

1. The Bank's role in oversight and prudential supervision of financial market infrastructures, custodians, payment service providers and critical service providers

To provide more insight into the systems and institutions providing payment, clearing, settlement, custody and other services, either from a wholesale or a retail market perspective, section 1.1 provides an overview of the structure and interdependencies between them. Relevant processes and flows are more explained in detail in the next parts of this Report (i.e. chapters 2, 3 and 4). Section 1.2 explains the Bank's mandate and role in the oversight and prudential supervision of this sector, either in a national or international perspective.

1.1 Critical nodes in the functioning of financial markets and payment services

The systems and institutions covered in this Report can be ranked in three categories according to the type of service provided: (i) securities clearing, settlement and custody, (ii) payments and (iii) other service providers to the financial infrastructure. Through their activities or services provided to the financial industry, these systems and institutions are the critical nodes in the functioning of financial markets and payment services as well as the real economy. If designed safely and managed properly, they are instrumental in reducing systemic risks and contagion in the event of financial crises. At the same time, they are interlinked with other financial market infrastructures (FMI), financial intermediaries and other actors such as merchants or retail customers. These interdependencies are briefly presented and illustrated in chart 1.

Securities clearing, settlement and custody

A trade in a financial instrument is concluded between a buyer and a seller by agreeing the price and the contract terms. Trading in such instrument can be on-exchange (i.e. on a centralised platform designed to optimise the price-discovery process and to concentrate market liquidity) or bilaterally on an over-the-counter (OTC) basis (i.e. where the counterparties make the bid and accept the offer to conclude contracts directly among themselves). The final investor uses a custodian bank, which could rely on other intermediaries (e.g. brokers) to conduct trades. Trade exchanges such as Euronext Brussels are supervised by securities regulators and are not covered in this Report.

FMI and financial institutions that provide securities clearing, settlement and custody services are considered part of the post-trade securities landscape. The clearing of a trade via a central counterparty (CCP) generally means that the CCP becomes the buyer counterparty for the seller and the seller counterparty for the buyer.

Both original counterparties to the trade then have a claim on the CCP. The direct participant of a CCP – usually a bank or an investment firm – is called a clearing member. A clearing member may clear not only its own trades via the CCP, but also those of its clients. Whereas there are no CCPs established in Belgium, CCPs in other countries can be systemically important due to their clearing activities for the Belgian securities market.

After clearing, the settlement of a trade results in the transfer of cash and/or of a financial instrument between the parties in the books of a central securities depository (CSD). CSDs generally act as the register of securities issued in their domestic market. In the case of international securities, such as Eurobonds, issuers can choose the currency or country of issue. These securities are held in international CSDs (ICSDs)¹. When a CCP has intervened to clear a trade, settlement takes place on the books of (I)CSDs² between the buyer and the CCP, and between the seller and the CCP. There are three (I)CSDs established in Belgium: Euroclear Bank (ICSD), Euroclear Belgium and NBB-SSS (both CSDs). The cash leg of securities settlement takes place either in payment systems operated by central banks (i.e. central bank money, for example TARGET2) or on the books of an (I) CSD with banking status providing (multicurrency) cash accounts (i.e. commercial bank money, for example Euroclear Bank).

Financial institutions that facilitate their clients' access to securities investment markets are referred to as custodians. In that capacity of intermediary, custodians can offer their clients safekeeping and settlement services. A local custodian primarily focuses on serving a single securities market. If a custodian has access to markets worldwide, it is considered a global custodian.

Payments

The payments landscape covers both wholesale (i.e. transactions between banks for institutional investors) and retail payments segments (i.e. transactions between retail customers), and includes payment systems, payment service providers (PSPs) such as payment institutions (PIs) and electronic money institutions (ELMIs), processors for retail payment instruments and card payment schemes.

Payment systems encompass large-value payment systems (LVPS) and retail payment systems (RPS). While LVPSs generally exchange payments of a very large amount, mainly between banks and other participants in the financial markets, RPSs typically handle a large volume of payments of relatively low value by means of credit transfers and direct debits. In Belgium, most interbank payments are processed by TARGET2, the LVPS connecting Belgian with other European banks, and by the Centre for Exchange and Clearing (CEC), which is the domestic retail payment system processing intra-Belgian domestic payments.

The role of PIs and ELMIs in the retail payments area is multiple and growing. PIs and ELMIs have since long been active in the card payment business, issuing payment cards to the user and/or acquire the funds for the payment on behalf of the merchant. The second Payment Services Directive (PSD2) has further strengthened the role of non-banks in the market since they are now allowed (under certain conditions) to make use of the banking industry's accounting ledger for accessing and consulting payment service users' accounts online.

Card payments remain the most widely used payment instrument in Belgium and typically involve a "four-party scheme", i.e. cardholder, card issuer, merchant and acquirer. The card of the person on the purchase side of a transaction (cardholder) with a merchant is issued by an institution (card issuer) which was traditionally always a bank, but can, nowadays, also be a PI or ELMI. The acquirer is in charge of acquiring the transaction on behalf of the merchant (i.e. performing for the merchant all the steps necessary for the

1 There are two ICSDs in the EU which act as "issuer CSD" for Eurobonds; i.e. Euroclear Bank established in Belgium and Clearstream Banking Luxembourg.

2 The term (I)CSD is used to cover both CSDs and ICSDs.

buyer's money to be paid into the merchant's account). The relevant rules and features according to which card payments – either debit or credit – can take place are defined by card payment schemes. The Belgian domestic (debit) card payment scheme is Bancontact. Mastercard Europe (MCE) is the European subsidiary of the Mastercard group, which owns the international (credit) card payment scheme and is established in Belgium.

As from May 2020, MCE was designated by the Eurosystem as a systemically important payment system (SIPS) according to the criteria included in the ECB SIPS Regulation. The Mastercard Clearing Management System operated by MCE has become the fifth SIPS in the Eurozone, next to TARGET2, EURO1, STEP2 and CORE-FR. For a first time an entity active in the card business area has been designated as a SIPS; its activities exclusively stem from the card-based transactions under the debit and credit card schemes managed by MCE.

For Bancontact, a scheme switch is in place, but one processor provides the underlying network and services for the majority of card payments, namely equensWorldline SE. For Maestro, the processing network is provided directly by Mastercard. After the processing of card payments, transactions are sent to the CEC for clearing and settlement. Pls have also a major role in providing money transfer/remittance services (fund transfers) allowing retail customers to transfer funds from Belgium to a third party in different locations around the world and vice versa.

