker indicated by an issuer undertakes, on the basis of an agreement with a market operator, to organise trading in a selected financial instrument which at the same time cannot be traded on the spot or forward market.

6.2.1.3. Catalyst

The Catalyst platform created in cooperation of GPW SA with BondSpot SA, which started operating in September 2009, supplemented the Polish capital market with one organised debt securities market. Its structure consists of four segments: two for retail customers, operated by GPW SA and two for wholesale customers, operated by BondSpot SA. For each type of client, a regulated market and ATS is organised. An issuer of financial instruments admitted to trading on Catalyst markets is required to hold a LEI code. Common operating rules for Catalyst markets allow for simultaneous introduction of instruments to all Catalyst markets.¹⁵⁶ Only debt instruments (corporate, municipal, cooperative and Treasury bonds and mortgage bonds) may be traded on the aforementioned markets. These instruments are registered with KDPW SA, which assigns ISIN codes to them. Trading rules set a minimum transaction value for the retail and wholesale markets. Trading is anonymous and sessions are held from Monday to Friday from 8.30 a.m. to 5.05 p.m. Catalyst markets also handle block trades, while quotations take place in continuous trading system or in single-price system. Clearing of transactions is performed in KDPW_CCP SA by way of novation, whereas settlement is performed in KDPW SA.

6.2.2. BondSpot SA

BondSpot SA (formerly MTS-CeTO SA¹⁵⁷) was established in January 1996 on the initiative of banks and brokerage houses. Since May 2009, the company has been a part of the GPW Group (GPW SA holds 96.98% of shares). BondSpot SA operates wholesale Catalyst markets (regulated market and ATS for debt instruments) and TBSP market (wholesale ATS market for Treasury bonds and bills - outright spot market and conditional repo and SBB transactions).

6.2.2.1. Catalyst

Members of Catalyst wholesale markets include a brokerage house, a bank conducting brokerage activities, a foreign investment firm and a credit institution as well as other entities admitted to the market operating only in their own name and on their own account, which enables direct access of institutional investors.

Transactions on Catalyst wholesale markets are concluded automatically. Market participants place orders via terminals integrated in the trading system. Moreover, market makers who place buy and sell offers and conclude transactions on their own account, in accordance with the issued offers operate on the market. The starting point for concluding a transaction are market makers' offers and members' offers placed on the basis of clients' orders. Bids placed and transactions concluded are expressed in trading units or their multiple. Transactions concluded on the market are automatically confirmed and information about concluded transactions is sent to the parties to the transaction.

¹⁵⁶ It is possible to simultaneously admit a financial instrument to trading in the wholesale and retail segments either in an ATS or a regulated market. A simultaneous quotation of a given instrument in an ATS and a regulated market is not possible.

¹⁵⁷ CeTO - Centralna Tabela Ofert SA - was established in January 1996 on the initiative of over 20 largest Polish banks and brokerage houses, a company operating an electronic Treasury securities market. MTS - an Italian company, MTS S.p.A. - in the years 2004-2009, a shareholder of CeTO SA.

6.2.2.2. TBSP

BondSpot SA also participates in the organisation of trading in Treasury securities, operating a secondary wholesale market for such instruments under the name TBSP¹⁵⁸ pursuant to the agreement with the Ministry of Finance. The TBSP market launched in 2002 (initially as ERSPW,¹⁵⁹ later as MTS Poland¹⁶⁰) originally operated as a non-organised market. In April 2018 it became a ATS due to changes in law.¹⁶¹ The operation of the TBSP market is based on the TradeImpact system. TBSP participants include supervised domestic and foreign institutions conducting brokerage activities. TBSP trades in Treasury bills registered with NBP and Treasury bonds registered with KDPW SA. Spot market transactions (anonymous trading) and conditional transactions (repo and SBB, anonymous and non-anonymous trading) are concluded through TBSP. Within the cash market, an institutional market segment is operated whose participants, aside the entities mentioned above, include insurance companies, investment funds and investment fund companies as well as an institution operating under deposit guarantee schemes. TBSP participants may submit buy and sell offers, instructions of acceptance of these offers as well as repo and SBB orders. Market participants may act as market-makers (most of them are Treasury Securities Dealers) who are exclusively authorised to place their own buy and sell offers, market-takers and institutional investors authorised to submit instructions of acceptance of market-makers' offer entirely or partially, to a various extent, depending on the market segment. Trading on TBSP takes place from Monday to Friday between 9.00 a.m. and 5.00 p.m., and on the repo market - between 7.45 a.m. and 4.45 p.m. On the TBSP market, during the fixing sessions which take place twice a day, fixing prices of Treasury securities are set, which constitute a benchmark for the domestic debt instruments market. Market data are made available in real time through information distributors such as Bloomberg and Thomson Reuters.

Transactions concluded on TBSP are cleared by BondSpot SA and transferred for settlement in KDPW SA (Treasury bonds) or in NBP (Treasury bills).

6.2.3. Narodowy Bank Polski

NBP performs many key functions at various levels of the capital market. NBP acts as an issuer of NBP bills and an issue agent of Treasury bills as well as organises auctions for NBP bills and Treasury securities (based on an agreement with MF and Bank Gospodarstwa Krajowego, BGK). At the post-trade infrastructure level, it operates the SORBNET2 and TARGET2-NBP systems, providing settlement of the cash leg (in zloty and euro, respectively) of transactions in financial instruments and operates the securities settlement system SKARBNET4, processing operations in NBP bills and Treasury bills. At the same time, the President of NBP exercises payment systems oversight and participates in the securities settlement systems oversight exercised by the KNF. NBP is also the co-owner of KDPW SA.

¹⁵⁸ Primary trading in Treasury securities takes place within the System of Treasury Securities Dealers (TSD).

¹⁵⁹ Electronic Treasury Securities Market.

¹⁶⁰ In 2004-2009, TBSP operated under the name MTS Poland and was operated in cooperation with MTS S.p.A.

¹⁶¹ Article 21 of the Act of 1 March 2018 amending the Act on Trading in Financial Instruments and certain other acts (Journal of Laws of 2018, item 685).

6.2.3.1. TSD

Primary trading in Treasury securities¹⁶² consists in wholesale sales auctions organised by NBP on behalf of MF addressed to a group of institutional investors within the system of primary dealers, i.e. the TSD. The TSD system was established in 2003 in order to ensure security of financing of the State budget borrowing needs, improve liquidity, transparency and effectiveness of the Treasury securities market.¹⁶³ These auctions are open to entities with the status of Treasury Securities Dealer (banks, credit and financial institutions meeting the requirements set out by MF in the Rules and Regulations governing the activities of the TSD) and BGK. A TSD has the exclusive right to purchase new issues of Treasury bonds for later redistribution in the secondary trading - among others on the TBSP and Catalyst markets and outside organised trading. Auctions organised by NBP include sale, buy-back¹⁶⁴ and switching¹⁶⁵ auctions (only bonds) and additional sales. Auctions are usually held twice a month on the basis of plans presented by MF on the dates set out in issue letters. After the sale auction, MF announces its results. The transaction is concluded on the auction date upon the acceptance by MF of a bid submitted by an auction participant. Settlement of an auction is performed by KDPW SA (Treasury bonds) or by NBP (Treasury bills). After the lapse of the period for which the Treasury bills have been issued, they are redeemed by crediting cash accounts of SKARBNET4 participants with NBP. Treasury bonds are redeemed through KDPW SA.

In addition, NBP organises buy-back auctions of Treasury bonds issued on foreign markets.

6.2.3.2. NBP bills

The sale of NBP bills is carried out by way of an auction organised by NBP. The BFG and banks participating in SORBNET2 and SKARBNET4 take part in main operations. An auction participant purchasing NBP bills on the primary market submits an offer. After the auction is settled, NBP notifies participants of the acceptance or rejection of their offers. An account is debited based on an order issued by NBP on the basis of an authorisation to debit the participant's cash account, which is granted upon concluding an agreement on participation in SKARBNET4 with NBP. The payment is performed on the date specified by NBP in an auction announcement and is effectuated by simultaneous debiting and crediting, respectively, of the auction participant's cash account and the relevant account used to record NBP's liabilities.

After the lapse of the period for which the NBP bills were issued, they are subject to redemption. The redemption of bills is effectuated by crediting cash accounts of SKARBNET4 participants with NBP.

¹⁶² For more than two years now, this trade has been limited to Treasury bonds. Treasury bills were regularly issued until 2011. In subsequent years, the issues were systematically reduced. The last Treasury bills sale auction took place in February 2017.

¹⁶³ Treasury bonds are also offered by MF through a selected issue agent: in the retail network and on foreign markets.

¹⁶⁴ MF may buy-back bonds before their maturity date.

¹⁶⁵ MF may offer bonds at auctions by way of sale in exchange for bonds repurchased from holders whose maturity has not yet expired.

6.3. Securities clearing and settlement systems

6.3.1. KDPW SA

The Central Securities Depository of Poland is an entity operating under the Act on Trading in Financial Instruments of 29 July 2005. It was established in 1991 as a department of GPW SA. Since November 1994, the Central Depository has been operating as an independent joint stock company under the name of KDPW SA. Initially, KDPW SA handled the entire process of execution of transactions involving dematerialised financial instruments - it operated a securities depository, clearing and settlement of transactions involving deposited instruments. In 2010, a clearing house was formally separated from the structures of KDPW SA (currently KDPW_CCP SA), which together with KDPW SA forms the KDPW Group. Since December 2016, KDPW SA has not maintained the register of derivatives, which is fully operated by KDPW_CCP SA.

Currently, as part of its core business, KDPW SA organizes and operates a securities depository and a system of registration of other financial instruments (non-derivative instruments), settles securities registered in the depository, including settlement of transactions concluded in trading systems, performs issuers' obligations towards entitled owners of securities registered in the depository (i.e. payment of dividends, redemption of financial instruments or drawing up a list of persons authorised to participate in the general meeting) and processes withdrawal of securities from the securities depository. The Central Depository operates a securities settlement system within the meaning of the Act on Settlement Finality and has been notified to ESMA as a designated system under the SFD.

KDPW SA also operates as a CSD within the meaning of the CSDR and is subject to authorisation in accordance with that regulation. The application in this respect was submitted to the KNF in September 2017.

Moreover, KDPW SA monitors the compliance of the issue volume (balance of the issue account) against the number of securities registered with KDPW SA (aggregated balances on participants' recording accounts). Pursuant to the Act on Trading in Financial Instruments, KDPW SA has an Advisory Body which issues opinions to the management board and supervisory board of the Central Depository on matters concerning management board's reports on the company operations, business and financial plans, reports on the operation of the compensation scheme and the KDPW rules. The Body comprises representatives of associations of issuers, custodian banks, economic chambers, foreign institutions and regulated market operators.

In accordance with the provisions of the CSDR, KDPW SA is also obliged to appoint a user committee consisting of representatives of issuers and participants in the system operated by the Company. The committee acts as a consulting and advisory body to the supervisory board and the management board on key issues affecting its members, including access criteria to the system of issuers or participants, the scope of services and fees structure.

6.3.1.1. Rules of operation

The rules of operation of the system for registration and settlement of securities operated by KDPW SA have been defined in the Articles of Association and in the KDPW rules, in particular the Rules of the Central Securities Depository of Poland, issued by the Central Depository under the aforementioned Act. The above mentioned acts are supplemented by the Detailed Rules of KDPW and other regulations, including the system participation agreement.

6.3.1.2. System participants

The participants in the system operated by KDPW SA may specifically include securities issuers, entities authorised to maintain securities accounts and omnibus accounts, i.e. brokerage houses, investment firms, banks, NBP, operators of a clearing house for transactions concluded in securities trading as well as other financial institutions (e.g. insurance companies, pension funds and investment fund companies) if they purchase securities registered in the deposit system on their own account. Participants may also include foreign investment firms and legal entities conducting brokerage activities in Poland, as well as foreign CCPs and CSDs holding relevant licenses, in accordance with EU regulations. These entities may open securities accounts and omnibus accounts with KDPW SA.

Any entity that intends to conclude a transaction on the capital market must have a cash account operated by an investment firm and a securities account with such a firm or in a custodian bank. In the case of foreign entities it is possible to hold an omnibus account with one of these institutions or with KDPW SA. Each member of GPW SA or BondSpot SA concluding transactions on a given market must be a holder of:

- a depository account with KDPW SA (or have an agreement with a KDPW participant with the status of a representative in the system) and
- an account in the payment system operated by NBP or use the services of any entity having such an account in NBP; it may also hold a bank account or use the services of an account holder with a KDPW SA clearing bank handling currencies other than the zloty and the euro.

