# Study into the costs and revenues of payment services for financial institutions 2021

Study into the costs and revenues of payment services for financial institutions by the **Dutch Payments Association** conducted by **McKinsey & Company**.

Amsterdam, October 2022

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# Summary

Early 2022, the Dutch Payments Association's Executive Board decided to conduct a study into the costs and revenues of payment services in the Netherlands. The objective of the study is to create a fact-base for follow-up discussions on the future of Dutch payment services. It is a reprise of a study with the same objective conducted for the Dutch Banking Association (NVB) and De Nederlandsche Bank (DNB) in 2005. Since the 2005 study, much has changed in the Dutch payments sector: new payment products have emerged, different types of players are active in the payments market, and Dutch payment transactions have become more electronic and more international (and in particular more European). Hence, it is time to re-gather and re-assess the fact-base once again.

This report presents the results of a study commissioned by the Dutch Payments Association. The research methods were based on the same approach as the one taken in the 2005 study (considering changing market context) and involved a wide range of stakeholders in order to ensure comparability and support for the fact-base. The information in this report is of a relatively high aggregation level due to competition law and commercial considerations.

## Results

As in 2005, payment services for banks were loss-making in 2021, particularly in the retail segment. On the one hand, this loss is caused by a sharp decline in net interest income , on the other hand by increased risk and compliance costs. Despite this loss, the Dutch payment system is extremely efficient, with transaction volumes having more than doubled (250%) compared to 2005, whereas costs have only risen by 5.2%. Moreover, payment services costs are lower than the European average for both the business segment and the retail segment (i.e. ~30% compared to GDP).

The negative profitability of payment services for banks is not being observed for the first time. Also in 2005 payment services for banks were loss-making. In **2021**, banks in the Netherlands collectively made an aggregate **loss on payment services of €570 million before tax**. In **2005**, this was a **collective loss of €23 million**, which implies a €547 million increase in loss over 2005-2021. Whereas income fell by €336 million between 2005 (€3,996 million) and 2021 (€3,660 million), due in particular to a fall in net interest revenues , overall costs in 2021 (€4,230 million) were up €211 million versus 2005 (€4,019 million). This results in a cost-income ratio of 115.6% in 2021 versus 100.6% in 2005. For comparison: ~70% is the overall result for the Dutch banks (i.e. including the entire portfolio of products).

## Further insights

Various conclusions can be drawn from the overall result of 2021:

- **Business clients generate positive results while retail customers are loss-making for the Dutch payment system**: Whereas payment services for the business segment generates a positive result of €232 million (cost-income ratio of 87%), payment services for the retail segment in the Netherlands is making a loss for the banks of €802 million (cost-income ratio of 144%). This difference in result is mainly caused by lower costs within the business segment (€2,613 million in costs for the retail segment compared to €1,617 million for the business segment), where revenues are evenly distributed (€1,811 million retail versus €1,849 million business). The types of income do differ for each segment: revenues from transactions (e.g. transaction fees) are largely driven by the business segment, periodic fees primarily by the retail segment;

- **Payment account management and credit cards are generating a positive result**: A positive result is realized on payment account management (€567 million), mainly due to interest income. A positive result is also realized on (outgoing) credit card payments (€132 million or €0.67 per transaction). Note: the revenues generated on account management for private individuals (retail) is not sufficient to cover the costs of cash, giro and card transactions;
- **The result for all other products is negative**: The result is negative for cash transactions (- €273 million or - €1.95 per transaction[1]), cashless transactions (- €351 million or - €0.07 per transaction), (outgoing) debit card transactions (- €517 million or - €0.11 per transaction – this excludes the costs incurred on the retailer side, which are subsumed under merchant services), the banking side of merchant services (-€89 million or - €0.02 per transaction[2]) and non-SEPA transactions (- €40 million or - €7.21 per transaction[3]). The Dutch banks are making a total loss of €1,270 million on the aggregate of cash, cashless and debit card transactions (issuance), merchant services and non-SEPA transactions;
- **Result comes to a large extent from interest revenues**: Payment services revenues are driven to a considerable extent by interest income, which totals €1,641 million of a total revenue base of €3,660 million (~45% of total income). Other relevant revenue streams include transaction fees with €868 million or~25% of total revenues, particularly from the business segment), periodic fees at €1,127 million (~30% of total revenues) and incidental fees at €24 million (~1% of total revenues);
- **Risk and compliance costs make up a sizeable proportion of the increase in costs**: 36% of the total costs comprise direct costs (€1,533 million), 48% indirect costs (€2,039 million) and the other 16% represents overhead costs (€658 million). Risk management and compliance costs make up 20% (€885 million) of the total costs. Risk and compliance costs are incurred by banks whilst ensuring that payment transactions run securely and hence that payment products and services are not used for criminal activities. Most of these costs consists of KYC-related[4] costs (€565 million or 64% of all risk-related costs). These are costs entailed by necessity when confirming customers' identity and integrity, both when entering the initial customer relationship and periodically while customers are performing certain financial activities. Note that these costs pertain solely to the risk and compliance costs that can be allocated to payment services (on average 60-80% of the total KYC costs incurred by Dutch banks). Furthermore, 10-20% of the total KYC costs, or €60-110 million,

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[1] Costs per transaction are based on withdrawal and deposits. Cash payments at the point of sale and between payers have not been included in the result per transaction as they occur beyond the banking payments system.