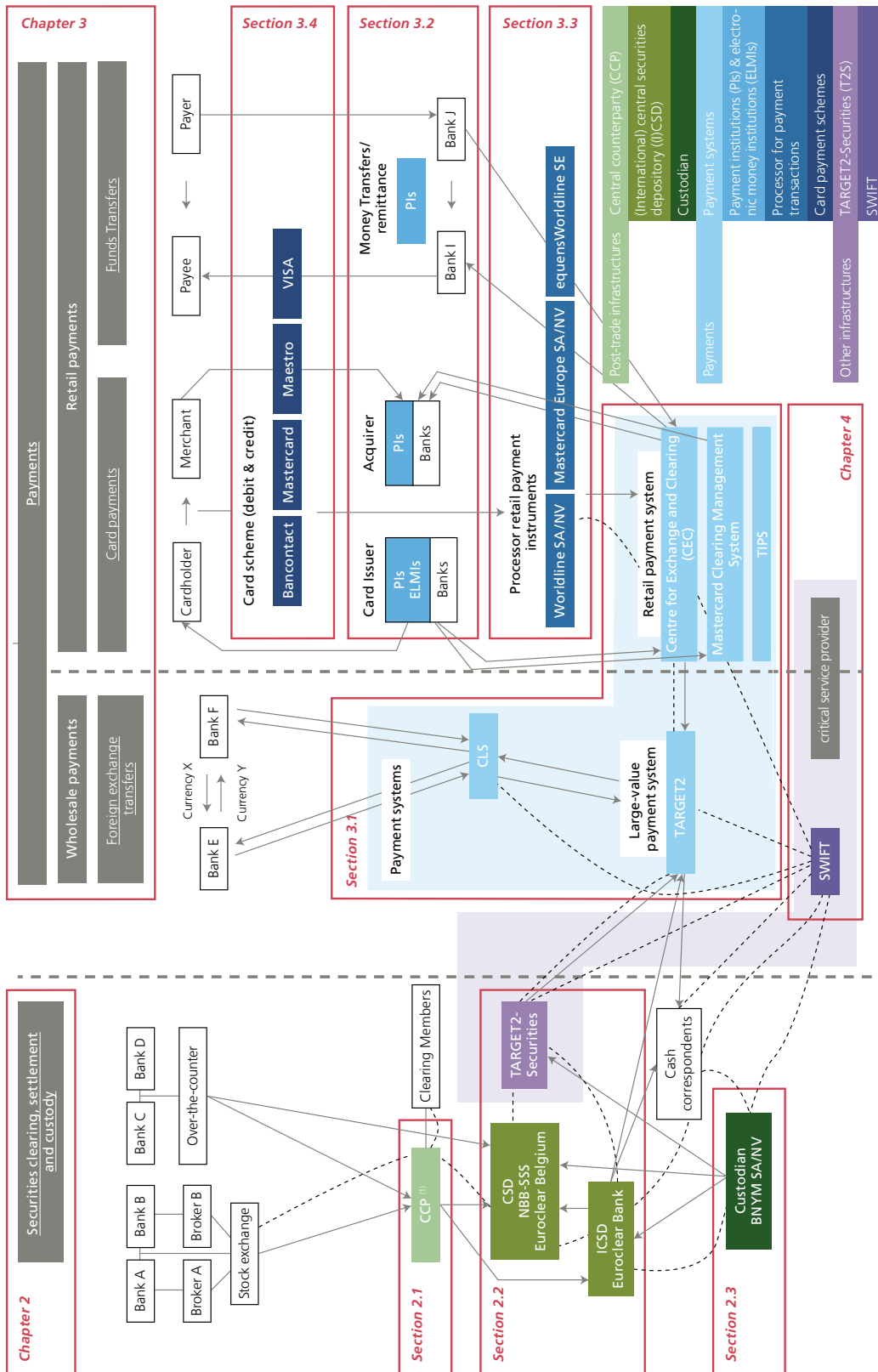
CLS, a settlement system for foreign exchange (FX) transactions is linked to the LVPS systems operated by central banks of 18 currencies (including TARGET2 for EUR), making it possible to settle both legs of the FX transaction at the same time. CLS eliminates FX settlement risk when – due to time zone differences – one party transfers the currency it sold but does not receive the currency it bought from its counterparty.

Other infrastructures and service providers

TARGET2-Securities (T2S) is the common settlement platform for European CSDs. Although SWIFT, which provides messaging services, is neither a payment system nor a settlement system, a large number of systemically important systems depend on it for their daily financial messaging. It is therefore considered as a critical service provider.

Chart 1

Interlinkages through and between financial market infrastructures, custodians, payment service providers and critical service providers relevant for Belgium



1.2 FMIs, custodians, payment service providers and critical service providers subject to oversight and prudential supervision by the Bank

The Bank has responsibilities in both oversight and prudential supervision of FMIs, custodians, PSPs, such as Pls and ELMIs and critical service providers.

Oversight and prudential supervision of FMIs differ in a number of areas¹, ranging from the object of the function, the authority being responsible, the topics covered, as well as the regulatory framework and tools used. However, both oversight and prudential supervision activities, and the framework they are relying on, evolve over time.

Central banks have always had a close interest in the safety and efficiency of payment, clearing and settlement systems. One of the principal functions of central banks is to be the guardian of public confidence in money, and this confidence depends crucially on the ability of economic agents to transmit money and financial instruments smoothly and securely through payment, clearing and settlement systems. These systems must therefore be strong and reliable, available even when the markets around them are in crisis and never themselves be the source of such crisis. The central bank's oversight of FMIs pursues these objectives by monitoring systems, assessing them and, where necessary, inducing change. It is generally recognised as a core responsibility of central banks.

The Bank's oversight of payment, clearing and settlement infrastructures is based on Article 8 of its Organic Law² and focuses on systems established in, or relevant for Belgium. Although SWIFT is neither a payment, clearing nor settlement infrastructure, many of such systems use SWIFT which makes the latter a critical service provider of systemic importance. SWIFT is therefore subject to a (cooperative) central bank oversight arrangement, in which the Bank has the role of lead overseer.

The Bank is also prudential supervisory authority for individual financial institutions, as well as custodians and PSPs. While significant credit institutions, such as The Bank of New York Mellon SA/NV (BNYM SA/NV), are directly supervised by the single supervisory mechanism (SSM), less significant institutions remain under the prudential supervision of the Bank as national competent authority.

Some FMIs are subject to both oversight and prudential bank supervision, typically if the FMI operator has a bank status (as is the case for Euroclear Bank). Worldline SA/NV is also subject to both prudential supervision (as PI) and oversight (as processor of retail payment instruments). The oversight activity and prudential supervision are, in such situations, complementary in nature: while the oversight activity focuses on the sound functioning of the settlement system (by assessing compliance with oversight standards such as the CPMI-IOSCO Principles for FMIs (PFMIs)), the prudential supervision focuses on the financial soundness of the operator (by assessing compliance with prudential regulations). As a result, oversight and prudential supervision typically cover different topics or different perspectives. Typical areas oversight focuses on cover the functioning of the system and how its organisation and operation minimises or avoids risks not only for itself but – just as importantly – for its participants. Examples include settlement finality rules reducing risks associated with insolvency of participants (which prevent automatic unwinding of other participants' previous transactions with a bankrupt participant), delivery versus payment (DVP) or payment versus payment (PVP) mechanisms eliminating principal risks in transactions between participants, fair and open access for participants, and stringent requirements on business continuity plans ensuring continuity of services for participants. Oversight also takes into account risks related to system interdependencies (either via connected systems or participants) that could provoke contagion

¹ For an overview of those differences, see Table 1 in the Financial Market Infrastructures and Payment Services Report 2020.