As of 31 December 2018, 65 entities participated in the settlement system operated by KDPW SA, including: 40 banks (of which 26 banks acted as depositors), 22 brokerage institutions, two foreign securities depositories (Clearstream Banking SA and Keler Zrt.) and one central counterparty (KDPW_CCP SA).

6.3.1.3. Types of operations

KDPW SA:

- operates a registration accounts system using issue accounts, depository accounts, omnibus accounts and securities accounts on which securities are recorded.¹⁶⁶

¹⁶⁶ In accordance with the Act amending certain acts in connection with the strengthening of supervision of the financial market from 1 July 2019. KDPW SA registers bonds and mortgage bonds as well as investment certificates issued by non-public closed-end investment funds established in Poland which are subject to obligatory dematerialisation. KDPW SA also collects and publishes information on issue size of the aforementioned securities, payment dates of benefits and the scope and timeliness of processing of issuers' obligations owed to entitled parties.

- settles operations on registered securities, including foreign securities registered in KDPW SA through links with foreign CSDs. It also performs issuers' obligations towards entitled parties resulting from these securities;
- settles conditional transactions:
 - repo or SBB, which are executed on the basis of matched settlement orders (settlement of repo opening and closing based on separate instructions sent by participants),
 - tri-party repo, comprising the monitoring and managing the value of securities transferred between parties (selecting and adjusting collateral, providing the parties with information on required collateral, handling operations on pledged securities);
- processes financial collateral agreements involving Treasury bonds concluded between both domestic and foreign entities other than KDPW participants. In the event of such agreements, a trilateral agreement is signed under which KDPW SA blocks securities under a pledge and cancels securities blocks and handles other related operations;
- processes instructions of a KDPW direct participant to block securities in favour of another participant. Submission of participants' consistent instructions to KDPW SA constitutes entering into a bilateral agreement to establish the financial collateral between them. From June 2017, this service may also be used in bilateral collateral transactions on non-centrally cleared derivatives. This arrangement enables submission of collateral within the settlement system, in particular in the form of securities registered with KDPW SA. The Central Depository also operates the process of blocking securities for the purpose of paying contributions to the BGF in the form of payment obligations.

6.3.1.4. Depository

An entity intending to announce a public offer of securities is obliged to conclude a registration agreement¹⁶⁷ with KDPW SA. When registering securities in the system, KDPW SA assigns the ISIN code. Financial instruments registered in the depository of KDPW SA are recorded on the issue account and subsequently on depository accounts, omnibus accounts¹⁶⁸ and securities accounts maintained for system participants. The entries in the depository reflect the status of the securities held and its changes (entries made on the basis of a settlement order submitted by KDPW_CCP SA or directly by the parties to the settlement of a transaction concluded outside organised trading – transaction settlement) and the effects of securities operations.

The depository system ensures high settlement security. It protects against counterfeiting or fraud by applying the following recording principles: double entry, separate registration of securities, respecting participation type, simultaneous registration, completeness, integrity and transparency. KDPW SA is responsible for the compliance of the number of securities held in all participants' depository accounts with the number of securities issued.

¹⁶⁷ This requirement does not apply to financial instruments issued outside the territory of Poland or registered in a foreign depository for securities, or Treasury bills deposited in the SKARBNET4 system.

¹⁶⁸ Pursuant to Article 8a(1) of the Act on Trading in Financial Instruments, dematerialised securities not belonging to the persons for whom the account is maintained, but belonging to another person or persons, may be registered on an omnibus account.

6.3.1.5. Settlement

The settlement of transactions is performed in the system operated by KDPW SA on the basis of a settlement order delivered by KDPW_CCP SA (transactions from the organised market) or by the parties to settlement of a transaction concluded outside organised market and not cleared in the systems operated by KDPW_CCP SA, and in some cases by NBP.¹⁶⁹ Transactions concluded on the electronic Treasury securities market - TBSP¹⁷⁰ are settled in KDPW SA on the basis of settlement instructions sent directly by the operator of the said market.

Settlement shall mean debiting or crediting a depository account, an omnibus account or a securities account, respectively, in connection with a transaction of the sale or purchase of financial instruments as well as, according to the amounts determined within clearing - crediting or debiting the zloty or euro cash account indicated by the participant being a party to the settlement.

The settlement cycle of transactions concluded in organised trading is two days (T + 2).¹⁷¹ In other cases, the parties to the transaction shall determine the settlement date, i.e. with respect to transactions concluded in organised trading outside the regular trading session or standard quotation system or in the mode of public sale of securities, on the basis of orders submitted as part of a public subscription for shares executed by a company operating a regulated market, as part of Treasury bond auctions or outside organised trading, and covered by the settlement conducted by KDPW_CCP SA.

The settlement may be performed solely in financial instruments (free of payment, FOP) or against payment. For the most part settlement covers operations that result in payment, e.g. transactions concluded on an organised market (spot) and outside organised trading. In such circumstances, they are carried out in accordance with the principle that a cash account of a participant being a party to settlement is credited simultaneously to debiting of a recording account held for it, while debiting of the participant's cash account occurs simultaneously to crediting of a recording account held for it (delivery versus payment, DVP). FOP settlement comprises transfers of securities between participants, including transfers of client portfolios, where KDPW SA performs settlement between participants' accounts. KDPW SA also performs FOP settlement in the case of operations related to registration and deregistration of issuer's securities and performance of the issuers' obligations towards securities owners.

KDPW SA carries out multi-session and RTGS settlement. The settlement of transactions concluded in organised trading is carried out in a multi-session system on a net basis in cash and gross basis in securities (DVP model 2) or on a net basis in securities (DVP model 3), after sending the settlement order by KDPW_CCP SA. The settlement of transactions concluded on the TBSP market is carried out according to the 2 DVP model in a multi-session system. The remaining transactions, including those concluded on an obligatory basis as part of

¹⁶⁹ In connection with open market operations, transactions concluded as a part of Treasury bond auctions, the transfer of securities to a securities account with KDPW SA for NBP to secure the repayment of a technical loan.

¹⁷⁰ With regard to transactions concluded on the TBSP market run by BondSpot SA, not covered by clearing provided by KDPW_CCP SA, whose settlement is carried out on the basis of matched settlement orders entered into the deposit system by BondSpot SA and by direct participants being parties to that settlement.

¹⁷¹ This means that the buyer becomes the owner of the shares after two working days from concluding the transaction.

Treasury bond sale auctions organised by NBP, are subject to settlement on a real-time gross basis (RTGS), i.e. on a gross basis both in cash and in securities (DVP model 1) in real time.

Real-time settlement is carried out from Monday to Friday from 8.00 a.m. to 4.00 p.m. (DVP in euro), from 8.00 a.m. to 5.00 p.m. (DVP in zloty) and from 8.00 a.m. to 6.30 p.m. (FOP). Settlement sessions are held four times a day at: 10.30 a.m. (DVP and FOP), 1.00 p.m. (DVP in zloty and euro and FOP), 3.30 p.m. (DVP in zloty and euro and FOP) and 6.30 p.m. (FOP only).

The settlement of payments resulting from transactions and operations handled by KDPW SA is conducted in central bank money based on instructions debiting or crediting cash accounts maintained for KDPW SA participants in the SORBNET2 system for transactions in zloty or in the TARGET2-NBP system for transactions in euro.

Under bilateral agreements concluded between KDPW SA and NBP and between NBP and banks, KDPW SA is authorised to send electronically payment settlement orders related to transactions in securities. KDPW SA submits these orders on behalf of banks to the SORBNET2 or TARGET2-NBP system. After settlement in cash, KDPW SA performs settlement in securities on recording accounts of its participants. On the settlement day, a participant of the KDPW system is obliged to reconcile settlement results on the securities accounts or omnibus accounts it operates.

KDPW SA also carries out settlement of foreign securities which are subject to dual listing on the organised market operated by GPW SA. These securities are originally registered in foreign securities depositories. The cross-border transfer of these securities is carried out through operational links established between KDPW SA and foreign depositories. At the end of December 2018, KDPW SA had 19 links with foreign counterparts - six direct links and thirteen links providing access to depository institutions through two international central depositories and one custodian bank. These links are used to register in KDPW SA (the investor's depository) securities for which a foreign depository is the home depository. The first link - between KDPW SA and OeKB AG - was established in October 2003.

6.3.1.6. Risk management

In order to prevent or eliminate suspension of settlement of transactions, KDPW SA organizes an automatic securities lending system¹⁷² and, in cooperation with KDPW_CCP SA, a system of negotiated securities loans.¹⁷³ KDPW SA also offers automatic partial settlement. This facility limits settlement suspensions due to shortage in assets of a given type in the depository account preventing full settlement, and thus also reduces the number of settlement suspensions on the record date of rights to proceeds.

¹⁷² This system prevents settlement suspension of transactions concluded in organised trading.

¹⁷³ The negotiated securities lending system complements the system of automatic securities loans and ensures more flexibility in terms and conditions of parties' loan agreements. The role of KDPW S.A. is to match entities willing to enter into such loan agreements and to carry out related settlements. On the other hand, the role of KDPW_CCP SA is to clear the agreements and to organise a clearing guarantee system, including guaranteeing with its own assets the return of securities by the borrower and the return of collateral for these loans by the lender.

KDPW SA also charges a special fee for causing settlement suspension of a transaction concluded in organised trading or post-trade settlement performed in connection with such transaction due to shortage on a participant's recording or cash account.

Risk management by KDPW SA includes, inter alia, the application of financial, organisational and technical criteria for access and participation in the system as well as monitoring their fulfilment by participants. If KDPW SA receives information about the participant's insolvency, it blocks the possibility of entering settlement orders, to which that participant is a party, and settles orders previously entered into the depository system by that participant.

6.3.1.7. Other tasks of KDPW SA

As a member of the international Association of National Numbering Agencies ANNA¹⁷⁴ (since 1994) and the numbering agency (since 1996), KDPW SA is the only institution in Poland authorised to assign to financial instruments individual international ISIN codes and Classification of Financial Instruments (CFI) codes as well as Financial Instrument Short Name (FISN) codes meeting ISO standards, which enable the identification of a financial instrument registered in any depository system worldwide. Since July 2017, the CFI and FISN codes have been issued together with the ISIN code.

KDPW SA is the only Polish entity authorised to issue and renew the international legal entity identifier LEI¹⁷⁵ for entities from the European Economic Area, Switzerland and Ukraine. The obligation to hold an active LEI code applies, in accordance with the EU law, to entities concluding transactions on regulated and OTC markets, issuers (CSD participants) and entities entering into repo transactions, SBB, securities lending and collateral management transactions.

Since 2013, KDPW SA has been operating a trade repository, in accordance with EMIR. It collects therein in a centralised manner the data on all derivative transactions. It is planned to extend the activities of the trade repository from April 2020, according to SFTR, by reporting information on financing transactions where securities are used as collateral (SFTs, i.e. securities loans, repo transactions, SBB and collateral management transactions) concluded by all market participants, irrespective of whether they are financial or non-financial entities.

In January 2018, KDPW SA launched an approved reporting mechanism (ARM). The ARM service consists in providing the supervisory authority with information on details of transactions concluded in financial instruments trading on behalf of entities obligated to report under MiFIR. The ARM is authorised to provide services across the EU. Notifications by ARM are forwarded to a supervisory authority competent for the head office of an entity responsible for reporting.

Pursuant to the Act on Trading in Financial Instruments, KDPW SA is also responsible for operating a mandatory compensation scheme. This system should ensure that in case of

¹⁷⁴ The Association of National Numbering Agencies.

¹⁷⁵ KDPW SA operates as an agency (Local Operating Unit, LOU) accredited by the Global LEI Foundation (GLEIF) - an entity responsible for the control of LOU worldwide under the LEI system. It was set up in 2011 at the initiative of the G20 in the wake of the crisis and is intended to enable identification of counterparties to transactions in financial instruments in a standardised manner at international level. Currently, US law and EU law require the use of LEI in reporting derivative transactions.

bankruptcy of investment firms,¹⁷⁶ their clients will receive a cash payment and will be compensated for the value of lost financial instruments accumulated on their accounts operated by these companies. The compensation scheme is an ancillary mechanism to the basic tools ensuring security of the capital market in Poland and, to a limited extent, secures assets entrusted by an investor. Since 2018, KDPW SA has been a member of the EFDI association (European Forum of Deposit Insurers), which brings together European deposit guarantee schemes and investor compensation schemes. Currently, the organisation associates 72 institutions, including two from Poland: KDPW SA and BFG.