[2] Dutch banks are responsible only for a share of the overall merchant services market. Various other actors are active in this market, especially in the e-commerce payments sector. The non-banking merchant services result is estimated at €40-70 million based on outside-in estimates. The overall result for merchant services (banking and non-banking) is collectively estimated at - €50-10 million.

[3] Excluding FX fees.

[4] Know Your Customer.

can be regarded as ‘remediation’ (costs incurred in 2021 yet actually pertaining to payment services from a previous reference year). In view of the current developments within the risk domain, it is not always transparent whether specific costs are one-off or recurring.

## European perspective

To ensure a similar scope with the rest of Europe, the Dutch data in this section encompasses both banking and non-banking payment transactions. The cost-income ratio changes from 115.6% for banking-related payment services to 112.8% for overall payment services in the Netherlands (banking and non-banking), or a profit margin from -16% to -13%.

When comparing Dutch payment services results to European results, one can draw the conclusion that payment services in the Netherlands are significantly loss-making, with a negative margin of -13% versus a positive margin of 33% for the European average. Income from account balances (i.e. interest income) is positive in the Netherlands, but that income is insufficient to compensate for losses elsewhere. Consequently, the Dutch payments sector is not making profit.

The negative margin for Dutch payment services compared to other European countries results in particular from relatively low fees income, e.g. on debit card transactions, where interbank (interchange) fees do not cover transaction costs. The Netherlands has a statutory maximum fixed interchange fee of € 0.02 per debit card transaction. This deviates from the 0.2% of transaction value common in other countries (which equates to an average of €0.05 per transaction with an average transaction value of €25). In addition, Dutch payment services’ revenues are disproportionately dependent on interest margins, a relatively volatile part of revenues. Illustrative in this regard is the 76% proportion of revenues from account balances within retail account management in the Netherlands, compared to a European average of 43%. Lower profitability in payment services is not caused by cost performance; in fact, the Netherlands is highly cost efficient. In the Netherlands, total domestic payment costs relative to GDP are lower for the retail and business clients compared to the European averages (~33% lower for business clients and ~30% lower for retail clients).

## Representativity of 2021 as a reference year

The most recent (2021) data from banks available for a full year was used for the purposes of this study. Nevertheless, the effects of COVID -19 on the one hand and the low interest rate climate on the other, are regarded as an anomalous development for Dutch payment services. The study reveals that both developments only had a limited effect on the result for Dutch banking payment services, with a shift in the cost-income ratio from ~1% to ~3%. Consequently, it can be concluded that 2021 is a representative reference year.

# 1. Introduction

This chapter sets out the objectives for this research. Beginning 2022, the Dutch Payments Association's Executive Board decided to conduct a study to the costs and revenues of payment services for financial institutions in the Netherlands. The objective of the study is to create a fact-base on the profitability of the Dutch payment system. It is a reprise of a study with the same objective carried out in 2005.

## 1.1 Payment system study 2005-2006

In 2005-2006, De Nederlandsche Bank (DNB) and the Netherlands Bankers' Association (NVB), in collaboration with ABN Amro Bank N.V. (ABN AMRO), Fortis Bank Nederland N.V.[5], ING Bank N.V. (ING), Rabobank Nederland (Rabobank) and SNS Bank N.V. conducted a study on payment services costs and revenues for the Dutch banking sector. The objective of this study was to provide transparency for banks and various stakeholders (e.g. point-of-sale establishments, online retailers, consumers, policymakers) on the payment systems' profitability in the Netherlands for the financial sector.

This study highlighted that banks made a loss of €23 million before tax on payment services in the Netherlands in 2005. The (negative) margin on payment traffic was -0.6% on a total of €3,996 million's worth of income (revenues). The research also considered a future outlook, with the expectation that the profitability of payment services would be under even more pressure in subsequent years, because of interest rate developments, retail customers managing their balances more actively, the expected ban on value dating and additional investments (e.g., for the Single Euro Payment Area, SEPA). The 2005 report has partly laid the foundation for stimulating the growth of electronic payments in the Netherlands.

## 1.2 Changed context

There have been fundamental changes in payment services in the Netherlands since the 2005 research. For example, at that point in time, cash payments still made up ~80% of the total number of physical transactions, debit cards had its own brand (PIN) and were responsible for just one fifth of the total number of transactions, and a sizeable share of transfers were initiated on paper. The way in which banks offer payment services to customers has changed too. In 2005, a relatively higher proportion of banking services were provided through physical bank branches and there were more ATMs and cash deposit machines

Currently, the Netherlands is one of the most digitized payments markets in Europe, enabling users to pay electronically according to their needs, with 80% of the total number of transactions at the point of sale (i.e. excluding e-commerce) happening electronically in 2021. E-commerce penetration in the Netherlands is ~20% higher than the European average, with a sizeable proportion of iDEAL transfers (60-70%). Furthermore, the Netherlands has one of the highest percentages of the population with access to a payment account and the highest debit card penetration. For example,

[5] Fortis Bank Nederland no longer exists.

almost 100% (99.6%) of the Dutch inhabitants aged 15 and above have a payment account, which is nearly 7% above the European average. Moreover, Dutch fintech companies focusing on payments attract a relatively high level of investment (~€200 million on average over the past five years) compared to other European countries, with the Netherlands being in the top three in Europe.