² Article 8, Law of 22 February 1998 establishing the Organic Statute of the National Bank of Belgium, Belgian Official Gazette 28 March 1998, 9.377.

risks in financial markets. Prudential supervision intends to ensure that institutions are financially robust at micro-prudential level, thus helping to maintain the trust of the institution's counterparties and, in this way, promoting financial stability. Some types of risks are within focus of both FMI overseers and bank supervisors. However, their perspective is different as an FMI's business model is based on transferring liquidity (which has an element of time criticality) between – or on behalf of – its participants, whereas a bank's business model instead tends to be based on maturity transformation (short-term deposits, long-term assets). Therefore, the regulatory approach for credit, liquidity and operational risk for FMIs and banks is different.

As a consequence of such divergences in scope, oversight and prudential supervision rely on different frameworks. For oversight, the PFMI cover payment systems, securities settlement systems, CSDs, CCPs and trade repositories, as well as critical service providers (Annex F of the PFMI report). For the implementation of these principles, further clarity is provided by relevant guidelines such as the CPMI-IOSCO guidance on cyber resilience for FMIs or the guidance on resilience and recovery of CCPs. In addition, the CPMI has also published an analytical framework for distributed ledger technology in payment, clearing and settlement.

The tools to conduct oversight and prudential supervision may differ too. Oversight is generally based on principles and guidelines designed in international fora (Eurosystem, CPMI, CPMI-IOSCO). The traditional approach for enforcing them was to urge FMIs and other (critical) service providers to adhering to them via central bank moral suasion (so-called "soft law" approach). Prudential supervision, on the other hand, has laid down its requirements in a formal legal framework enacted through EU Directives, Regulations and local laws ("hard law" approach). However, central bank oversight has become more formal, owing to the expanding role of the private sector in providing payment and settlement systems, as well as the growing criticality of these systems' proper functioning. In a growing number of cases, oversight is evolving into a hard law approach as illustrated, for example, by the fact that the ECB has laid down its expectations in the ECB Regulation on oversight requirements for systemically important payment systems (SIPSR), or by the 2017 Belgian Law on systemically relevant processors for retail payment instruments. Also, the EU transposed the oversight framework for CCPs and CSDs (i.e. PFMI) through Regulations in 2012 and 2014 (EMIR¹, CSDR²). The Bank has been assigned as the competent supervisory authority for Belgian (I)CSDs, and, as overseer, is also considered as the relevant authority under CSDR³.

In order to pool expertise, reinforce the synergies and align approaches between the oversight function and that of prudential supervision on FMIs, custodians, PSPs and other (critical) service providers, these two functions have been integrated into the same Department within the Bank.

Table 1 below provides an overview of the systems and institutions supervised and/or overseen by the Bank. In addition to the type of services provided, they have been further grouped according to: (i) the type of regulatory role of the Bank (i.e. prudential supervisor, overseer or both) and (ii) the system/institution's international dimension (the Bank as solo authority, international cooperative arrangement with the Bank as lead or in another role). For the systems and institutions established in Belgium which are systemically relevant in other jurisdictions' financial markets or for the financial industry as a whole, the Bank has established cooperative arrangements with other authorities⁴. These may involve multilateral cooperative arrangements, in which the Bank acts as lead overseer (Euroclear, SWIFT). The Bank also takes part in a number of international cooperative arrangements (CCPs, BNYM, TARGET2, TARGET2-Securities and CLS) in which another national authority acts as lead overseer/supervisor. Domestically, the Bank cooperates with the FSMA which has responsibilities in the supervision of financial markets with regard to conduct of business rules. Annex 2 illustrates the organisation structure of FMIs with an international dimension established in Belgium.

1 European Market Infrastructure Regulation (EMIR): Regulation (EU) No. 648/2012 of 4 July 2012 on OTC derivatives, CCPs and TRs.

2 CSD Regulation (CSDR): Regulation (EU) No. 909/2014 of 23 July 2014 on improving securities settlement in the EU and on CSDs and amending Directives 98/26/EC and 2014/65/EU and Regulation (EU) No. 236/2012.

3 The FSMA is assigned, together with the Bank, as national competent authority for CCPs under EMIR.

4 In line with CPMI-IOSCO Responsibility E (cooperation between authorities). Through this Report, the Bank intends to inform other authorities with whom it does not have any formal cooperation but which may be interested in understanding the applicable framework, the regulatory approach and the main supervisory priorities.

Table 1

The Bank's oversight and prudential supervision of financial market infrastructures, custodians, payment service providers and other market infrastructures and critical service providers

(January 2021)

	International cooperation		The Bank acts as the sole authority
	The Bank acts as lead authority	The Bank participates under the direction of another authority	
Prudential supervision		<u>Custodian bank</u> The Bank of New York Mellon SA/NV (BNYM SA/NV)	Payment service providers (PSP) Payment institutions (PI) Electronic money institutions (ELMI)
Prudential supervision and oversight	<u>Central securities depository (CSD)</u> Euroclear Belgium <u>International central securities depository (ICSD)</u> Euroclear Bank SA/NV <u>Supporting institution</u> Euroclear SA/NV	<u>Central counterparties (CCP)</u> LCH Ltd (UK), ICE Clear Europe (UK) LCH SA (FR), Eurex Clearing AG (DE), EuroCCP (NL), Keler CCP (HU), CC&G (IT)	<u>Payment processor and payment institution</u> Worldline SA/NV
Oversight	<u>Critical service provider</u> SWIFT	<u>Other infrastructure</u> TARGET2-Securities (T2S) ¹	<u>CSD</u> NBB-SSS
	<u>Payment system</u> Mastercard Clearing Management System ²	<u>Payment system</u> TARGET2 (T2) ¹ CLS	<u>Card payment schemes</u> Bancontact ¹ Mastercard Europe ¹ Maestro ¹
			<u>Payment processors</u> Mastercard Europe equensWorldline <u>Payment system</u> Centre for Exchange and Clearing (CEC) ¹
Post-trade infrastructure	<u>Securities clearing</u> <u>Securities settlement</u> <u>Custody of securities</u>	Payments	<u>Payment systems</u> <u>Payment institutions and electronic money institutions</u> <u>Payment processors</u>
Other infrastructures	T2S SWIFT		<u>Card payment schemes</u>

Source: NBB.