6.3.1.8. Fee policy

In accordance with the Act on Trading in Financial Instruments and its rules, KDPW SA charges fees and commissions for services provided to settlement system participants. The amount of fees is specified in a table of fees attached to the KDPW Rules. In recent years, KDPW SA has been systematically reducing fees. Tables of fees of other services (e.g. trade repository, ARM, LEI code assignment) are included in the rules of these services.

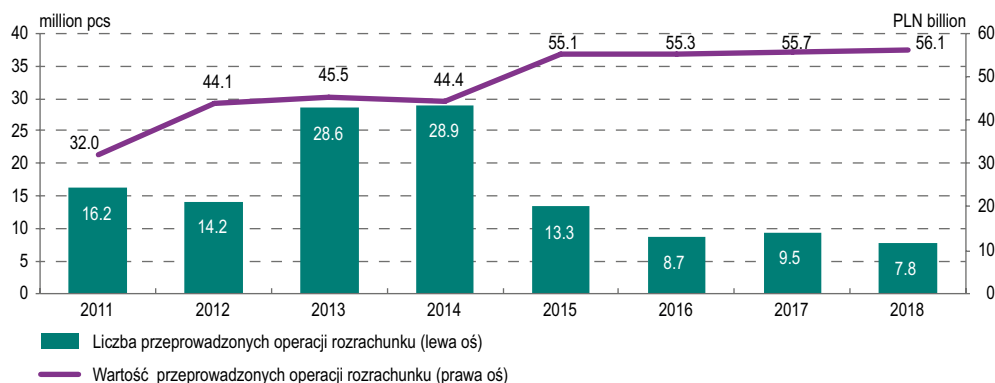
6.3.1.9. Statistical data

In 2018, a total of 7.8 million transactions were settled in the settlement system operated by KDPW SA in financial instruments traded on the organised market and in other market segments (9.5 million transactions in 2017; a decrease of 17.7%). The average number of settlement operations carried out between 2011 and 2018 amounted to 15.9 million. The settlement structure was dominated by the settlement of equity instruments, which reached 7.2 million in 2018 (in 2017, 8.9 million; a decrease of 18.7%) and accounted for 92.4% of all settlement operations conducted by KDPW SA. In 2018, 0.42 million settlement transactions in debt instruments (0.44 million in 2017; a decrease of 3.7%) and 0.17 million settlement transactions in instruments other than equity or debt instruments (0.18 million in 2017; decrease of 2.3%) were also registered in the system.

Moreover, in 2018, the total value of settlement operations carried out as a result of transactions in financial instruments concluded on the organised market and in other market segments amounted to PLN 56.1 trillion (PLN 55.7 trillion in 2017; a growth of 0.8%). The average value of such operations from 2011 to 2018 amounted to PLN 48.5 trillion. Importantly, the highest values of settlement operations were recorded in transactions involving debt instruments - PLN 55.3 trillion (PLN 54.7 trillion in 2017; an increase of 1.1%). As regards equity instruments, the total value of settlement operations in 2018 amounted to PLN 0.8 trillion (PLN 1 trillion in 2017; a decrease of 14.1%). On the other hand, in the case of instruments other than equity or debt instruments, the total value of settlement operations amounted to PLN 0.0038 trillion (PLN 0.0035 trillion in 2017; an increase of 9.7%).

¹⁷⁶ Pursuant to Article 133(2) of the Act on Trading in Financial Instruments, the objective of the compensation scheme is to provide investors with payments in the event of declaration of bankruptcy or opening of restructuring proceedings of a brokerage house or a valid dismissal of a bankruptcy petition due to the fact that the assets of this brokerage house are not sufficient or only sufficient to cover the costs of proceedings, or the KNF determines that the brokerage house is not able, for reasons closely related to its financial situation, to fulfil its obligations arising from the investors' claims and it is not possible to fulfil them in the nearest future.

Chart 6.1. Number and value of settlement operations in the system operated by KDPW SA in 2011-2018



Source: NBP study.

6.3.2. KDPW_CCP SA

KDPW_CCP SA was separated from KDPW SA in 2010 (initially under the name KDPW_Clearpool SA). The company acts as a clearing house with a CCP status on the Polish capital market. This clearing house handles transactions in financial instruments concluded on the markets operated by GPW SA and BondSpot SA as well as outside organised trading (mainly interbank market). It uses two clearing systems - the system operating on the basis of the Rules of Transaction Clearing (organised trading) and the system operating under the Rules of Transaction Clearing (non-organised trading). These are securities settlement systems within the meaning of the Act on Settlement Finality, which have also been notified to ESMA as designated systems under the SFD.

KDPW_CCP SA operates clearing accounts used to record the positions resulting from transactions recorded in the system and balances resulting from netting of positions and the corresponding collateral accounts. The account system is maintained according to the principle of respecting participation type, separate registration of positions, simultaneity of actions, completeness and integrity.

At the same time, KDPW_CCP SA acts as a CCP, i.e. a clearing house acting as a party to a transaction. By applying clearing novation,¹⁷⁷ it becomes the buyer to every seller and the seller to every buyer,¹⁷⁸ acting in the system as the exclusive counterparty of the institutions with regard to their transfer orders.¹⁷⁹ On the basis of KNF decisions of 8 April 2014 and 9 August

¹⁷⁷ On 4 August 2012, the Act of 28 June 2012 amending the Act on Trading in Financial Instruments and the Act on Public Offering, Conditions Governing the Introduction of Financial Instruments to Organised Trading and Public Companies entered into force (Journal of Laws of 2012, item 836). It introduced to the provisions of the Act on Trading in Financial Instruments the institution of clearing novation, enabling the clearing house to take over the rights and obligations of the party to the transaction with regard to the participant being the other party to the transaction clearing upon accepting the transaction for clearing (Article 45h(1) of the Act).

¹⁷⁸ Article 2(1) of the EMIR Regulation.

¹⁷⁹ Article 1(6) of the Act on Settlement Finality.

2016, KDPW_CCP SA conducts clearing as an authorised CCP under EMIR.¹⁸⁰ Furthermore, under the Act on Trading in Financial Instruments,¹⁸¹ in December 2016, KDPW_CCP SA took over from KDPW SA the registration system for derivatives traded in organised market in connection with the abolition of the statutory obligation previously imposed on the clearing house in this respect. Since then, derivatives have been recorded only on settlement accounts in the system operated by KDPW_CCP SA. At the level of participants, these instruments are recorded in derivative accounts and in registers.¹⁸²

In connection with the nature of its activity, the clearing house organises a clearing liquidity guarantee system for transactions concluded in a regulated market and ATS (organised trading), as well as transactions concluded outside these markets (non-organised trading). Clearing house participants that clear transactions are obliged to make contributions to the clearing guarantee fund or the relevant guarantee fund.

Pursuant to EMIR, a Risk Committee operates at KDPW_CCP SA, which plays a consulting and advisory role for the company on issues that may affect risk management. The Risk Committee is composed of independent members of the supervisory board of KDPW_CCP SA and representatives of organisations associating clearing participants and their clients.

6.3.2.1. Rules of operation

The rules of operation of the financial instrument clearing systems operated by KDPW_CCP SA are set out in the Articles of Association and in rules, in particular the Rules of transaction clearing (organised trading) and the Rules of transaction clearing (non-organised trading). The above rules are supplemented by the Detailed Rules of Transaction Clearing (Organised Trading) and Detailed Rules of the OTC Clearing System and other regulations, including the system participation agreement.

6.3.2.2. System participants

Participants of KDPW_CCP SA include investment firms, banks, foreign investment companies, other financial institutions, clearing houses as well as entities established outside the territory of Poland performing tasks related to clearing of transactions concluded in trading in financial instruments.

Only an entity that has a depository or securities account with the relevant clearing house (or has a settlement agent that holds such accounts) and a cash account with the relevant settlement bank (or a payer that holds such an account) may be a clearing member. In addition, a clearing member must fulfil the capital, technical, financial and reporting requirements (maintaining adequate share capital and fulfilling specific prudential requirements).¹⁸³

¹⁸⁰ KNF Decision of 8 April 2014 and Decision of 9 August 2016 on the extension of the authorisation.

¹⁸¹ Article 57a of the Act.

¹⁸² As a result of this change, clearing members concluding transactions only in derivatives, not cleared by financial instruments delivery, are not obliged to hold an account in KDPW SA system or a settlement agent. Payment orders in such a case are transferred by KDPW_CCP SA directly to a payment system.

¹⁸³ A clearing member must fulfil the prudential requirements defined in Regulation (EU) No 575/2013 of the European Parliament and of the Council of 26 June 2013 on prudential requirements for credit institutions and investment firms amending Regulation (EU) No 648/2012 (OJ L 176 of 27.06.2013), CRR (Capital Requirements Regulation).

As of 31 December 2018, 43 entities, including 19 banks and 24 brokerage institutions, participated in the clearing system operated by KDPW_CCP SA.

6.3.2.3 Types of operations

KDPW_CCP SA:

- maintains a derivatives register;
- operates a system of clearing accounts, on which transactions subject to clearing, positions resulting from the above mentioned transactions and operations concerning these positions are recorded;
- clears:
 - in organised trading the following classes of financial instruments:
 - equity and debt securities (zloty and euro),
 - interest rate, currency, index, equity and debt derivatives (zloty);
 - outside organised trading the following classes of financial instruments:
 - debt securities (zloty),
 - repo and SBB (zloty),
 - interest rate derivatives (zloty and euro);
 - transactions concluded within the clearing liquidity guarantee system;
 - securities loans concluded through KDPW SA;
- places settlement orders for:
 - transactions in securities to a relevant settlement system, or
 - payment to a settlement bank (where the settlement includes only cash);
- reports derivative transactions to a trade repository;
- operates a clearing liquidity guarantee system;
- handles transfers of participant positions between accounts.

6.3.2.4. Clearing

Clearing of transactions is carried out on clearing accounts on the basis of documents specifying the terms of transactions submitted to KDPW_CCP SA by trading platforms operators, clearing members, including through entities offering matching services: of parties to transactions resulting in their conclusion (the so-called transaction platforms) or of instructions for concluded transactions resulting in confirmation of the transactions conclusion (the so-called confirmation platforms) or KDPW SA (in the case of on-demand loans concluded under the negotiated securities lending system).¹⁸⁴

Transactions concluded in organised trading (except for those concluded outside the standard trading system and certain transactions concluded under foreign law) and outside organised trading are subject to clearing novation. This means that KDPW_CCP SA assumes the rights and obligations arising from the transactions that have been accepted for clearing by acting as a CCP within the meaning of the Act on Settlement Finality with respect to clearing members. Pursuant to Article 45h of the Act on Trading in Financial Instruments, upon acceptance of a transaction for clearing, the rights and obligations arising from it expire and the party to a transaction becomes entitled or obliged in relation to the clearing entity. The novation of a transaction occurs separately for obligations and claims resulting from each transaction. The

¹⁸⁴ That is settlement orders in the meaning of the Act on Settlement Finality.

law applicable to the assessment of the legal effects that arise in the relationship between the CCP and participants as a result of accepting transactions for clearing shall be the Polish law, irrespective of where the transactions are concluded and of the law applicable to them.

KDPW_CCP SA clears monetary obligations and claims in zloty and in euro on a net basis (cash netting – monetary obligations and claims of a clearing member are converted into a single net debit or credit). However, clearing of non-monetary obligations and claims by way of novation takes place depending on a clearing member's decision: on a gross basis (separately for each transaction), on an aggregated non-cash clearing basis (non-monetary obligations and claims of the clearing member are aggregated separately for transactions in which it acts as a buyer and separately for transactions in which it acts as a seller) or on a net basis (non-cash netting). As a result of netting of monetary and non-monetary claims, entities obliged to pay net liabilities and entities entitled to receive net receivables are determined. The netted monetary claims are terminated at the moment of a transaction settlement.

Clearing takes place within sessions. Sessions are conducted from Monday to Friday, from 6 p.m. for transactions concluded in organised trading and from 5.30 p.m. for transactions concluded outside organised trading.

Based on the clearing results, KDPW_CCP SA transmits settlement orders to KDPW SA. In the case of transactions concluded in organised trading, KDPW SA routes orders to settlement in a multi-session system to the first settlement session on the transaction settlement day. Immediately after the settlement, KDPW SA records its result on the settlement accounts.