In general, a lot has changed since 2005. The payment system has become:

- **More European**, due to factors such as the establishment of SEPA and increasing European regulation of payment services, including PSD2, IFR and PAD[6];
- **More frequent**, with a large increase in the number of transactions. The number of cashless transactions more than doubled from ~4,010 million in 2005 to ~9,937 million outgoing transactions in 2021[7];
- **More digital**, with more freedom of payment methods for users due to:
    - A further increase in the number of debit card transactions;
        - Card use in the Netherlands rose from 90 to 290 transactions per capita between 2005 and 2020;
        - The number of cash payments at the cash register fell from ~80% to ~22% over the same period (decrease in cash withdrawals and ATMs).
    - The rise of mobile banking and e-commerce with associated digital products such as iDEAL, Instant Payments and Apple Pay, and a sharp decline in the use of paper money transfers and accept giro forms;
    - Decline in the number of bank branches, with a sizeable proportion of these services now to be found in digitized form in the banks' banking apps;
- More **fragmented**, due to wider availability of data (cf. PSD2) and the rise of fintech/big tech companies focused on particular customer groups or parts of the payment value chain with high added value. In light of this increased market fragmentation, banks have made investments to strengthen their current customer relationships and improve their relative competitive position (e.g. Instant Payments). The extent to which this will affect the incoming payment revenues of banks is however unclear;
- Subject to a fundamentally changed **interest rate context** with a historically low interest rate of less than 1% on 10-year government bonds in the Netherlands between 2016 and 2021;
- Subject to **increased costs** arising as a result of compliance with new legislation and regulations, cybercrime and expanding new products and systems (e.g. Instant Payments). Banks are responsible not only for granting access to the financial system but also for protecting the financial system against financial-economic crime, e.g. money laundering ('gatekeeper' role). Society needs to be able to rely on the financial system being run with

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[6] PSD2 (revised Payment Services Directive) is a European law for payment services, granting third parties access to payment data. IFR (Interchange Fee Regulation) is regulation that concerns the interchange fee that payment service providers pay to each other when a payment transaction is carried out from one payment service provider to another. PAD (Payment Accounts Directive) is a European directive for payment accounts (e.g. to render the costs of using payment accounts more transparent).
[7] Note: The number of transactions in 2021 only includes outgoing transactions (~10 billion, e.g. payment transfers, cards), and excludes incoming transactions (~6.5 billion merchant services transactions, of which ~5.5 billion by Dutch banks).

integrity, which is why there is an increasing amount of national and European legislation in place that requires financial institutions (including banks) to actively prevent misuse of the financial system. The effects of this include an increase in the costs of risk and compliance (especially KYC).

How exactly these developments will impact the profitability of payment services in the Netherlands has not yet been analyzed. Consequently, considering this changed context, there is a need to revisit the costs and revenues of the Dutch payment system in 2021.

## 1.3 Formulation of the assignment

In 2011, the NVB transferred all tasks pertaining to payment services to the Dutch Payments Association, set up specially for that purpose. At the start of 2022, the Dutch Payments Association asked McKinsey & Company as project executor to revisit the costs and revenues of payment services and examine these in a way endorsed by all stakeholders. Several aspects for this re-examination are important:

1. To the fullest extent possible, the study's **methodology** has been based on the 2005-2006 study to ensure consistency. Only if the current situation calls for a change in approach, the **scope** of this study will be adapted accordingly. Hence, consideration should be given to new cost/revenue components (e.g. from new products such as iDEAL), that results from non-banking players ought to be included in this study (particularly the so-called payment institutions) and that some one-off versus recurring costs will need to be analyzed differently (due to several major investments that have occurred over the past few years). In addition, the method for allocating risk and compliance costs to payment transactions should change: in 2005-2006 these were classified as overhead costs, while this time it was decided to indicate these costs separately – given its increase in size;
2. Just as in 2005-2006, **support** for the study will need to be as broad as possible: the methods and validation thereof should be composed in close collaboration with a wide range of stakeholders to enable them to endorse the results. The results of the study should also tie in with the results of the research on the future of the cash infrastructure in the Netherlands commissioned by DNB in 2021;
3. As in 2005-2006, insight into **expected future payment developments** should be provided for the next few years.

Due to the increasing importance of the **European context** for Dutch payment services (partially due to the initiation of SEPA and the now more obvious geopolitical importance of payment transactions), it has been requested that the results of the study be situated in a wider European context and that attention should be given to factors contributing to payment services cost recovery in other EU countries (e.g. where Dutch payment services differ in terms of revenues or results for each product type).

## 1.4 Reading guide

Chapter 1 presents the objectives for this study and chapter 2 describes the study's approach, including the stakeholders involved. Chapter 3 sets out the study's methodology. The results of the study are shown in chapter 4, before situating them in a European context in chapter 5 and comparing them with the results of the 2005 study in chapter 6. Chapter 7 provides an overview of the representativeness of the selected reference year 2021, and chapter 8 outlines possible future developments. Chapter 9, the final chapter, presents this study's conclusions.

# 2. The study's approach

This chapter describes the study's approach and provides a description of the roles of the stakeholders involved. In addition, a description is provided of the data validation and decision-making process during the course of the study.

## 2.1 Research process

The core of the study was created in close cooperation with the Netherlands' four largest banks (ABN AMRO, ING, Rabobank and de Volksbank[8]). This part of the study constitutes the banking workstream. Representatives of payment services users and DNB were extensively involved in the study's methodology that is developed in conjunction with the banks (see below for an overview).