1 Peer review in Eurosystem/ESCB.

2 The NBB and the ECB act jointly as lead overseers (authorities responsible for oversight).

Impact of COVID-19 pandemic on post-trade and payments activity

Post-trade activity

The following graphs compare the impacts observed for the International Central Securities Depository Euroclear Bank (EB) and the global custodian BNY Mellon SA/NV. This paragraph shows how the two institutions' business was impacted by the COVID-19 crisis, although they have different profiles in terms of asset composition (about 50 % of BNYM SA/NV's assets under custody in terms of value consist of equities, while the latter category only accounts for about 2 % of Euroclear Bank's assets held under custody.)

The following graphs show the change in 2020 compared to 2019, using indices with January 2019 as reference point.

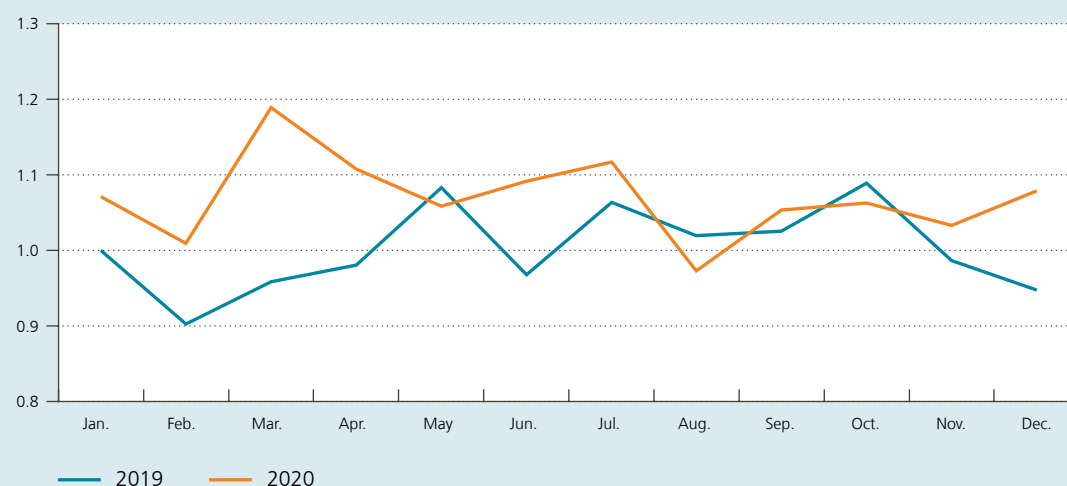
Turnover

The outbreak of the COVID-19 pandemic proved to be a major source of volatility in financial markets. As the global rise in COVID cases gained momentum, governments responded with unprecedented measures. The subsequent market turmoil led to an increase in both the volume and value of transactions that Euroclear Bank had to settle.

An overall increase in turnover is observed for EB, as shown below. A peak in March, which later smoothed out, is observed for both the number of transactions and the value of turnover.

EB – Value of transactions

(all data are indexed to January 2019 = 1)

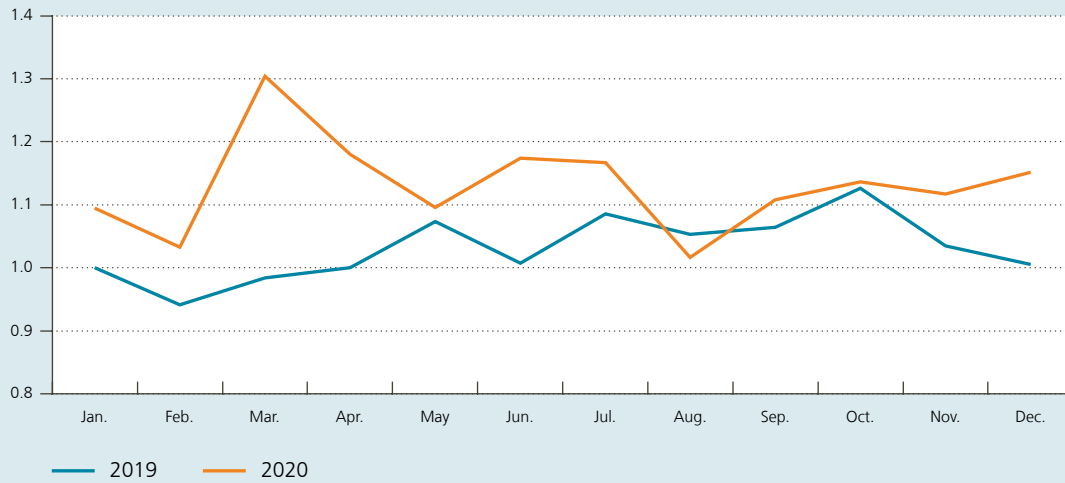


Source: Euroclear.



EB – Number of transactions

(all data are indexed to January 2019 = 1)

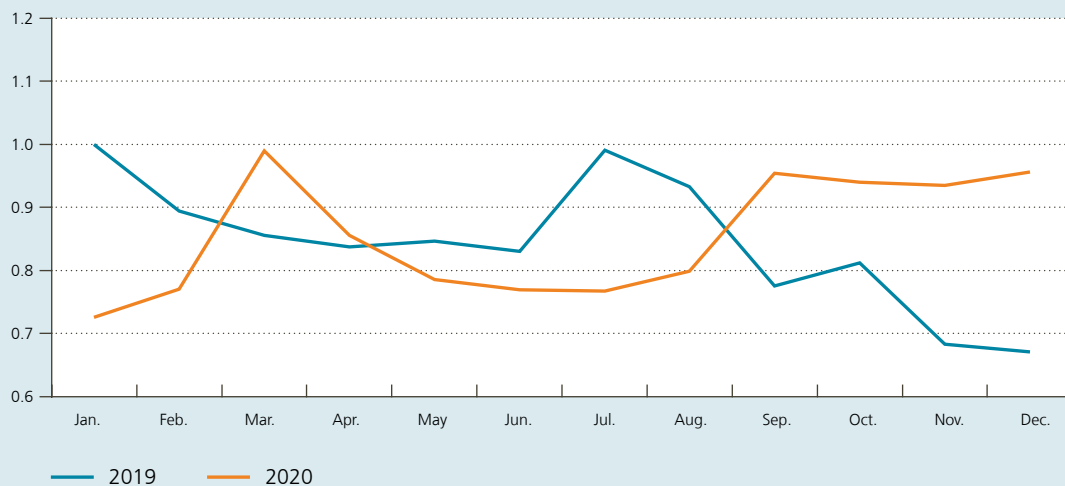


Source: Euroclear.

Similar observations can also be made for BNYM SA/NV as it processes transactions on behalf of its clients. The number and value of transactions jumped significantly in March.