6.3.2.5. Risk management

KDPW_CCP SA is a clearing house which clears transactions using multiple mechanisms allowing for systemic reduction of the risk of the parties failure to meet their obligations arising from concluded transactions. The key issue with regard to the CCP is therefore credit risk management, since based on novation it takes on the transaction parties' liabilities in this respect. CCP risk management rules are set out in detail in EMIR and its implementing acts.¹⁸⁵

KDPW CCP SA manages the risk by establishing (and subsequently enforcing) direct participation criteria in the system. The risk is also mitigated by KDPW_CCP SA clearing method performed on a net basis in cash and financial instruments. It significantly reduces clearing members' liquidity needs. Moreover, within the system of liquidity and credit risk management KDPW_CCP SA:

- collects and manages funds forming margins;
- performs clearing of parties' transactions executed on derivatives market, determining a party which makes a profit and the one which makes a loss on a given day; collects and releases the variation margin for derivatives market transactions;
- sets limits on maximum value of positions recorded in the system or positions concentration;
- collects and manages funds forming clearing guarantee fund (regulated market) or relevant ATS guarantee fund and OTC guarantee fund;

¹⁸⁵ Commission Delegated Regulation (EU) No 153/2013 of 19 December 2012 supplementing Regulation (EU) No 648/2012 of the European Parliament and of the Council with regard to regulatory technical standards on requirements for central counterparties (OJ L 52, 23.02.2013, as amended).

- holds dedicated resources;
- closes positions and undertakes to perform transaction obligations in the event of:
 - suspension of transaction settlement,
 - failure to make payment on time,
 - breach of an agreement justifying its termination;
- in cooperation with KDPW SA, organises an automatic securities lending system and a negotiated a securities lending system in order to prevent or eliminate transactions settlement suspension.

The CCP is exposed to the risk of holding open positions (holding claims by the CCP related to a relevant participant's obligation) towards its participants. In order to manage this risk, the CCP applies a sophisticated system of collaterals collected from participants clearing transactions in cash and securities. In its core, the collateral is linked to the main liability (e.g. a loan agreement) and serves to reduce the lender's risk in the event of the borrower's default. Upon conclusion of an agreement, the borrower transfers the collateral to the lender. In the case of repayment of the debt, the collateral is returned to the borrower. In the event of default, the borrower's claims for return of the collateral expire and the lender takes control of the collateral. Thus, the economic function of collateral is to transfer the responsibility for the failure to perform the underlying obligation onto the party obliged to perform it. In that way, the collateral is a mechanism whereby the costs are ultimately borne by the defaulting party (defaulter-pays mechanism).

Margins are therefore a key form of risk management and at the same time characteristic of a CCP, covering the default risk of a participant and the potential change in the value of a participant's position (liability) during the effective term of the agreement. They are collected from clearing members in cash (in zloty or euro) and selected financial instruments as a collateral meeting certain quality requirements in order to mitigate the CCP's credit risk exposure against those participants. The margin relates to regulated and OTC markets and it secures transactions concluded both on forward and spot markets as well as securities lending transactions. Margins are basically divided into a regular and frequently calculated variation margin reflecting current changes in the valuation of a transaction (claims/obligations of the parties) and an initial margin, which is paid at the latest upon transaction conclusion, to secure potential losses that may arise in the period between the last payment of the variation margin to the time of closing of the position.¹⁸⁶ The total value of the initial and the relevant variation margin determines the maximum value of positions recorded on the basis of transactions concluded by a given participant (transaction limit).

In order to cover demand exceeding margin amount, KDPW_CCP SA operates: a clearing fund, which ensures due fulfilment of obligations under transactions concluded on regulated market (with the exception of transactions concluded outside the standard quotation system), a clearing guarantee fund for transactions concluded in ATS organised by GPW SA or BondSpot SA and the OTC guarantee fund. Clearing members are required to make contributions in cash or in certain securities to the above mentioned funds, forming their joint ownership. According to EMIR, the funds should enable a CCP to withstand the default

¹⁸⁶ The issue of margins is further presented in the European Systemic Risk Board (ESRB) publication *Macroprudential use of margins and haircuts* available online: https://www.esrb.europa.eu/pub/pdf/reports/170216_macroprudential_use_of_margins_and_haircuts.en.pdf.

of the clearing member to which it has the largest exposure, or (alternatively) of two subsequent largest clearing members. In the event that the funds are used, the participants shall be required to replenish them as laid down, respectively, in the Rules of: the OTC Guarantee Fund, the Clearing Guarantee Fund and the WSE BondSpot ATS guarantee fund.

Regardless of the funds contributed by clearing members, KDPW_CCP SA has a separate equity capital, the so-called dedicated resources,¹⁸⁷ to cover losses in case of failure to meet the obligations resulting from the transactions cleared. If the funds forming the dedicated resources are used, they should be replenished within one month.

The rules of KDPW_CCP SA and EMIR define in detail the sequence of using the aforementioned funds. Above all, however, the clearing member is obliged to ensure that no suspension of transaction settlement to which it is party occurs.

Taking as an example transactions in securities, the process is as follows. In the case of securities shortage, a participant is required to purchase securities in order to prevent the suspension of the settlement or eliminate such suspension as soon as possible. To this end, it may conclude a securities lending framework agreement under which it may borrow the missing securities immediately. If it fails to undertake the aforementioned measures or if they prove ineffective, after four days KDPW_CCP SA purchases securities at such participant's cost.

In the event of cash shortage (also needed to purchase missing securities), KDPW_CCP SA shall submit settlement orders to a settlement system for other transactions of that participant, in such a way that the participant's outstanding liabilities can be satisfied from cash credit positions resulting from those transactions. If this proves insufficient, KDPW_CCP SA cancels the settlement instruction on behalf of that participant and sells the securities traded in order to complete the settlement in favour of the other party to settlement.

Where it is not possible to cover the shortage in this way, the liabilities shall be satisfied from the funds and equity of the CCP in accordance with the default waterfall procedure set out in EMIR.

In the first place, margins provided by the participant that caused the suspension shall be used to settle cash liabilities. If this is not sufficient, these liabilities are covered in the following order: from the participant's contribution to the clearing guarantee fund or the relevant guarantee fund, subsequently from the dedicated resources of KDPW_CCP SA, and after their use - from other resources of the clearing guarantee fund or the relevant guarantee fund contributed by other participants.

In the event that the suspension cannot be eliminated using the above mentioned funds, the cash liabilities are satisfied by KDPW_CCP SA against its own funds (up to 110% of the so-called regulatory capital). Only then can the Company request the participants to make additional contributions to the clearing guarantee fund or the relevant guarantee fund. The remaining own funds of KDPW_CCP SA are used as the last resource.

¹⁸⁷ KDPW_CCP SA dedicates for this purpose own funds in an amount representing at least 25% of the capital requirement for this company, pursuant to Article 5(2) of Commission Delegated Regulation (EU) No 152/2013 of 19 December 2012 supplementing Regulation (EU) No 648/2012 of the European Parliament and of the Council with regard to regulatory technical standards on capital requirements for central counterparties.

6.3.2.6. Fee policy

In accordance with the Act on Trading in Financial Instruments and the rules, KDPW_CCP SA charges fees and commissions for services provided to participants. The amount of fees is specified in the table of fees, which constitutes an annex to the transaction clearing rules. Over the recent years, KDPW_CCP SA has been systematically reducing fees rates as well as introducing temporary waivers of the fees.

6.3.2.7. Statistical data

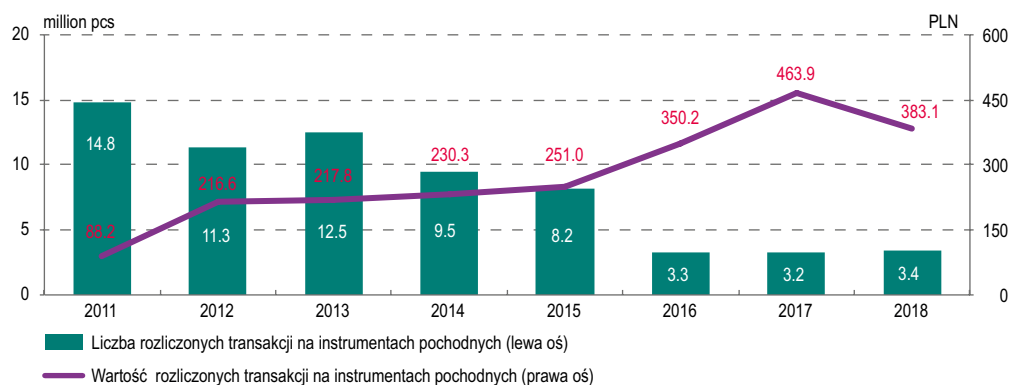
In 2018, the clearing systems operated by KDPW_CCP SA for transactions in derivatives traded on both the organised and OTC markets cleared a total of 3.4 million transactions (3.2 million in 2017, an increase of 4.5%). In particular:

- in the clearing system for organised market, clearing of futures contracts (listed on the Main Market) prevailed, which amounted to 3.3 million (3.1 million in 2017, an increase of 4.5%) and represented 97.5% of all cleared derivative transactions with a negligible number of clearing operations of transactions in options;
- in the clearing system for OTC derivatives the total of approximately 1.5 thousand clearing operations of transactions were recorded (1.1 thousand in 2017, an increase of 34.7%) in instruments other than futures or options.

The average number of cleared transactions in financial instruments in 2011-2018 reached 8.3 million.

In addition, in 2018, the total value of cleared transactions in derivatives traded on the organised market and the OTC market amounted to PLN 383.1 billion (PLN 463.9 billion in 2017, a decline of 17.4%). The average total value of cleared transactions in 2011-2018 reached PLN 275.1 billion. In 2018, the highest values on the organised market were achieved in clearing of transactions in futures contracts; they reached PLN 223.3 billion (PLN 230.2 billion in 2017; a decline of 3.1%) and represented nearly 100% of the value of clearing (clearing of transactions in options remained at an insignificant level). On the other hand, on the OTC market, the value of clearing of transactions in instruments other than futures or options reached PLN 159.8 billion (PLN 135 billion in 2017, an increase of 18.3%).

Chart 6.2. Number and value of clearing in systems operated by KDPW_CCP SA in 2011-2018



Source: NBP study.

In 2018, 35 entities had a direct participant status in the securities clearing systems operated by KDPW_CCP SA for transactions in financial instruments (37 entities in 2017).

6.3.3 SKARBNET4

NBP is the owner of the SKARBNET4 system - central securities depository and securities clearing and settlement system for Treasury bills and NBP bills. The system operator in NBP is the Domestic Operations Department. SKARBNET4 was launched on 13 April 2015 replacing the SKARBNET3, SEBOP and ELBON2 systems. SKARBNET4 operates in accordance with the Act on Trading in Financial Instruments,¹⁸⁸ allowing NBP to register, clear and settle in a separate system securities issued by the State Treasury or NBP which are based on transferable property rights arising from these securities. SKARBNET4 is also the securities settlement system within the meaning of the Act on Settlement Finality and it has been notified to ESMA as a designated system under the SFD.

Moreover, SKARBNET4 operates as a CSD within the meaning of CSDR and as such it has been assessed against requirements for central bank operated systems. In accordance with CSDR, CSDs operated by central banks were committed to adjust their activity to the requirements of the Regulation by 30 March 2018. The results of the SKARBNET4 assessment were accepted by the NBP Management Board on 1 March 2018. The assessment covered the system's functions related to the maintenance of securities and deposit accounts of Treasury bills and NBP bills as well as the settlement of these securities on the secondary market. In particular, this assessment covered the provision of:

- settlement service (operating a securities settlement system),
- notary service (initial recording of securities in a book-entry system), and
- central maintenance service (maintaining securities accounts at the top tier level).

The analyses and findings by NBP demonstrated a high level of compliance of SKARBNET4 with the CSDR requirements.

As part of the operations serviced by SKARBNET4, NBP also organises auctions for Treasury securities and bonds issued by BGK for the benefit of the National Road Fund (based on surety or guarantee of the State Treasury), carries out open market operations (including auctions for NBP bills), concludes repo and outright transactions in these bills, and handles lombard and intraday credit in zloty and euro.

6.3.3.1. Rules of operation

The SKARBNET4 rules of operation are set out in Resolution No. 7/2015 of the NBP Management Board, which introduces the "Regulations on operating accounts and deposit accounts for Treasury bills and NBP bills by Narodowy Bank Polski in the SKARBNET4 system and performing securities transactions in this system" as well as in the participation agreement in the system.