In addition, a separate workstream was carried out together with the payment institutions ('betaalinstellingen'), part of the Betaalvereniging, to validate the results of the merchant services market. Also, there was a European workstream to provide a broader perspective on the Dutch payment services landscape.

Important to note that safety measures were taken such that no exchange of sensitive information under competition law could arise.

The banking workstream comprised three phases (Figure 1):

- **Preparatory phase (Sprint 1)**: entails the methodology for calculating the costs and revenues of payment services. This encompasses the scope of the data request arising from the methods and the calculation rules to be used to extract the various costs and revenues. This phase was formally completed in a stakeholder workshop on 22 April 2022, during which the stakeholders' representatives endorsed this study's methodology and concluded that it forms a solid foundation for an objective measurement of the costs and revenues of payment services;
- **Data collection phase (Sprint 2)**: this started at the end of April 2022 through a data request submitted to the four participating banks. During this phase banks converted the data from their financial administration for the year 2021 to the format required by the methods set in sprint 1. The results supplied by the banks were carefully checked to ensure they are in line with the agreed methods and with internally and externally published information on payment volumes and related financial results. This phase was formally completed in a steering committee of the participating banks, the client, the project executor and DNB on 18 May 2022;
- **Analysis phase (Sprint 3)**: this commenced at the end of May 2022 and entailed the analysis and validation of the data supplied as well as the formulation of the conclusions from this report. The projections were modelled towards the future and efforts were made to align with the European workstream and the merchant services' workstream (see below).

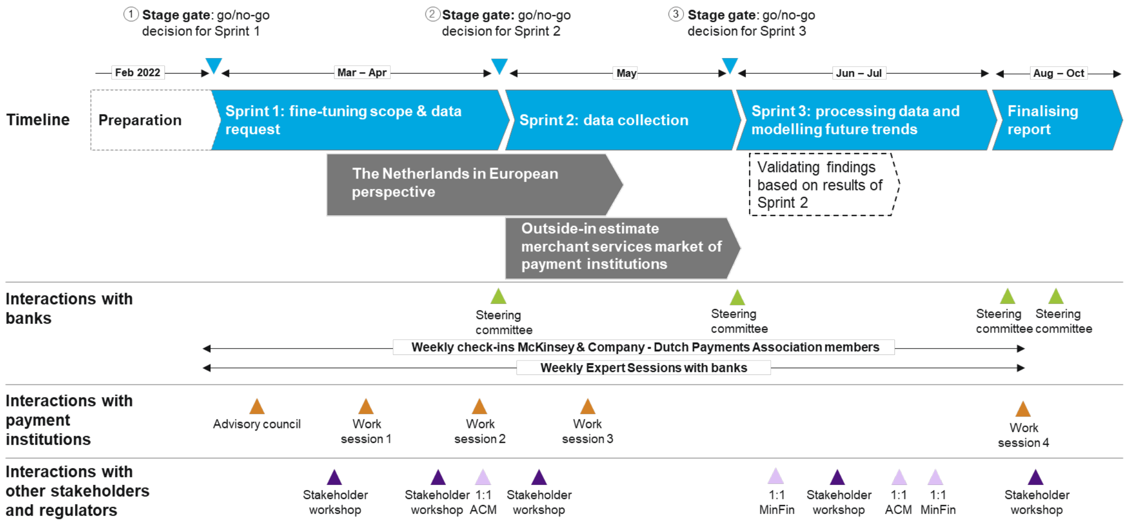
[8] De Volksbank N.V. is the parent company of SNS, ASN Bank, RegioBank and BLG Wonen.

Two other workstreams were established in parallel with the banking workstream, which have been incorporated into this final report:

- **European workstream**: based on publicly available data, a perspective was developed which situates the relative position of Dutch payment services within a global and European context. The data on the European market was gathered outside-in by the project executor (through desk research, internal data and external input) and discussed during various interactions with representatives of the banks. The final phase of the banking workstream consisted of verifying the data for the Dutch payment market and adapting when necessary based on the inside-out data supplied by the four participating banks and the outside-in data from the payment institutions;
- **Merchant services ('acceptance') workstream**: based on publicly available data, an estimate was made of the costs and revenues of the merchant services market within payment services. This modified approach for the acceptance side of the POS and online payment services market is necessary due to the more pronounced fragmentation of this part of the payments market and the fact that data is less readily available to payment institutions. Payment institutions also include electronic money institutions. The outside-in estimate of the merchant services market was validated during plenary and one-on-one meetings with representatives of several payment institutions.

Representatives of stakeholder groups (see below for an overview) were extensively involved in establishing the methods. They underpinned that the methodology forms a strong basis for objectively measuring the costs and revenues of payment services. Finally, all stakeholders have had the opportunity to preview the final results.

**Figure 1: The study's approach**



## 2.2 Role of parties involved

Several stakeholders were involved in the study. In addition to the client (Dutch Payments Association), these included the participating banks, De Nederlandsche Bank N.V. (DNB), the Authority for Consumers & Markets (ACM), the Ministry of Finance, and representatives of payment institutions and users of payment services. A concise explanation of their role in this study and the nature of the collaboration is presented below. An overview of the persons involved from the relevant organizations has been included at the end of this report.

### Client

The Dutch Payments Association is the client and process supervisor for this study. The board of the Dutch Payment Association chaired the Steering Committee (comprising representatives of the participating banks, the client, the project executor and DNB) and the stakeholder meetings.