BNYM SA/NV – Value of transactions

(all data are indexed to January 2019 = 1)

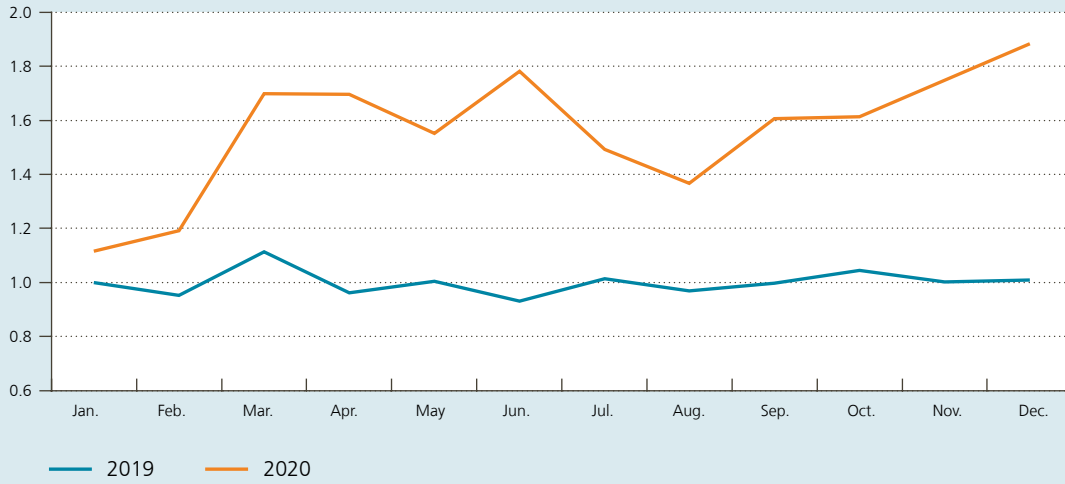


Source: BNYM.



BNYM SA/NV – Number of transactions

(all data are indexed to January 2019 = 1)

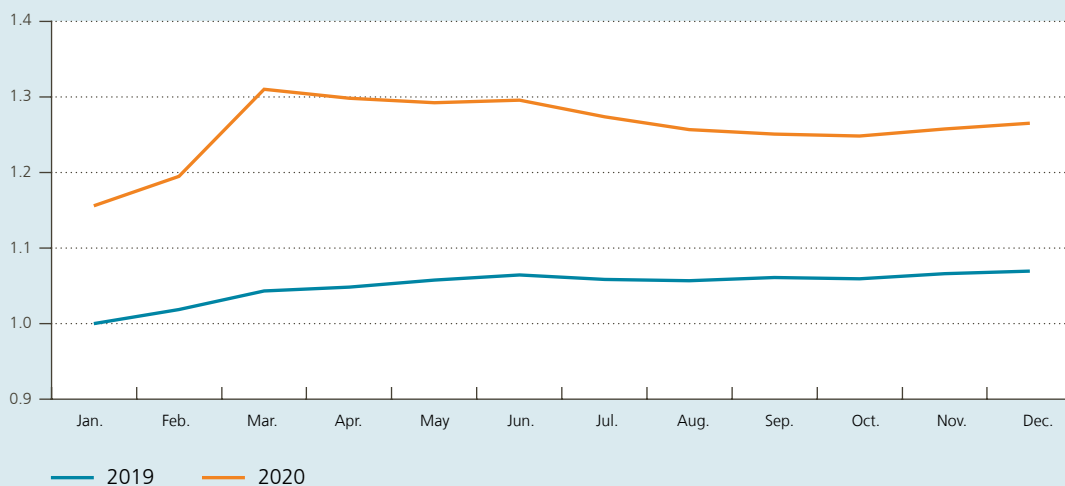


Source: BNYM.

This increase in activity in March 2020 is also reflected in the number of sent messages that were transmitted via SWIFT.

SWIFT – Average daily number of securities related messages sent

(all data are indexed to January 2019 = 1)



Source: SWIFT.



Settlement efficiency

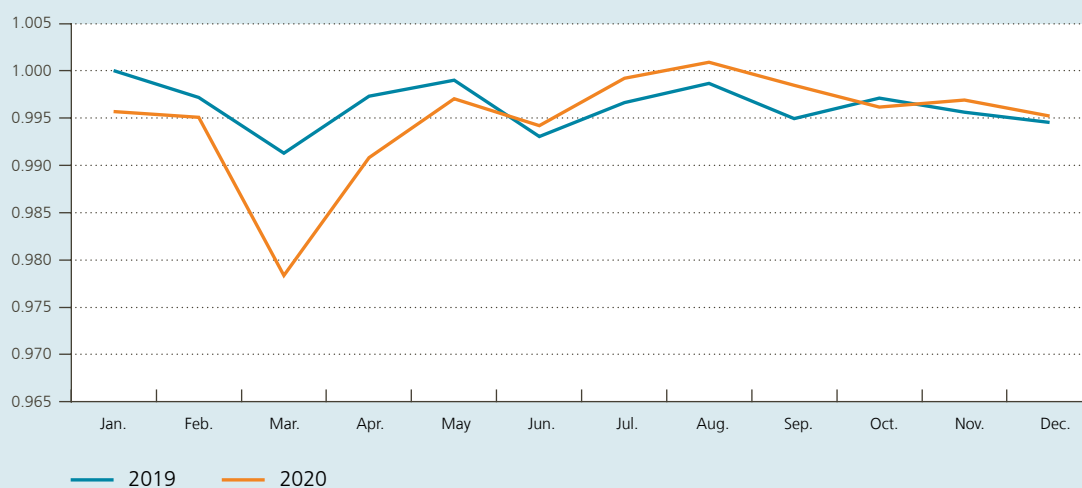
As a result of the larger settlement volumes and participants entering into contingency mode, Euroclear Bank and BNYM SA/NV recorded higher rates of settlements fails. Settlement failure measures the percentage of securities transactions that are not settled on the intended settlement date.

The increase in settlement fails in EB was due to instructions being unmatched or to participants lacking securities. Euroclear Bank exceptionally opened its system on Saturday 28 March 2020 in order to help participants to reduce their backlog.

After the drop in the settlement efficiency (the inverse of the settlement fail rate) in March, the rates for settlement failures returned to normal levels, even reaching higher efficiency in terms of value of transactions compared to the same period the year before. This might indicate that the focus of participants was to settle the higher-value transactions.