¹⁸⁸ Article 45c of the Act.

6.3.3.2. System participants

With regard to Treasury bills, system participants include banks and other entities holding a bank account (i.e. an account in zloty held in NBP for SORBNET2 system participants or in NBP Regional Branch in Warsaw). With regard to NBP bills, system participants include banks and entities authorised to purchase NBP bills under separate regulations and holding a bank account.

As at 31 December 2018, 40 entities participated in SKARBNET4, including 37 banks and three non-banking entities.

6.3.3.3. Types of operations

NBP, as the operator of SKARBNET4:

- holds accounts and deposit accounts on which Treasury bills and NBP bills are recorded as well as changes in their holding resulting from operations conducted;
- carries out settlement of operations in bills (i.e. transfer of rights arising from securities, transfer of bills within the participant's account and deposit account, transfer of Treasury bills between a participant's account or deposit account and KDPW account, transfer of bills between participants, blocking of bills on a participant's account and deposit account, redemption of bills);
- carries out the settlement of conditional repo or SBB transactions on NBP bills and Treasury bills, which are executed on the basis of compatible settlement orders;
- conducts Treasury bills lending operations;
- submits settlement orders for the handled cash operations to SORBNET2.

6.3.3.4. Deposit

The account and the deposit account for bills in SKARBNET4 is opened upon conclusion of an agreement with NBP by an authorised entity. The system maintains issue accounts for NBP and the Ministry of Finance (based on an agreement concluded between NBP and MF). Bills owned by participants, forming their own portfolio are recorded in accounts kept for participants. Whereas bills owned by the participants' clients are recorded in deposit accounts. Treasury bills belonging to participant's clients are recorded on deposit accounts divided into portfolios of individual clients, while NBP bills are recorded on deposit accounts representing the total clients' portfolio. As part of the registration system, SKARBNET4 participants may maintain individual bill accounts for their clients. For Treasury bills, the participants may also keep omnibus accounts. Bills are registered in SKARBNET4 under the ISIN code assigned by KDPW SA.

The entries in the deposit reflect the status of the bills held and its changes. Records are entered on the basis of:

- operations carried out by NBP as an entity conducting auctions of NBP bills and Treasury bills (under the agreement with the MF);
- transactions data submitted by BondSpot SA;
- orders submitted directly by parties to a transaction concluded outside organised trading.

The registration system of bills ensures high settlement security. It protects against counterfeiting or fraud by applying the following recording principles: double entry, completeness, integrity and transparency.

NBP is bound to check the compliance of bill issues with the number and nominal value of bills registered on accounts and deposit accounts, taking into account the buy-back of Treasury bills or early redemption of NBP bills performed by the issuer. Participants maintaining individual bill accounts for their clients should ensure that the records entered therein are consistent with the holdings of bills in their clients' portfolios on deposit accounts of those participants in SKARBNET4.

6.3.3.5. Clearing and settlement

The clearing of transactions in SKARBNET4 takes place on the basis of two settlement orders, compatible in formal and accounting terms,¹⁸⁹ entered by parties to a transaction.

The settlement of transactions is carried out on the basis of the results of the clearing in SKARBNET4 of orders submitted by transaction parties and on the basis of data provided by BondSpot SA concerning transactions concluded through the TBSP trading platform operated by the company, based on the settlement¹⁹⁰ performed by BondSpot SA.

The clearing and settlement of transactions executed in SKARBNET4 takes place on the date indicated by a system participant. Data concerning transactions concluded through TBSP are provided by BondSpot SA. The settlement in SKARBNET4 may be performed either in financial instruments (FOP) solely, or also in cash. The FOP settlement refers to operations in which NBP participates only in the transfer of bills between participant accounts. These operations include: transfer of bills between a participant's account and deposit account, transfer of bills between the participants, blocking of bills on an account and deposit account, Treasury bill lending and transfer of Treasury bills between a participant's account or deposit account and the account of KDPW SA. SKARBNET4 also performs settlements of operations which result in payment, i.e. buy or sell transactions and repo and SBB. In such a case, the settlement comprises checking the coverage on a bills account or deposit account and on a cash account. Settlement in bills takes place only following settlement in cash in SORBNET2 or in the NBP Regional Branch in Warsaw, after the SKARBNET4 system receives a confirmation of payment instruction execution.

The solutions used in SKARBNET4 (settlement in Treasury bills or NBP bills) and in SORBNET2 (settlement in cash) ensure real-time gross settlement in accordance with the DVP model 1 principle. Clearing and settlement is carried out on all operating days, from Monday to Friday, from 8.00 a.m. to 5.00 p.m. At the end of each operating day, if any changes occurred in a SKARBNET4 participant's account, it receives a statement of account through the system.

To secure offers and orders entered and approved by a participant in SKARBNET4, the participant uses a secure connection between the participant's web browser and NBP servers.

¹⁸⁹ If the orders are not matching, the parties are obliged to clarify the discrepancies and eliminate them by 5.00 p.m. on the date of order execution.

¹⁹⁰ If one of the parties to such a transaction is an entity other than a SKARBNET4 participant, a participant holding a deposit account on which Treasury bills subject to the transaction are recorded, shall accept an order confirming the transaction, compliant with transaction terms submitted by the TBSP.

A cryptographic package is used for communication. In the event of failure, information shall be exchanged by fax or e-mail.

6.3.3.6. Risk management

In SKARBNET4, transactions are settled on a real-time gross basis. There is no special fund to guarantee the settlement of transactions but mechanisms exist to support liquidity in Treasury bills.

In SKARBNET4, a system of Treasury bill loans is provided which secures the execution of Treasury bill transactions in case of shortage of bills on a seller's account during the operating day. The participants of the loan system are the participants of SKARBNET4. Loans are granted from a pool of loans to which Treasury bills may be transferred by each participant in the system, no later than five days before their maturity date. The loan is granted on the condition that the collateral is established on Treasury bills, whose market value cannot be lower than 110% of the market value of the subject of loan. The loan should be repaid by 4.30 p.m. on the working day following the day of granting the loan, at the latest. If by that time the borrowing participant fails to return the Treasury bills, SKARBNET4 will initiate an order to transfer the Treasury bills that served as collateral for the loan to the accounts of the lending participants.

6.3.3.7. Fee policy

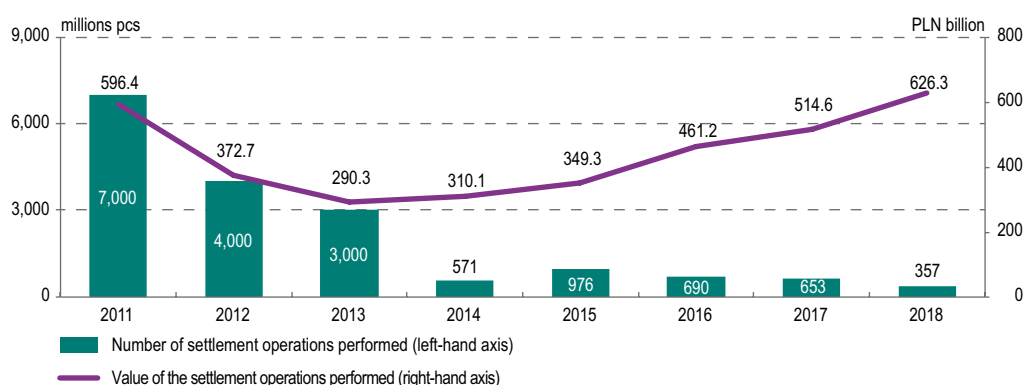
NBP acts as an agent for the issue of Treasury bills. Under the agreement concluded on 22 December 2006 between NBP and the MF, activities related to handling subsequent issues are performed free of charge. SKARBNET4 collects commission and fees from its participants in accordance with the tariff of bank commission and fees applied by NBP.

6.3.3.8. Statistical data

In 2018, in SKARBNET4, the number of transactions settlement operations carried out in Treasury bills and NBP bills amounted to 0.36 thousand. (in 2017, 0.65 thousand; a decrease of 45.3%). The average number of settlement operations conducted in 2011-2018¹⁹¹ amounted to 2.2 thousand.

In addition, in 2018, the total value of Treasury bills and NBP bills settled in SKARBNET4 amounted to PLN 626.3 billion (in 2017, PLN 514.6 billion; a growth of 21.7%). On the other hand, the average value of settlement operations in the case of the aforementioned money market instruments amounted to PLN 440.1 billion.

¹⁹¹ The period under analysis also includes data derived from the Register of Securities, which was replaced by SKARBNET4 on 13 April 2015.

Chart 6.3. Number and value of settlement operations in SKARBNET4 in 2011-2018

Source: NBP study.

In 2018, 40 entities had a direct participant status in SKARBNET4 (43 entities in 2017).

6.3.4. Development prospects

The development objectives of the KDPW Group are set out in the document entitled “The development strategy of the KDPW Group for 2017-2021”¹⁹² of December 2016. According to this document, KDPW SA will, among others, seek to provide services based on innovative technological solutions, maintain a competitive position on the Polish financial market, obtain appropriate authorisations to provide services in line with the EU regulations, further diversify additional services, strengthen the importance of KDPW SA in offering cross-border services to Polish and foreign market players, increase efficiency in the face of market and technological challenges, including the use of standardised operational and technological solutions, offer new methods of participants’ access to IT systems and conduct research and development policies in line with the organisation needs and objectives. Therefore, KDPW SA plans, among others, to continue standardising the service of corporate action in accordance with the ISO 20022 standard, develop services related to the handling of omnibus accounts for foreign entities, increase the efficiency of operational links with euro area depositories, launch and develop new functions for the U2A network interface for customers of KDPW SA and KDPW_CCP SA and offer an eVoting service based on blockchain technology as part of an integrated platform for general meetings.

In accordance with the “Strategy”, KDPW_CCP SA will strive to provide a competitive service to market organisers, participants and investors in the face of changing regulatory and market conditions for clearing of transactions from organised markets, representing different asset classes as well as to take advantage of business and regulatory opportunities to seek possibilities to provide services in other markets. Moreover, it plans, among others: extension of appropriate authorisations for the provision of new services in accordance with EU regulations, including clearing of CO2 emission allowance transactions, implementation of standardised clearing risk management solutions in line with the international market

¹⁹² Excerpt from the document entitled “Strategy of the KDPW Group for 2017-2021” is available online <http://www.kdpw.pl/en/kdpw/Pages/Strategy.aspx> access: October 2019.

practice, extension of KDPW_CCP SA services addressed to clearing participants' clients (client clearing) on the OTC derivative market as well as cooperation with trading platforms aimed at launching clearing and underwriting transactions on the bond and repo markets.

Conclusion



Conclusion

The report presented by NBP describes in a synthetic way the operation of the Polish payment system and all the changes that have occurred in it over the recent years. In accordance with the report, the payment system is a set of processes and entities handling payment transactions in the economy and trading in financial instruments.

A payment system understood in this way comprises, in particular, payment transactions with payment instruments, i.e. both cash and non-cash instruments, including payment cards and credit transfers, as well as payment schemes, including card payment schemes, interbank clearing and settlement through large-value and retail payment systems and securities settlement systems.

Over the last 10 years, the Polish payment system has undergone significant transformation and development which fully satisfied the needs of the growing economy. At the same time, the system has also proved innovative in some areas, meeting the challenges posed by technological revolution that has changed, in particular, the landscape of payment services over the last decade. NBP has played a significant role in this process at each level of its participation in the payment system.

As the regulator, the NBP Management Board adopted resolutions and the President of NBP issued ordinances addressed, in particular, to banks as direct participants of payment system, determining rules of their mutual clearing and settlement as well as the participation criteria in the systems operated by NBP and the rules of their operation. Moreover, NBP actively participated in the legislative process in the area of the payment system, both at the national and the EU level, leading, among others, to the extension of the competence of the NBP President in the area of oversight and the extension of regulatory powers in the scope of interbank settlements.

As an operator, NBP has ensured that the operation of large-value payment systems of key importance for the economy, handling payments both in zloty and euro, is adjusted to the best European and global standards, thus enabling their fully efficient and secure operation. Through its multi-faceted participation in trading in securities (NBP bills and Treasury bills), NBP has provided the necessary infrastructure for efficient and safe service of this market segment.

As the overseer, NBP has ensured that the best standards and practices are applied by the operators of the overseen infrastructure, i.e. retail payment systems, handling payments in zloty and euro, payment schemes and securities settlement systems as well as providers of acquiring service.