### Participating banks

Representatives of the participating banks (ABN AMRO, ING, Rabobank and de Volksbank) participated in expert sessions in which the methodology was developed and delivered internal data for the purposes of analyzing the costs and revenues of payment services. The other banking members of the Dutch Payments Association were informed of the progress and results via regular consultative bodies, newsletters, and themed meetings.

### De Nederlandsche Bank N.V. (DNB)

DNB cooperated closely on the study in two ways:

- In the role of **data guardian**, with DNB safeguarding the individual banks' data to prevent possible competition law issues from arising. DNB familiarised itself with the data at the same level of aggregation as the banks;
- As the participating banks, DNB was involved in the **methodology** and taxonomy used to determine the costs and revenues of Dutch payment services for banks in 2021.

DNB does not serve as a client or data supplier.

DNB has confidence in the methodology and taxonomy used to determine the costs and revenues of Dutch payment services for banks in 2021. Also, DNB underpinned the outcomes of the cost-revenue analysis presented in this report, stating their confidence in the fact that the results in this report constitute an accurate picture of the costs and revenues of Dutch payment services in 2021.

### Payment institutions

In contrast to the participating banks, payment institutions that are members of the Dutch Payments Association (institutions that are predominantly active on the acceptance side of payment services) did not provide any internal data for a variety of reasons. They did, however, provide feedback on an outside-in analysis (based on public sources) which studied the overall costs and revenues of the merchant services market, and they validated the results of this analysis. The following parties were involved in this process through their representatives: Buckaroo, CCV, CM.com, OnlinePayment Platform and Worldline.

In addition to the participating banks and payment institutions, Geldmaat and Currence were involved in the study. Both institutions supplied high-level data for this study, complementing the data shared by banks on cash payment transactions (Geldmaat) and iDEAL transactions (Currence).

## Stakeholders

The representatives of the users of payment services were involved in the methodology to determine the costs and revenues of payment services. All representatives were informed about the results of the study and have had the chance to preview them. The following parties were involved in the process through their representatives:

- The **Ministry of Finance** was comprehensively informed through attending stakeholder workshops in an observer role and through one-on-one clarificatory discussions;
- **Point-of-sale establishments (physical retailers)**, represented by the parties participating in the Dutch Payments Association's Point-of-sale Payments Working Group (VNO-NCW and MKB-Nederland, the Dutch Retail Council, Koninklijke Horeca Nederland and the fuel station sector);
- **Online retailers**, represented by Thuiswinkel.org;
- **Payees**, represented by Verenigde Grote Incassanten (VGI);
- **Consumers**, represented by the Consumentenbond.

During the preparatory phase, these external stakeholders were extensively informed on the study and were invited to participate in plenary discussions. Cashless payers were represented by VNO-NCW and the Dutch Retail Council, the payees by the VGI. During a stakeholder meeting in phase 1, representatives of the stakeholders were asked to endorse the study's methodology and to ascertain that this methodology would provide a good basis for an objective measurement of costs and revenues of payment services. In phase 2, stakeholders were asked to validate and endorse the data collection method through several stakeholder workshops. The results were presented to the stakeholders in phase 3 as well as to a wider group of stakeholders during the Dutch Payments Association's so-called statutory stakeholder forums.

## Regulator

The Authority for Consumers & Markets (ACM) was informed about this study and has taken note of the methodology and approach adopted for the purposes of the data collection. The results were also presented to the ACM prior to publication.

## Project executor

McKinsey & Company assisted with the methodology and data collection process and monitored the quality and objectivity of the study. During the data collection phase, McKinsey & Company monitored whether the data gathered from the participating banks tied in with management reports used internally for the purposes of decision-making and whether the provided data was in line with the methodology. During the third phase of the project, McKinsey & Company consolidated, analyzed and extrapolated the data supplied by the banks for the entire market. This was incorporated into a final report on the costs and revenues of Dutch payment services in 2021. McKinsey & Company was also responsible for an outside-in estimate of the European market to provide a perspective of the Dutch payments results in a European context. Furthermore, McKinsey & Company was responsible for an estimate of the merchant services market for payment institutions, refined during plenary sessions and one-on-one discussions with representatives of the payment institutions.

Important to note is that the report within this context can only be used as an informative summary of the results of the Dutch payment services. It provides general insights based on information currently available and supplied by the major banks in the Dutch payments sector. Care was taken to ensure that the results supplied by the banks were in line with the agreed methods and with internally and externally published information on payment volumes and related financial results.

Future results could vary considerably from any expectations, forecasts or projections regarding future events and are based on assumptions. This report does not guarantee future results and any responsibility in that respect is disclaimed.

This report does not contain the information required to determine a future course of action, and this report does not constitute legal, policy or other regulated advice. A legal advisor should be consulted prior to any considerations regarding the issues raised. The reader of this informative report is the sole party responsible for all decisions, use of this report and compliance with applicable legislation, regulations, provisions and standards.

## Validation process

The study's project executor played a key role in the data collection process in terms of consistency, comprehensiveness and plausibility of the figures supplied by the banks. DNB managed the data provided by banks. To guarantee accuracy of the data, the project executor performed checks on: (1) alignment with internal reports from the banks and with the methodology for this study, (2) alignment with external sources and (3) consistency of results between banks.

The project executor and DNB believe that, based on the aforementioned validation of the data provided by banks, the figures presented in this report provide a true and fair picture of the banking costs and revenues associated with payment services in the Netherlands in 2021.