EB – Settlement efficiency in value of transactions

(all data are indexed to January 2019 = 1)

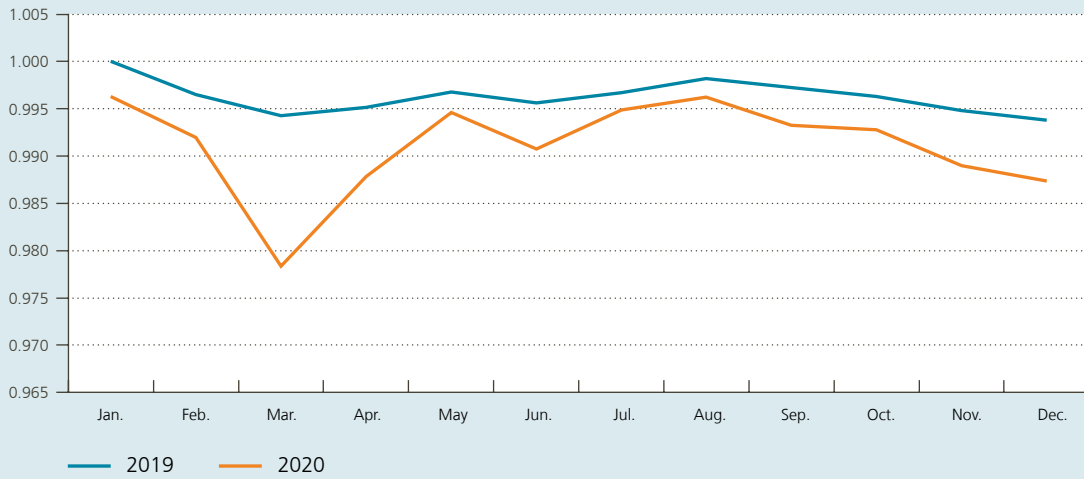


Source: Euroclear.



EB – Settlement efficiency in number of transactions

(all data are indexed to January 2019 = 1)

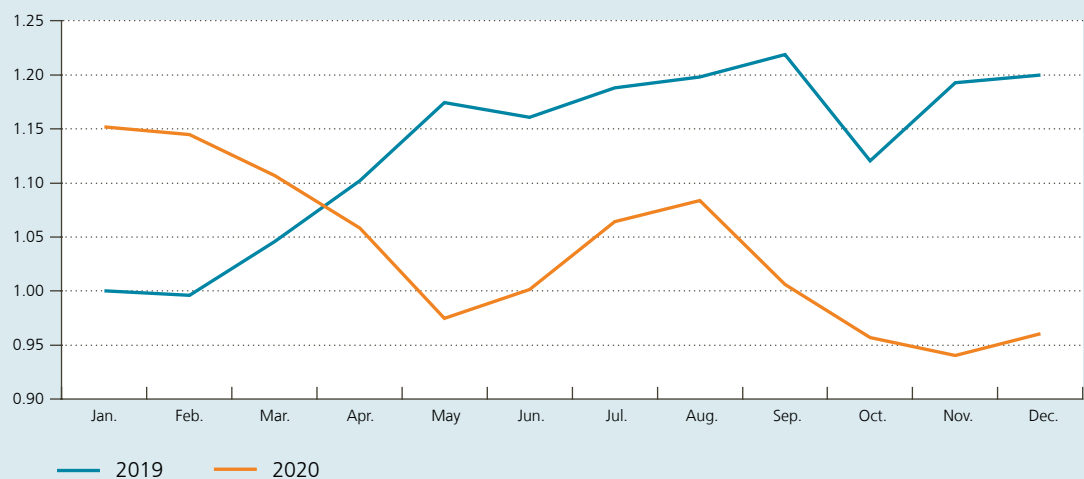


Source: Euroclear.

The market turmoil and the subsequent increase in transactions resulted in an increase in settlement fails at BNYM SA/NV as well. However, the rates for settlement failures did not fully return to normal. Since March, lower levels of settlement efficiency than in the corresponding periods of the previous year have been observed.

BNYM SA/NV – Settlement efficiency in value of transactions

(all data are indexed to January 2019 = 1)

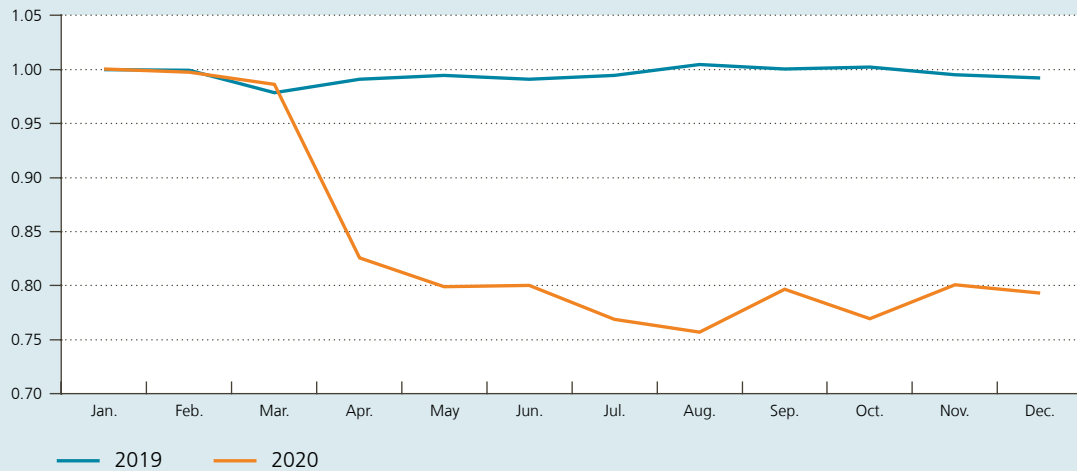


Source: BNYM.



BNYM SA / NV – Settlement efficiency in number of transactions

(all data are indexed to January 2019 = 1)



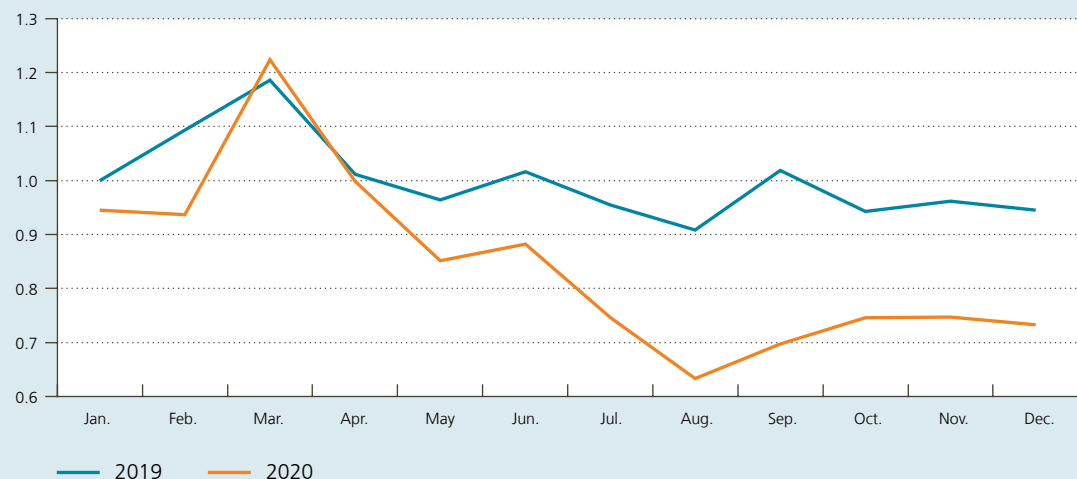
Source: BNYM.