Acting as a catalyst, NBP has influenced the functioning of institutions and entities significant for the payment system, primarily through the Payment System Board and cooperation with other institutions and entities relevant for the payment system, taking actions aimed, in particular, at mitigating systemic risk, streamlining payment transactions, increasing the efficiency and security of the payment system, limiting financial exclusion and promoting safe innovation in payments.

The aforementioned actions of NBP and other entities creating the payment system infrastructure make the Polish payment system highly efficient.

To sum up, it is worth emphasising the following key features of the Polish payment system:

- security, expressed, among others, by one of the lowest rates in the EU in terms of the share of fraudulent card transactions in the total number and value of card transactions;
- innovation, which is reflected, among others, in an easy access to modern payment methods, such as mobile payments, contactless card payments or instant payments;
- speed, which is reflected, among others, in the short time of cash clearing not only in the RTGS systems, which also handle client payments, and in two instant payment systems, but also in the main retail payment system – Elixir – which, owing to three settlement sessions per day, enables cash settlement on the same day within several hours;
- competitiveness, expressed, inter alia, in the large number of payment service providers, forms of clearing, payment systems or payment schemes;
- connection to the European infrastructure, including through the euro payment systems: TARGET2-NBP for large-value payments and Euro Elixir for retail payments, and in the area of settlement of financial instruments, numerous operational connections (interconnections) held by KDPW SA with the European infrastructure;
- harmonisation, expressed in the adaptation of the Polish infrastructure, in particular in the area of the capital market, to EU standards and regulations.

The above features mean that the Polish payment system ensures safe and efficient circulation of money in Poland and, at the same time, is a modern system ready to meet the needs of the state, the economy and the society.

Annex

Statistical data for Poland

The data presented in this Annex are compliant with the methodology and templates of the tables defined by the ECB for the needs of collection and publication of statistics in the area of payment system, pursuant to Regulation (EU) No 1409/2013 of the European Central Bank of 28 November 2013 on payment statistics (ECB/2013/43) (OJ L 352 of 24.12.2013). Data compliant with the above methodology for all EU countries are published by the ECB in the Statistical Data Warehouse: <https://sdw.ecb.europa.eu/>.

Table 1. Basic statistical data

	2014	2015	2016	2017	2018
Population (in thousands, annual average)	38,484	38,455	38,427	38,422	38,413
Gross domestic product (PLN billion)	1,720	1,799	1,861	1,989	2,116
Gross domestic product per person (PLN)	44,705	46,814	48,432	51,775	55,077
Harmonised Index of Consumer Prices (HICP) percentage change per annum	0.1	-0.7	-0.2	1.6	1.2
EUR/PLN exchange rate					
end of the year	4.273	4.264	4.41	4.177	4.301
Average	4.184	4.184	4.363	4.257	4.261

Table 2. Funds used for clearing by institutions other than monetary financial institutions (year-end data, PLN million)

	2014	2015	2016	2017	2018
Banknotes and coins in circulation	130,030	149,716	174,401	184,486	203,202
Current deposits	520,634	578,078	699,170	785,774	889,128
<i>including:</i>					
Clearing current deposits	336,223	376,907	489,142	534,143	592,808
Money supply (M1)	606,283	692,124	815,304	906,375	1,012,353
<i>Additional Information</i>					
Current FX deposits	74,957	81,587	113,846	133,913	143,593

Table 3. Funds used for settlement by credit institutions (unless otherwise indicated, average for the last reserve maintenance period, in PLN million)

	2014	2015	2016	2017	2018
Current deposits in the central bank	34,910	38,860	43,129	45,832	44,816
Current deposits with other credit institutions (end of period)	13,776	16,387	15,504	13,970	22,391
including:					
Current settlement deposits in other credit institutions (end of period)	5,517	6,388	7,109	7,409	8,128
<i>Additional information</i>					
Central bank loans other than intraday	0	0	0	0	0
Intraday loans obtained from the central bank	36,823	47,871	44,958	46,526	48,925

Table 4. Banknotes and coins (year-end data, value in PLN million)

	2014	2015	2016	2017	2018
Banknotes and coins in circulation	142,661	162,952	187,295	198,429	219,198
Total banknotes	138,933	158,922	182,975	193,950	214,403
<i>including:</i>					
500 zł	-	-	-	3,614	7,112
200 zł	32,703	39,275	50,472	54,915	63,377
100 zł	93,116	106,256	119,253	121,885	130,209
50 zł	9,824	9,878	9,397	9,398	9,508
20 zł	1,796	1,976	2,239	2,474	2,464
10 zł	1,494	1,536	1,614	1,664	1,733
Total coins	3,729	4,030	4,320	4,479	4,795
<i>including:</i>					
5 zł	1,281	1,436	1,571	1,572	1,709
2 zł	1,145	1,210	1,275	1,335	1,404
1 zł	464	491	523	560	605
0.5 zł	249	266	284	302	324
0.2 zł	213	227	242	257	273
0.1 zł	178	190	203	217	231
0.05 zł	92	97	104	110	116
0.02 zł	52	55	58	61	64
0.01 zł	54	58	61	65	69
Banknotes and coins in circulation held by monetary financial institutions	12,631	13,236	12,894	13,943	15,986
Banknotes and coins circulating outside monetary financial institutions	130,030	149,716	174,401	184,486	203,213
<i>Additional information</i>					
Collector banknotes and coins in circulation	268	274	280	286	292

Table 5. Institutional structure (year-end data)

	2014	2015	2016	2017	2018
Central bank	1	1	1	1	1
Number of branches	16	16	16	16	16
Number of current deposits (thousands)	15.8	14.4	14.4	14.1	14.4
Value of funds on current deposits (PLN million)	20,669	15,176	31,462	24,386	30,037
including:					
Value of funds on current clearing deposits	20,227	15,141	30,327	23,680	29,577
Total credit institutions	679	670	661	645	723
Number of institutions	679	670	661	645	647
Number of bank establishments	16,224	15,613	15,781	14,216	14,181
Number of current deposits (thousands)	64,436.4	66,833.2	69,554.5	74,122.7	75,889.9
including:					
Number of deposits accessible via internet (thousands)	38,661.9	41,436.6	44,514.9	44,844.5	49,384.2
Number of current clearing deposits (thousands)	46,667.5	47,796.8	49,963.1	48,372.0	49,644.4
including:					
Number of deposits accessible via internet (thousands)	27,983.6	29,667.2	31,860.4	35,344.1	36,557.6
Value of funds on current deposits (PLN million)	505,132	568,805	675,640	760,962	858,095
including:					
Value of funds on current clearing deposits	315,996	361,766	458,815	510,463	563,231
Number of payment accounts (thousands)	46,667.5	47,796.8	49,963.1	48,372.0	49,644.4
Domestic credit institutions					
Number of institutions	657	650	640	622	616
Number of establishments	16,036	15,598	15,766	14,201	14,165
Value of funds on current deposits (PLN million)	501,105	564,613	670,269	754,956	851,034
Branches of credit institution					
Number of institutions	28	27	27	28	31
Number of establishments	188	15	15	15	16
Value of funds on current deposits (PLN million)	4.027	4.192	5.371	6.006	7.061
Other institutions offering payment services					
Number of institutions	28	36	38	45	41
Number of establishments	34,604	37,163	37,940	38,978	39,105
Institutions offering payment services to entities other than monetary financial institutions (total)					
Number of institutions	708	707	700	691	689
Number of establishments	50,844	52,792	53,737	53,210	53,302
Number of current deposits (thousands)	64,452.3	66,847.6	69,568.9	74,136.8	75,904.2
including:					
number of current deposits accessible via internet	38,661.9	41,436.6	44,514.9	44,844.5	49,384.2
Value of current deposits (PLN million)	525,800	583,981	707,102	785,348	888,132
Number of payment accounts (thousands)	46,667.5	47,796.8	49,963.1	48,372.0	49,644.4

Table 6. Payment cards issued in Poland and card accepting devices
(end-year data, number in thousands)

	2014	2015	2016	2017	2018
ATM cards (thousands)	35,753	34,251	35,597	38,131	39,667
Cards with payment function (excluding e-money cards) (thousands)	36,069	35,209	36,874	39,096	41,237
including:					
cards with debit function	29,745	29,140	30,734	33,040	35,129
charge cards	282	261	256	240	233
cards with credit function	6,042	5,808	5,885	5,815	5,875
Total number of cards regardless of card function (thousands)	36,069	35,209	36,874	39,096	41,237
ATMs and terminals					
ATMs	20,531	22,143	23,451	23,230	22,885
POS terminals	398,172	465,457	530,865	624,434	786,235

Table 7. Payments and transactions in terminals. Number of transactions (million pcs)

	2014	2015	2016	2017	2018
Transactions by type of payment instrument					
Credit transfer	1,977.3	2,302.0	2,436.5	2,617.9	2,819.0
domestic	1,977.3	2,144.7	2,334.8	2,535.0	2,727.8
foreign	-	157.3	101.7	82.9	91.2
of which:					
in paper form	-	221.2	248.8	260.6	228.7
in electronic form	-	2,080.8	2,187.6	2,357.3	2,590.3
Direct debit	23.6	24.9	26.5	28.3	29.4
domestic	23.6	24.9	26.5	28.3	29.4
foreign	-	0	0	0	0
Payment cards - cashless transactions	1,872.7	2,556.7	3,203.3	3,865.5	4,713.2
domestic	1,872.7	2,485.6	3,104.5	3,721.2	4,501.4
foreign	-	71.1	97.8	144.3	211.8
of which:					
debit card transactions	1,598.6	2,251.6	2,852.7	3,480.4	4,282.6
charge card transactions	11	10.2	10.5	10.7	10.6
credit card transactions	263.1	294.9	339.1	374.5	420
Cheques	0.1	0.1	0.1	0.1	0.1
Total number of transactions using all forms of payment	3,873.7	4,883.7	5,665.4	6,511.7	7,561.6
domestic	3,873.7	4,655.3	5,465.8	6,284.5	7,258.7
foreign	-	228.5	199.5	227.2	302.9

	2014	2015	2016	2017	2018
A. Transactions at terminals located in Poland using cards issued domestically					
Total number of transactions	2,584.2	3,227.6	3,851.5	4,421.7	5,177.1
including:					
ATM cash withdrawal	759	715.2	709.4	667.7	639.6
ATM cash deposit	9.5	27.3	37.6	32.8	36
transactions in POS terminals	1,815.7	2,485.1	3,104.5	3,721.2	4,501.4
B. Transactions in terminals located in Poland using cards issued outside Poland					
Total number of transactions	-	60.9	73.8	94.9	122.5
including:					
ATM cash withdrawal	-	11.1	11.4	12.1	12.4
ATM cash deposit	-	0	0	0	0
transactions in POS terminals	-	49.8	62.5	82.8	110.1
C. Transactions in terminals located outside Poland using cards issued in Poland					
Total number of transactions	66.2	80.3	107.7	155.3	224.7
including:					
ATM cash withdrawal	9.2	9.2	9.9	11.1	12.9
ATM cash deposit	-	0	0	0	0
transactions in POS terminals	57	71.1	97.8	144.3	211.7
Additional Information					
Cash back (cash advances at POS)	4.7	7.9	11.3	14.4	17.2

Table 8. Payments and transactions in terminals. Value of transactions (PLN billion)

	2014	2015	2016	2017	2018
Credit transfer	37,249.7	47,529.8	53,735.3	56,631.3	63,577.9
domestic	37,249.7	46,200.6	52,422.2	55,195.0	61,932.8
foreign	-	1,329.2	1,313.2	1,436.3	1,645.1
of which:					
in paper form	-	15,490.9	21,153.9	21,926.0	23,319.5
in electronic form	-	32,038.9	32,581.4	34,705.2	40,258.4
Direct debit	20.6	26.6	27.5	28.2	30.1
domestic	20.6	26.6	27.4	28.2	30.1
foreign	b.d.	0.1	0.1	0.0	0.0
Payment cards - cashless transactions	157.0	182.8	220.0	260.3	311.6
domestic	157.0	168.1	202.2	237.9	282.1
foreign	-	14.6	17.7	22.4	29.5
of which:					
debit card transactions	122.7	148.2	180.1	217.1	264.2
charge card transactions	3.1	3.0	3.5	3.6	3.4
credit card transactions	31.2	31.6	36.4	39.6	44.0