Results for the overall merchant services market (banking and non-banking) and the European comparison were based on outside-in estimates and try to provide a realistic picture of the total costs and revenues, considering available public sources and expert input (explained in more detail in chapters 5 and 6), meaning that some margin for error exists.

## Decision-making process

Various consultative forums were used during the study (Appendix 3), including expert sessions, stakeholder sessions and steering committees, for such purposes as the methodology and validating results.

Various principles were adopted to facilitate decision-making, including:

- **explicability** (it should be possible to explain decisions to all stakeholders involved);
- **relevance/pragmatism** (topics should be material within the payments context);
- **comparability** (the comparability between the participating banks' costs and revenues should remain assured);
- **consistency** (as far as possible, the 2005 study's methodology will be taken as a starting point, unless the current situation necessitates a change of approach).

Decisions were made based on joint agreement between the Dutch Payments Association, DNB and the four participating banks, and were validated by the stakeholders.

# 3. The study's methodology

This chapter sets out the methods used for the study, including the scope of the collected data. An explanation of the overarching methods is provided first, including the overarching scope and the way in which the collected costs and revenues were allocated to payment services. This is followed by several areas that required specific attention, as requested by stakeholders. Furthermore, an explanation is given on how the costs, revenues and result of the acceptance market were calculated for payment institutions (Section 3.6), as well as a perspective of the Dutch payment system in a European context (Section 3.7).

Representatives of the various stakeholders were given opportunities throughout the process to familiarise themselves with and provide feedback on the methodology. This highlighted several topics for attention, such as the reference year selected (2021) and the allocation of risk and compliance costs to payment services. Hence these topics are given extensive coverage in this report.

## 3.1 General methodology

Several decisions were made regarding the scope of the study which affect the allocation of both costs and revenues to payment services. These decisions pertain to the following topics:

- **Geographical scope**: this study's scope encompasses SEPA and non-SEPA payment transactions, hence the scope was established as follows:
    - SEPA domestic payment services: payment services (cash, payment transfers, cards) within the Netherlands;
    - SEPA payment services abroad: SEPA payment services from or to the Netherlands;
    - Non-SEPA payment services: payment services in a currency other than the euro. In order to align as much as possible with the 2005 methodology , non-SEPA payment services was limited to income from transactions, meaning that income from currency conversion (FX fees) was not included. In 2005, cross-border payment services were also only estimated at a high level and limited to the transaction side of payments, but at that time this considered all payment transactions outside of the Netherlands because SEPA did not yet exist;
- **Segment taxonomy**: as was the case in 2005, the scope of the present study encompassed:
    - Payment-related financial services provided to individual, private individuals (retail customers);
    - Businesses (large, medium-sized and small enterprises and freelancers);
    - Corporates (corporate banking) limited to transaction-related services;

  Intrabanking products were out of scope for this study: interbanking services (banking services sold to other financial institutions, such as Nostro/Vostro/Loro), investment banking products and internal payment components for non-payment traffic-related products (e.g. loan repayments) were not included;

- **Product taxonomy**: the present study's scope encompasses the following product categories (see Figure 2):
    - Cash transactions (cash deposits, cash withdrawals);
    - Cashless transactions (inc. iDEAL);
    - Card transactions (by cardholders, debit, credit, incl. card issuance, digital wallet);
    - Payment account management/servicing (the provision and servicing of payment accounts). Note:
        - This product category also encompasses payment packages as it is extremely difficult if not impossible to allocate revenue streams to underlying products within packages. Nevertheless, the costs allocated to payment packages only encompass the costs associated with the provision and servicing of these packages (similarly for payment accounts) and not the costs of underlying payment products and services that are part of this package;
        - These associated costs are included in the respective product categories (such as costs associated with 'free' cash withdrawals at ATMs in the Netherlands which fall under the 'cash' product category or costs associated with 'free' debit card transactions which fall under the 'card payments' category);
    - Merchant services (business services for the receiving payments).

**Figure 2: Product taxonomy payment services**

**Product scope**

| Level 1 | Level 2 | Level 3 | Level 4 |
|---|---|---|---|
| Cash | Cash withdrawal | | |
| | Cash deposit | | |
| Payment transfers | Transfer | SEPA | |
| | | Non-SEPA | |
| | Direct Debit | SEPA | |
| | | Non-SEPA | |
| | Accept giro form | | |
| | iDEAL | | |
| | Other electronic payment methods | | |
| Card payments | Debit | | Card POS |
| | | | Card online |
| | | | Mobile |
| | Credit | Charge | Card POS |
| | | | Card online |
| | | | Mobile |
| | | Revolving | Card POS |
| | | | Card online |
| | | | Mobile |
| Account-servicing | Packages | | |
| | Current account | | |
| | Overdrafts | | |
| | Transaction reporting | Physical | |
| | | Electronic | |
| | Cash Pooling and Netting | | |
| Merchant Services | Point-of-Sale acquiring | Card acquiring | Debit |
| | | | Credit |
| | | Other payment methods acquiring | |
| | | POS terminal hire | |
| | Online acquiring | Card acquiring | Debit |
| | | | Credit |
| | | iDEAL acquiring | |
| | | Other payment methods acquiring | |
| | | Other gateway services | |
| | Other services POS establishment | Other POS establishment value-added services | |
| | | Exception management | |