Securities lending

Euroclear provides ancillary services, including securities lending. As this service is fail-driven and aims at optimising settlement efficiency, the amounts of securities lent peaked in March 2020, avoiding a further increase in settlement fails. As the settlement efficiency improved after March 2020, securities lending declined as well.

EB – Securities lending in value of transactions

(all data are indexed to January 2019 = 1)



Source: Euroclear.



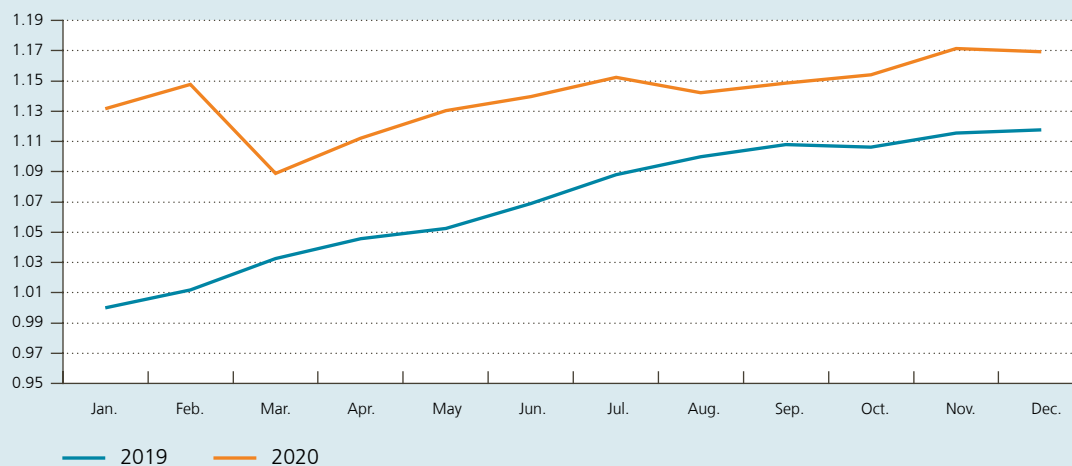
Assets under custody

The March 2020 crash in the prices of securities from companies that were affected by the COVID-19 pandemic and government lockdown measures is reflected in the value of securities held by participants in the books of Euroclear Bank and BNYM SA/NV.

While the value of the assets under custody of Euroclear Bank rose compared to March 2019, there was a considerable drop in March 2020, despite the wider range of different securities held as new issues were brought to the market to raise capital. The market quickly recovered from this surge in the subsequent months.

EB – Assets under custody in value

(all data are indexed to January 2019 = 1)

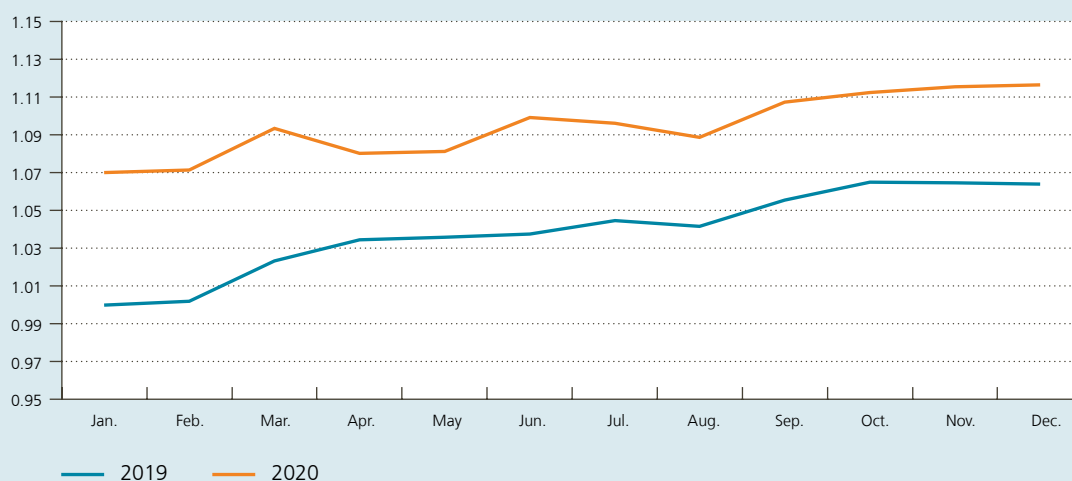


Source: Euroclear.



EB – Assets under custody in number of ISINs

(all data are indexed to January 2019 = 1)

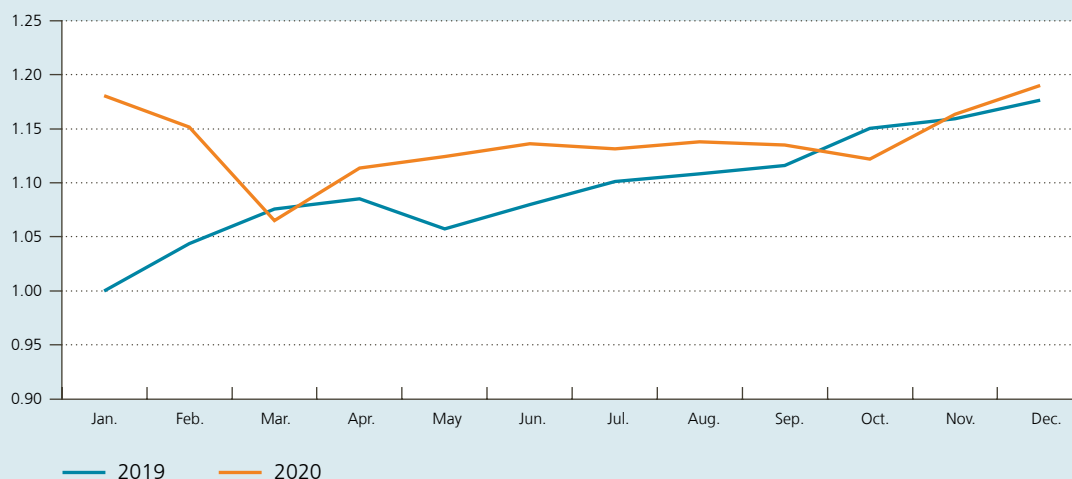


Source: Euroclear.

Similar observations can be made for BNYM SA/NV. The market turmoil as described above resulted in a decline in stock market value of about 35 % (Euro Stoxx 50). This decline impacted the assets under custody at BNYM SA/NV. About 50 % of the Assets under Custody at BNYM SA/NV is equity (as spelled out in the Box in the international dimension about 40 % is EUR and around 30 % is USD). The graph below visualises this impact, in which the quick recovery of the markets is also reflected. By mid-2020, more than half of the loss had been recovered and by the end of the year markets restored at pre-covid levels.