	2014	2015	2016	2017	2018
Cheques	0.8	0.9	0.8	0.8	1.0
Total number of transactions in all forms of payment	37,428.1	47,740.1	53,983.5	56,920.5	63,920.5
domestic	37,428.1	46,396.2	52,652.6	55,461.8	62,246.0
foreign	-	1,343.9	1,331.0	1,458.7	1,674.5
A. Transactions at terminals located in Poland using cards issued in Poland					
Total value of transactions	451.0	509.8	567.9	614.9	676.7
of which:					
ATM cash withdrawal	295.7	295.6	305.9	317.8	325.7
ATM cash deposit	10.6	46.1	59.8	59.2	68.9
transactions in POS terminals	144.6	168.1	202.2	237.9	282.1
B. Transactions at terminals located in Poland using cards issued outside Poland					
Total value of transactions	-	18.3	18.3	20.9	24.4
of which:					
ATM cash withdrawal	-	6.9	7.1	7.4	7.8
ATM cash deposit	-	0.0	0.0	0.0	0.0
transactions at POS terminals	-	11.4	11.2	13.4	16.6
C. Transactions at terminals located outside Poland using cards issued in Poland					
Total value of transactions	17.1	19.5	23.1	28.6	36.8
including:					
ATM cash withdrawal	4.8	4.8	5.5	6.3	7.3
ATM cash deposit	-	0.0	0.0	0.0	0.0
transactions at POS terminals	12.3	14.6	17.7	22.4	29.5
Additional Information:					
Cash back (cash advances at POS terminal)	0.5	0.8	1.2	1.6	2.0

Table 9. Participants in selected interbank money transfer systems (year-end data)

	2014	2015	2016	2017	2018
TARGET2-NBP System					
Number of participants	21	22	22	22	21
of which:					
direct participants	21	22	22	22	21
of which:					
credit institutions	18	18	18	18	17
central bank	1	1	1	1	1
other direct participants	2	3	3	3	3
of which:					
ancillary systems*	2	3	3	3	3
SORBNET 2 System					
Number of participants	49	48	49	49	48
of which:					
direct participants	49	48	49	49	48
of which:					
credit institutions	46	44	45	45	44
central bank	1	1	1	1	1
other direct participants	2	3	3	3	3
of which:					
ancillary systems*	2	3	3	3	3
Elixir system					
Number of participants	630	620	619	618	612
of which:					
direct participants	44	40	41	40	40
of which:					
credit institutions	43	39	40	39	39
central bank	1	1	1	1	1
intermediate participants	586	580	578	578	572
Euro Elixir System					
Number of participants	605	594	593	590	585
of which:					
direct participants	24	21	20	20	21
of which:					
credit institutions	23	20	19	19	20
central bank	1	1	1	1	1
intermediate participants	581	573	573	570	564

	2014	2015	2016	2017	2018
Express Elixir System					
Number of participants	9	9	11	13	15
of which:					
direct participants	9	9	11	13	15
of which:					
credit institutions	9	9	11	12	14
central bank				1	1
BlueCash payment system**					
Number of participants	53	76	92	105	117
of which:					
direct participants	53	76	92	105	117
of which:					
credit institutions	53	76	92	105	117
BLIK payment system					
Number of participants	-	18	22	25	31
of which:					
direct participants	-	18	22	25	31
of which:					
credit institutions	-	6	7	9	11
other direct participants	-	12	15	16	20
Krajowy System Rozliczeń					
Number of participants	21	14	13	13	13
of which:					
direct participants	21	14	13	13	13
of which:					
credit institutions	19	12	11	11	11
other direct participants	2	2	2	2	2

* The category of ancillary systems includes: KIR SA, KDPW SA and KDPW_CCP SA.

** Data does not comprise cooperating banks that are not participants within the meaning of the Act on Settlement Finality.

Table 10. Payments in selected interbank funds transfer systems (million pcs)

	2014	2015	2016	2017	2018
TARGET2-NBP System					
Credit transfers	0.8	0.8	0.8	0.9	0.9
of which:					
Credit transfer within the same TARGET2 NBP system component	0.1	0.1	0.2	0.2	0.2
Credit transfer sent to another TARGET2 system component	0.7	0.7	0.7	0.7	0.7
of which:					
Credit transfer sent to TARGET2 participants from the euro area	0.6	0.6	0.6	0.7	0.7
Credit transfer sent to TARGET2 participants outside the euro area	0	0	0	0	0
Concentration ratio	74.8	76.5	81	82.3	82.5
SORBNET2 System					
Credit transfer	3.1	3.5	3.9	4	4.1
Concentration ratio	55.5	56.8	56.7	55.3	54.2
Retail system: Elixir					
Total number of transactions	1,607.0	1,668.0	1,715.3	1,798.6	1,844.6
of which:					
credit transfer	1,586.4	1,647.0	1,694.0	1,776.8	1,823.0
direct debit	20.6	21	21.3	21.7	21.6
cheques	0	0	0	0	0
Concentration ratio	53.8	53.7	55.4	57	57.9
Euro Elixir system					
Credit transfer	4.2	5.2	6.5	8.6	10.3
domestic	1.2	1.5	2	2.8	3.5
foreign	3	3.7	4.5	5.8	6.8
Concentration ratio	82	82.7	79.7	75.6	72.5
Express Elixir System					
Credit transfer	0.9	1.5	2.7	5	12.5
Concentration ratio	98.5	97.4	91.1	82.5	74.5

	2014	2015	2016	2017	2018
BlueCash payment system					
Credit transfer	1.6	2.4	3.3	3.5	8.3
Concentration ratio	99	96.1	93.5	90.6	86
BLIK payment system					
Total number of transactions	-	1.4	8.3	33	90.8
Transactions at ATM	-	1.1	3.2	8.1	14.5
Other payment services	-	0.3	5.1	24.9	76.3
Concentration ratio	-	98.2	97	95.5	90.9
Krajowy System Rozliczeń					
Total number of transactions	53	56.9	66.6	67.4	75.5
Transactions by card at POS terminals	27.3	31.8	38.8	38.5	46
Transactions at ATM	25.6	25.1	27.8	28.8	29.4
Concentration ratio	86.5	88.9	90.6	92.7	93.9

Table 11. Payments in selected interbank funds transfer systems. Value of transactions (PLN billion)

	2014	2015	2016	2017	2018
TARGET2-NBP System					
Credit transfers	410.8	447.8	486.1	593.1	834.7
of which:					
credit transfer within TARGET2 system	108.4	115.3	120.7	146.5	202.4
credit transfer sent to another TARGET component system	302.4	332.5	365.3	446.6	630.7
of which:					
transactions sent to TARGET participants from the euro area	296.7	330.1	364.3	445.3	629.3
transactions sent to TARGET participants outside the euro area	5.6	2.4	1	1.3	1.3
Concentration ratio	67.5	67	70.6	71.3	71.8
SORBNET2 System					
Credit transfer	68,128.9	72,210.8	70,951.0	73,098.3	77,884.5
Concentration ratio	58	60.6	63.3	64.3	64.2
Retail system: Elixir					
Total value of transactions	4,023.8	4,265.0	4,422.5	4,762.7	5,263.5
including which:					
credit transfer	4,007.8	4,249.0	4,406.1	4,745.0	5,244.3
direct debit	16.1	16	16.3	17.7	19.2
cheques	0	0	0	0	0
Concentration ratio	50.1	50.3	51	53	54
Euro Elixir System					
Credit transfer	169.4	190.1	227.5	314.6	374.6
domestic	41.6	44.4	51	66.8	84.7
foreign	127.9	145.7	176.5	247.8	289.8
Concentration ratio	81	82	80	82	77.1
Retail system: Express Elixir					
Credit transfer	4.3	6.7	10.3	17	29.8
Concentration ratio	96.1	91.9	85.2	80.2	75.5
BlueCash payment system					
Credit transfer	1.2	2.4	4.6	5.7	9.6
Concentration ratio	99	89.2	90.1	88.3	83.3

	2014	2015	2016	2017	2018
BLIK payment system					
Total value of transactions	-	0.4	1.5	4.7	12.1
Transactions at ATM	-	0.4	1.1	2.6	5.6
Other payment services	-	0	0.4	2.1	6.6
Concentration ratio	-	98.9	97.9	96.1	91.6
Krajowy System Rozliczeń					
Total value of transactions	13.9	14.3	16.5	18.2	18.6
Transactions by card at POS terminals	3	3	3.2	2.9	3.1
Transactions at ATM	10.9	11.4	13.3	15.3	15.4
Concentration ratio	92	94.4	95.9	96.8	97.2

Table 12. Number of settlement operations in SKARBNET4 in 2011-2018

Type of financial instrument	2011	2012	2013	2014	2015	2016	2017	2018
Short-term financial instruments	7,000	4,000	3,000	571	976	690	653	357

Table 13. Value of settlement operations in SKARBNET4 in 2011-2018 (PLN billion)

Type of financial instrument	2011	2012	2013	2014	2015	2016	2017	2018
Short-term financial instruments	596.4	372.7	290.3	310.1	349.3	461.2	514.6	626.3

Table 14. Number of settlement operations in the system operated by KDPW SA in 2011-2018 (in millions)

Type of financial instrument	2011	2012	2013	2014	2015	2016	2017	2018
Debt instruments	0.3	0.4	0.5	0.4	0.4	0.4	0.4	0.4
Short-term financial instruments	0.001	0.001	0.002	0.001	0.001	-	-	-
Equity instruments	15.9	13.8	28.0	28.4	12.7	8	8.9	7.2
Other	0.03	0.02	0.07	0.1	0.2	0.2	0.2	0.2
Total	16.2	14.2	28.6	28.9	13.3	8.7	9.5	7.8

Table 15. Value of settlement operations in the system operated by KDPW SA in 2011-2018 (PLN trillion)

Type of financial instrument	2011	2012	2013	2014	2015	2016	2017	2018
Debt instruments	31.2	43.4	44.4	43.4	54.1	54.5	54.7	55.3
Short-term financial instruments	0.0003	0.001	0.001	0.001	0.001	0.001	0.0003	0.001
Equity instruments	0.8	0.7	1.1	1.1	1	0.8	1	0.8
Other	0.0008	0.0009	0.003	0.002	0.003	0.003	0.003	0.004
Total	32	44.1	45.5	44.4	55.1	55.3	55.7	56.1

Table 16. Number of settlements in systems operated by KDPW_CCP SA for transactions in derivative instruments both in organised trading and non-organised trading in 2011-2018 (million)

Type of instrument	2011	2012	2013	2014	2015	2016	2017	2018
Short-term contracts	14.6	10.6	11.7	9	7.8	3.2	3.1	3.3
Options	0.2	0.7	0.8	0.5	0.4	0.1	0.1	0.1
Other derivative instruments	-	-	-	-	0.0003	0.001	0.001	0.001
Total	14.8	11.3	12.5	9.5	8.2	3.3	3.2	3.4

Table 17. Value of settlements in systems operated by KDPW_CCP SA for transactions in derivative instruments both in organised trading and non-organised trading in 2011-2018 (PLN billion)

Type of instrument	2011	2012	2013	2014	2015	2016	2017	2018
Short-term contracts	88.2	216.6	217.6	230.1	216.7	188.4	230.2	223.3
Options	0.07	0.2	0.3	0.1	0.1	0.1	98.7	0.1
Other derivative instruments	-	-	-	-	34.2	161.7	135	159.8
Total	88.2	216.6	217.9	230.2	251.0	350.2	463.9	383.2

Index of legal acts

1. Act of 28 April 1936 - Cheque Law (Journal of Laws of 2016, item 462)
2. Act of 16 September 1982 - Cooperative Law (Journal of Laws of 2018, item 1285, as amended)
3. Act of 29 August 1997 on Narodowy Bank Polski (Journal of Laws of 2019, item 1810)
4. Act of 29 August 1997 – the Banking Act (Journal of Laws of 2018, item 2187, as amended)
5. Act of 7 December 2000 on the Functioning of Cooperative banks, Their Affiliation and Affiliating Banks (Journal of Laws of 2018, item 613, as amended)
6. Act of 24 August 2001 on the Settlement Finality in Payment and Securities Settlement Systems and the Rules of Oversight of these Systems (Journal of Laws of 2019, item 212)
7. Act of 28 February 2003 - Bankruptcy Law (Journal of Laws of 2019, item 498)
8. Act of 2 April 2004 on Certain Financial Collateral Arrangements (Journal of Laws of 2016, item 891, as amended)
9. Act of 29 July 2005 on Trading in Financial Instruments (Journal of Laws of 2018, item 2286, as amended)
10. Act of 29 July 2005 on the Public Offering, Conditions Governing the Introduction of Financial Instruments to Organised Trading and Public Companies (Journal of Laws of 2019, item 623, as amended)
11. Act of 29 July 2005 on Capital Market Supervision (Journal of Laws of 2018, item 1417, as amended)
12. Act of 21 July 2006 on Financial Market Supervision (Journal of Laws of 2019, item 298, as amended)
13. Act of 5 November 2009 on Credit Unions (Journal of Laws of 2018, item 2386, as amended)
14. Act of 19 August 2011 on Payment Services (Journal of Laws of 2019, item 659, as amended)
15. Act of 28 June 2012 amending the Act on Public Offering, Conditions Governing the Introduction of Financial Instruments to Organised Trading and Public Companies (Journal of Laws of 2012 item 836)
16. Act of 15 January 2015 on Bonds (Journal of Laws of 2018 item 483)
17. Act of 15 May 2015 - Restructuring Law (Journal of Laws of 2019, item 243, as amended)