## 3.2 Allocation of revenues

Several choices have been made specifically regarding revenue allocation, largely in line with the 2005 methodology, but excluding float and currency conversion income. A description of the elements of revenue taxonomy is given below:

**Revenue taxonomy**: transaction, periodic, incident fees and net interest revenues are in scope, with the following definitions used:

- **Transaction fees**: fees levied by banks and directly related to payment transactions. This could be a set fee per transaction or a percentage commission of the transaction value. Interbank (interchange) fees are fully incorporated on the issuing side as revenues and are regarded as negative revenue on the acceptance side;
- **Periodic fees**: fees levied by banks on subscriptions that customers have for specific products (e.g. annual/monthly fees for cards, payment packages, paper account statements, point-of-sale terminals);
- **Incident fees**: fees levied by banks for specific (one-off) occurrences (e.g. late settlement fee for credit card, card replacement fee);
- **Net interest revenues**: net interest revenues from outstanding balances on accounts (e.g. payment account, overdraft, credit card loans).

Value dating (difference between interest date and entry date) has been banned and Chipknip has been phased out since 2005. Consequently, there are no longer any so-called float revenues and value dating revenues in 2021, in contrast to the 2005 study.

As stated earlier on, transaction-related income arising from currency conversion (between euros and another currency) is out of scope of the current study.

Commission paid to third parties is included as costs and not as negative income, as was also the case in the 2005 study.

## 3.3 Allocation of balances

Several choices were made specifically regarding the allocation of payment account balances (debit and credit). A description of these is given below:

- **Balances**: total outstanding balances on payment accounts (debit and credit) and on credit cards (credit, debit) are included for the purposes of calculating net interest revenues; to calculate balances, the average of outstanding balances on 31/12/2020 and 31/12/2021 is taken. As in 2005, only accounts that are effectively being used as payment accounts are included in the scope of this study. Technical accounts are deducted from the total outstanding balances for the purpose of calculating net interest revenues from account balances. Technical accounts include project accounts and investment accounts, for example;

- **Overdraft balance**: for the retail segment, overdraft balances are allocated fully to payment services. This is different for business banking, where a distinction is made between 'credit' and 'exceeding limit'. Revenues arising from limits being exceeded are allocated to payment services, whereas interest revenues from 'credit' are not. The reason being that usage of credit for business clients is a deliberate choice to attract working capital. Business clients can take up short-term financing from their business account in the form of credit. This financing option has been formalized through the obligation to sign a credit agreement when opening a business account. Furthermore, the distinction between 'credit' and 'exceeding limits' is in line with the internal allocation of banking revenues – where costs associated with business credits are allocated to financing, whilst costs associated with business limits are allocated to payment services. This distinction between 'credit' and 'exceeding limit' was not made in 2005, as back then the credit agreement was not yet mandatory for business entities.

## 3.4 Allocation of costs

Several choices were made specifically regarding the allocation of costs to payment services:

- **Cost taxonomy**: the dimensions used in the cost taxonomy are segment, product, allocation to payments, department, and step in the value chain. The minimum required level of detail (granularity) for costs is: segment (consumer versus business), product (transactions versus accounts) and allocation to payments (overhead versus rest - direct/indirect);
- **Allocation of overhead and indirect costs**: to the extent possible, banks' internal allocations for indirect and overhead costs are used and accompanied by a rationale. In addition, the project executor validated data in terms of the consistency and proportions of allocated overhead costs within the banks. Thus, guaranteeing that overhead definitions have been used consistently and that allocated proportions are explicable. Since overhead costs are reported separately, the same definition should be used among the different banks;
- **Further cost segmentation**: the activities within 'department' (e.g. IT, Operations, Risk) and 'step in the payment value chain' (e.g. product development and product servicing, sales and customer advice) can vary from bank to bank and have not been differentiated in this final report. These costs have been requested to enable verification of whether all payment costs have been considered.

Banks' capital requirements for the purpose of executing payment activities were omitted from the present study's scope (for example, equity capital that banks have to uphold in order to participate in payment services). Capital costs do not have any effect on the payment system's profitability (profit and loss statement) and are not shown in this report for two reasons: (1) capital costs are extremely volatile, and (2) the methods used for maintaining capital varies considerably between banks and is therefore not comparable.

## 3.5 Specific areas for attention raised by stakeholders

Representatives of the various stakeholders were given opportunities throughout the process to familiarise themselves with and provide feedback on this study's methodology. Several topics for attention emerged from this, which are discussed below.

### Reference year to be used

2021 is the most recent year for which all cost and revenue details can be supplied in their entirety by the four participating banks and it therefore provides the most up-to-date, representative picture with the future in mind. COVID-19 and the associated measures affected the total number of transactions and the cash/cashless payment mix. Furthermore, the year 2021 is also characterized by historically low interest rates. Based on several sensitivity analyses, we have concluded that 2021 is a representative reference year. The results of these analyses are explained in more detail in chapter 7.

### Calculation of net interest revenues

The net interest revenues stated in this research are based on internal reporting from the participating banks. This method deviates somewhat from the method in 2005, where a joint reference interest rate and maturity was chosen for debit and credit balances for the participating banks. The advantage of this new method being that it ties in with the allocation of interest revenues as being reported by the banks[9]. The four banks supplied their net interest revenues related to payments for the purposes of this study. In that regard, they supplied the following data: (1) balances on payment accounts and (2) net interest revenues allocated internally at banks to payments.