BNYM SA/NV – Assets under custody in value

(all data are indexed to January 2019 = 1)



Source: BNY Mellon.



Payments activity

In 2020, payments were affected by the COVID-19 crisis, too. Not only because of the reduced economic activity but also as a result of changes in consumer preferences, spurning cash for card payments. In Belgium this choice is clearly visible in the 2020 figures for the domestic debit card scheme Bancontact. However, the impact of the economic slowdown is less clear to identify in the volumes processed by the CEC, the Belgian domestic retail payment system.

Bancontact

The COVID-19 crisis influenced card payments in different ways. The reduced economic activity during lockdown periods significantly lowered the need for card payments in physical outlets. More specific pandemic measures targeting activities where payment cards are widely used also negatively impacted the volume of card payments. Among these measures were the closing of bars and restaurants, the restrictions imposed on travel and extensive recourse to teleworking (reducing for example fuel purchases, public transport ticketing, etc.). On the other hand, wider use of e-commerce, aversion to cash and contactless functionalities boosted card payments.

For Bancontact, the domestic and most widely used card payment scheme, these various factors resulted in growth of about 10 % in payments volume (e-commerce, mobile and POS) over 2020 reaching 1.65 billion operations¹. ATM cash withdrawals amounted to 67 million operations, 34 % down on 2019.

Another notable coronavirus-related trend is the wider use of the contactless functionality. At the end of 2020, contactless payments accounted for 42 % of all payment made with Bancontact cards. This was an increase of 283 % compared to the previous year.

The CEC

With 1496 million operations (including instant payments) processed over the whole year, the CEC's activity shrank by about 5.5 % compared to 2019. However, this drop is the result of multiple factors and the true impact of the COVID-19 crisis cannot be easily isolated.

The clear increase in the use of payment cards shown by Bancontact does not reflect in the CEC figures where the volume of card operations decreases by about 14 % (from 672 million to 580 million) compared to 2019. This evolution is explained by the fact that those operations are not necessarily individual ones but are aggregated and the level of aggregation depends on external factors.

On the contrary, credit transfers (including SEPA Credit transfers and Instant payments) increased by 1.5 % whereas direct debit (SDD Core) decreased in the same proportion.

Two instruments which are used as business payment means, SDD B2B and cheques, were clearly more affected. For instance, the volume of cheques diminished by 40 % which is significantly more than the yearly reduction of about 20 % observed these last years. During the first lockdown, the use of cheques even dropped by 65 %. However, these two payment instruments represent less than 1 % of the CEC volumes and their impact on the global activity of the system is negligible.

¹ Payconiq payments included.

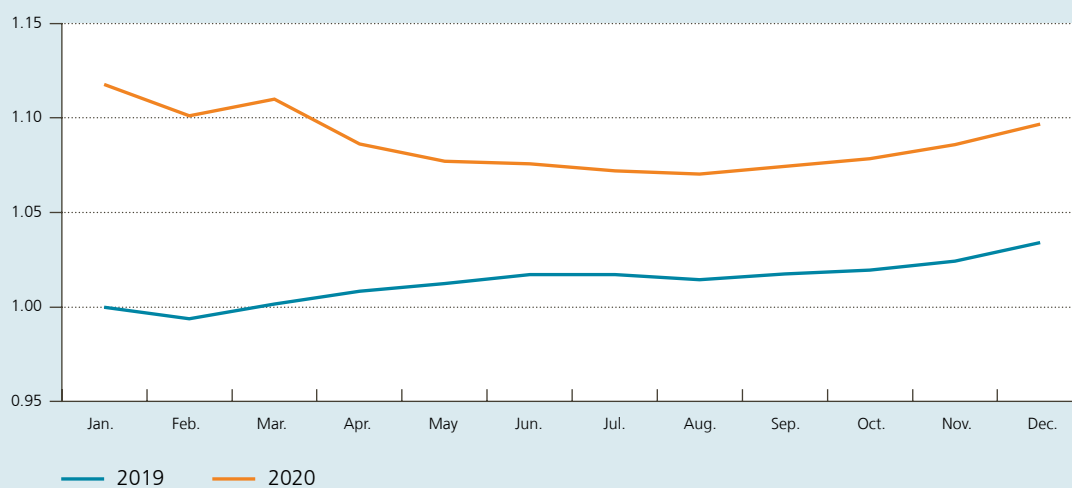


SWIFT

At a global level, the impact of COVID-19 and government measures on payments activity showed a mixed picture as well. The number of payments messages sent via SWIFT clearly slumped since March 2020 (recovering a bit by the end of 2020).

SWIFT – Average daily number of payments related messages sent

(all data are indexed to January 2019 = 1)



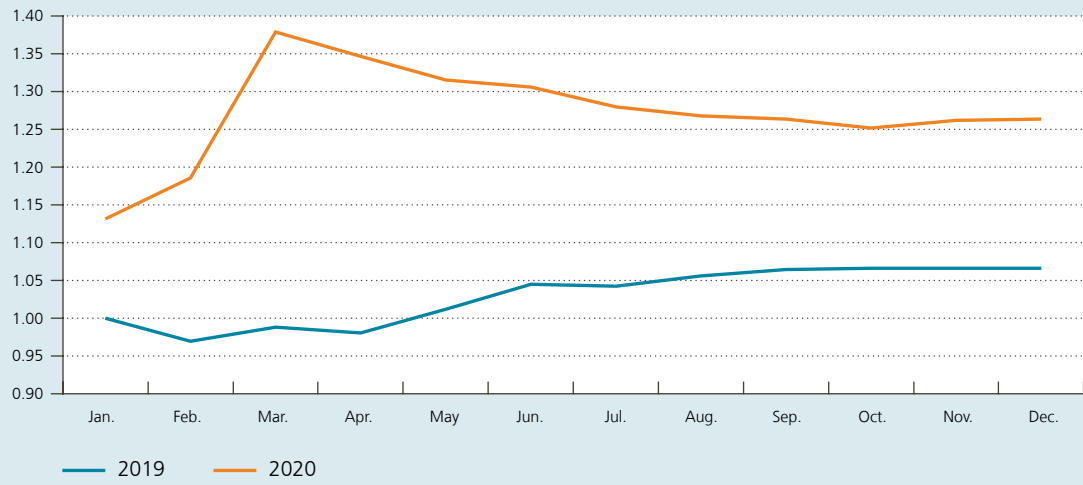
Source: SWIFT.

In contrast, the number of messages related to treasury management increased sharply in March 2020 (while falling a bit back since then).



SWIFT – Average daily number of Treasury related messages sent

(all data are indexed to January 2019 = 1)



Source: SWIFT.