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18. Act of 5 August 2015 on Examining the Complaints by Entities of the Financial Market and on the Financial Ombudsman (Journal of Laws of 2018, item 2038, as amended)
 19. Act of 10 June 2016 on the Act on the Bank Guarantee Fund, the Deposit Guarantee Scheme and Resolution (Journal of Laws of 2019, item 795, as amended)
 20. Act of 01 March 2018 on Counteracting Money Laundering and Terrorist Financing (Journal of Laws of 2019, item 1115, as amended)
 21. Act of 9 November 2018 amending Certain Acts in Connection with the Strengthening of Supervision over the Financial Market and Protection of Investors in this market (Journal of Laws of 2018 item 2243)
 22. Act of 30 August 2019 amending the Act - Code of Commercial Companies and certain other acts (Journal of Laws of 2019 item 1798)
 23. Regulation of the Minister of Finance of 23 April 2004 on the manner, scope and dates of providing by entities participating in money settlements and interbank settlements of the data necessary for Narodowy Bank Polski to assess the functioning of money settlements and interbank settlements (Journal of Laws of 2019 item 95)
 24. Regulation of the Minister of Finance of 15 October 2014 on the detailed scope and manner of providing information to Narodowy Bank Polski by clearing agents, issuers of payment instruments and issuers of electronic money (Journal of Laws of 2019 item 840)
 25. Regulation of the Minister of Development and Finance of 5 July 2017 concerning identifiers and sort codes assigned to certain providers of payment services and unique identifiers assigned to payment accounts operated by such providers (Journal of Laws of 2017 item 1360)
 26. Resolution No 9/2013 of the Management Board of Narodowy Bank Polski of 24 May 2013 on the terms and conditions of opening and maintaining banks' accounts by Narodowy Bank Polski (Official Journal of NBP of 2013, item 8, as amended).
 27. Resolution No 29/2014 of NBP Management Board of 5 June 2014 concerning bank commissions and fees applied by Narodowy Bank Polski
 28. Resolution No. 7/2015 of NBP Management Board of 12 March 2015 concerning the introduction of the "Regulations on operating accounts and deposit accounts for Treasury bills and NBP bills by Narodowy Bank Polski in the SKARBNET4 system and performing securities transactions in this system" (Official Journal of NBP of 2017, item 18, as amended).
 29. Ordinance No 7/2017 of the President of Narodowy Bank Polski of 20 February 2017 on the manner of numbering banks and bank accounts (Official Journal of NBP of 2019, item 9),
 30. Ordinance No. 30/2017 of the President of Narodowy Bank Polski concerning the method of performing interbank clearings and interbank settlements (Official Journal of NBP of 2017, item 21),

31. Treaty on the Functioning of the European Union. (OJ C 326 of 26.10.2012).
32. Directive 98/26/EC of the European Parliament and of the Council of 19 May 1998 on settlement finality in payment and securities settlement systems. (OJ L 166 of 11.06.1998)
33. Directive 2004/39/EC of the European Parliament and of the Council of 21 April 2004 on markets in financial instruments (OJ L 145 of 30.04.2004).
34. Directive 2009/110/EC of the European Parliament and of the Council of 16 September 2009 on the taking up, pursuit and prudential supervision of the business of electronic money institutions amending Directive 2005/60/EC and Directive 2006/48/EC and repealing Directive 2000/46/EC (OJ L 267 of 10.10.2009, as amended)
35. Directive 2014/49/EC of the European Parliament and of the Council of 16 April 2014 on deposit guarantee schemes (OJ L 173 of 12.06.2014).
36. Directive 2014/59/EU of the European Parliament and of the Council of 15 May 2014 establishing a framework for the recovery and resolution of credit institutions and investment firms (OJ L 173 of 12.06.2014).
37. Directive 2014/65/EU of the European Parliament and of the Council of 15 May 2014 on markets of financial instruments and amending Directive 2002/92/EC and Directive 2011/61/EU (OJ L 173 of 12.06.2014).
38. Directive 2014/92/EU of the European Parliament and of the Council of 23 July 2014 on the comparability of fees related to payment accounts, payment account switching and access to payment accounts with basic features (OJ L 257 of 28.08.2014).
39. Directive 2015/849/EU of the European Parliament and of the Council of 20 May 2015 on the prevention of the use of the financial system for the purposes of money laundering or terrorist financing, amending Regulation (EU) No 648/2012 of the European Parliament and of the Council, and repealing Directive 2005/60/EC of the European Parliament and of the Council and Commission Directive 2006/70/EC (OJ L 141 of 5.06.2015).
40. Directive 2015/2366/EU of the European Parliament and of the Council of 25 November 2015 on payment services in the internal market, amending Directives 2002/65/EC, 2009/110/EC and 2013/36/EU and Regulation (EU) No 1093/2010, and repealing Directive 2007/64/EC (OJ L 337, 23.12.2015, as amended)
41. Regulation No 924/2009/EC of the European Parliament and of the Council of 16 September 2009 on cross-border payments in the Community and repealing Regulation No 2560/2001/EC (OJ L 266 of 9.10.2009).
42. Regulation (EU) No 236/2012 of the European Parliament and of the Council of 14 March 2012 on short selling and certain aspects of credit default swaps (OJ L 86 of 24.03.2012, as amended)

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43. Regulation (EU) No 260/2012 of the European Parliament and of the Council of 14 March 2012 establishing technical and business requirements for credit transfers and direct debits in euro and amending Regulation (EC) No 924/2009 (OJ L 94 of 30.03.2012).
 44. 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 L 201 of 27.07.2012, as amended)
 45. Commission Delegated Regulation (EU) No 152/2013 of 19 December 2012 supplementing Regulation (EU) No 648/2012 of the European Parliament and of the Council with regard to regulatory technical standards on capital requirements for central counterparties (OJ L 52 of 23.02.2013)
 46. Commission Delegated Regulation (EU) No 153/2013 of 19 December 2012 supplementing Regulation (EU) No 648/2012 of the European Parliament and of the Council with regard to regulatory technical standards on the requirements for central counterparties (OJ L 52 of 23.02.2013, as amended)
 47. Commission Delegated Regulation (EU) No 876/2013 of 28 May 2013 supplementing Regulation (EU) No 648/2012 of the European Parliament and of the Council with regard to regulatory technical standards for colleges of central counterparties (OJ L 244 of 13.09.2013).
 48. Regulation (EU) No 575/2013 of the European Parliament and of the Council of 26 June 2013 on prudential requirements for credit institutions and investment firms amending Regulation (EU) No 648/2012 (OJ L 176 of 27.06.2013)
 49. Regulation (EU) No 600/2014 of the European Parliament and of the Council of 15 May 2014 on markets in financial instruments (OJ L 173 of 12.06.2014)
 50. 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 (OJ L 257 of 28.08.2014)
 51. Regulation (EU) No 2015/75 of the European Parliament and of the Council of 29 April 2015 on interchange fees for card-based payment transactions (OJ L 123 of 19.05.2015)
 52. Regulation (EU) No 2015/2365 of the European Parliament and of the Council of 25 November 2015 on transparency of securities financing transactions and of reuse and amending Regulation (EU) No 648/2012 (OJ L 337 of 23.12.2015)
 53. Commission Delegated Regulation (EU) No. 2017/392 of 11 November 2016 supplementing Regulation (EU) No 909/2014 of the European Parliament and of the Council with regard to regulatory technical standards on authorisation, supervisory and operational requirements for central securities depositories (OJ L 65 of 10.03.2017)
 54. Regulation (EU) No 2019/518 of the European Parliament and of the Council of 19 March 2019 amending Regulation (EC) No 924/2009 as regards certain charges on cross-border payments in the Union and currency conversion charges (OJ L 91 of 29.03.2019)

55. Council Decision No 98/415/EC of 29 June 1998 on the consultation of the European Central Bank by national authorities regarding draft legislative provisions (OJ L 189 of 3.07.1998)
56. Regulation (EU) No 1409/2013 of the European Central Bank of 28 November 2013 on payments statistics (ECB/2013/43) (OJ L 352 of 24.12.2013)
57. Guideline of the European Central Bank of 5 December 2012 on a Trans-European Automated Real-time Gross Settlement Express Transfer system (TARGET2) (OJ L 30 of 30.01.2013)

Index of Abbreviations

AIS	account information service
ANNA	Association of National Numbering Agencies
APA	approved publication arrangement
ARM	approved reporting mechanism
ATM	automated teller machine
ATS	Alternative Trading System
A2A	application-to-application
BFG	Bank Guarantee Fund
BGK	Bank Gospodarstwa Krajowego
BIC	Business Identifier Code
BISO	buy-in/sell-out
B2B	business-to-business
CCP	central counterparty
CDM	cash deposit machine
CeTO	Centralna Tabela Ofert SA
CFI	Classification of Financial Instruments
CRR	Capital Requirements Regulation
CSD	central securities depository
CSDR	Central Securities Depositories Regulation
CTP	consolidated tape provider
DCISC	Diners Club International Service Centre
DCP	Diners Club Poland
DSP	Payment Systems Department
DVP	delivery versus payment
EACHA	European Automated Clearing House Association
ECB	European Central Bank
ECRB	Euro Cyber Resilience Board
EFDI	European Forum of Deposit Insurers
EMD II	Electronic Money Directive II
EMIR	European Market Infrastructure Regulation
ERPB	Euro Retail Payments Board

ERSPW	Electronic Treasury Securities Market
ESMA	European Securities and Markets Authority
ETF	exchange-traded fund
EU	European Union
FISN	Financial Instrument Short Name
FOP	free of payment
GCMS	Global Clearing Management System
GLEIF	Global LEI Foundation
GPW SA	Giełda Papierów Wartościowych w Warszawie SA
HCE	host card emulation
IBAN	International Bank Account Number
IPO	initial public offering
ISIN	International Securities Identification Number
IVR	interactive voice response
KDPW SA	Krajowy Depozyt Papierów Wartościowych SA.
KIR SA	Krajowa Izba Rozliczeniowa SA
KNF	Polish Financial Supervision Authority
KSR	Krajowy System Rozliczeń
LEI	Legal Entity Identifier
LOU	Local Operating Unit
MF	Minister of Finance
MiFID II	Markets in Financial Instruments Directive II
MiFIR	Markets in Financial Instruments Regulation
MIPC	Market Infrastructure and Payments Committee
MMS2	SORBNET2 Monitoring Module
NBP	Narodowy Bank Polski
NFC	near-field communication
NRB	Bank Account Number
NYSE	New York Stock Exchange
OTC	over-the-counter
OTF	organised trading facility
PAD	Payment Accounts Directive
PIS	payment initiation service
PM	Payment Module

PNNSS	Polish National Net Settlement System
POS	point-of-sale
PSD II	Payment Services Directive II
P2P	peer-to-peer
RP	Republic of Poland
RTGS	Real-Time Gross Settlement
SBB	sell/buy back
SCT	SEPA Credit Transfer
SDD	SEPA Direct Debit
SEPA	Single Euro Payments Area
SFD	Settlement Finality Directive
SFT	Securities Financing Transaction
SFTR	Securities Financing Transactions Regulation
SIPN	SWIFT Secure IP Network
SSP	Single Shared Platform
SWIFT	Society for Worldwide Interbank Financial Telecommunication
TBSP	Treasury BondSpot Poland
TIPS	TARGET Instant Payments Settlement
TSD	Treasury Securities Dealer
T2S	TARGET2-Securities
UKNF	Office of the Polish Financial Supervision Authority
USSD	unstructured supplementary service data
UTP	Universal Trading Platform
U2A	user-to-application
WARSET	Warsaw Stock Exchange Trading System

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