Banks have calculated the interest revenues allocated to payments by estimating the risk-free return that can be achieved on payment account balances. This risk-free return depends on the interest banks pay to account holders (or charge, in the case of negative interest), the bank's estimates regarding the period over which this can be invested and the interest rate environment. Interest revenues gained from account holders who had to pay negative interest to their bank on positive balances above a certain threshold were included in the interest revenues reported by the banks.

Dividing the total net interest revenues by the total of positive balances on payment accounts allows an average effective interest rate and term to be calculated for Dutch payment services in 2021 (explained in Section 4.3.1)[10].

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[9] For 2005, the project executor calculated net interest revenues that can be allocated to payment services, in close cooperation with the banks. Conceptually, the methods used now and in 2005-2006 correspond well. For further information, see Section 2.3 Calculating income from account balances, pp. 8-10 in McKinsey & Company (2006).

[10] This interest rate reflects banks' interest expense margin on lending payment account balances. The sum of the interest expense margin (difference between market interest rate and the interest that banks pay their account holders on their liabilities), interest revenues margin (difference between the interest that banks earn on their assets, such as mortgages and loans, and market interest rates of a similar term) and maturity transformation (income stemming from a difference in interest received on assets with a long maturity term and interest paid on liabilities, such as instantly withdrawable credit balances on payment accounts) provides the total net interest margin for the entire bank, which is higher than the interest expense margin and is more closely aligned with the market interest rate. This definition has been taken from DNB (2022) 'Interest and capacity for change. A scenario analysis of the profitability of Dutch banks. DNB Occasional Study 19/5'. In fact, the interest expense margin represents the advantage that banks derive from being able to attract money inexpensively because they are allowed to offer payment accounts and savings accounts.

## Allocation of risk and compliance costs

Banks offer financial products and services. On the one hand, they have to ensure that these are offered safely, and their clients do not become victims of financial crime, such as fraud. On the other hand, they also need to ensure that the products and services that they offer are not used for criminal activities, such as money laundering or terrorist financing ('gatekeeper role'). We refer to the costs that they incur in managing these risks as risk and compliance costs.

A relevant proportion of these risk and compliance costs relates to payment services. They include all costs associated with safely offering payment products and protecting the customer whilst making a transaction.

We distinguish four categories of risk and compliance costs (Figure 3):

- **Fraud-related costs (fraud)**: detection of cybercrime activities such as transactions made using stolen payment methods, cybersecurity measures on individual accounts and forbearance/compensation for customers falling victim to fraud. These costs are incurred to protect the user from harm and to compensate losses (through forbearance or otherwise) to safeguard a users' trust in the payment system. This study only includes payment-related fraud costs, insurance fraud or mortgage fraud costs are out of scope, for example;
- **Transaction-related costs (transaction monitoring and transaction screening)**: real-time transaction screening to prevent potentially suspicious or illegal payments (e.g. subject to sanctions) or post-transaction monitoring with the aim of identifying and halting potentially illegal flows (e.g. law enforcement investigations, money laundering operations);
- **Know your customer-related costs (KYC and name screening)**: costs incurred when confirming a customers' identity and integrity, both when entering into the initial customer relationship (which usually happens when opening a payment account) and periodically when customers enter into financial activities at the various banks. This should also include costs associated with establishing the effective level of risk (the so-called risk rating) for customers to differentiate continuous monitoring controls (e.g. transaction monitoring) according to the risk that a customer poses to the bank and to society. This encompasses retrieving data on a customer when he/she is onboarded as a new customer, periodic reviews depending on a customer's risk profile and event-driven reviews on existing customers triggered by events or changes to the customer profile or continuous name screening of customers against sanction lists, for instance;
- **Overhead-related risk costs (operational risks (non-overhead), general operational risks and risk policy)**: in addition, each bank has created a risk and compliance structure to handle all risks (regarding payments and other operational processes). These costs form part of a banks' general business operations and are not (or are not fully) attributable to a payment activity or product. We refer to these as overhead costs.

For various reasons, risk and compliance costs are included separately in this study. Firstly, the size of these risk and compliance costs has risen sharply over the past decade due to a changed social and regulatory context. Hence, a detailed analysis is necessary in order to ascertain its allocation to the payment system. At the time of the study in 2005, risk and compliance costs were not yet material and consequently were not explicitly analyzed (they were implicitly part of transaction and overhead costs). For the current study, it was crucial to develop the right methods to analyze these costs.

**Figure 3: Risk costs segmentation**

| Risk costs segmentation | | | Description |
|---|---|---|---|
| **Fraud-related** | **Fraud** | | Detection of cybercrime activities (e.g. transactions made using stolen payment methods, illegal account takeovers), cybersecurity measures (e.g. protection against cyberattacks on individual accounts) and forbearance |
| **Transaction-related** | **Transaction monitoring** | | Post-transaction monitoring |
| | **Transaction screening** | | Real-time transaction screening to prevent transfers (focusing on high-risk transactions such as those subject to sanctions) |
| **KYC-related** | **KYC** | Onboarding | KYC reviews for new customers |
| | | Periodic reviews | Periodic reviews, every 1/3/5 year(s) depending on risk profile |
| | | Event-driven reviews | KYC reviews due to specific events/changes (e.g. in customer profile) |
| | **Name screening** | | Screening customer database on continuous basis, checking against sanction lists, PEPs and adverse media |
| **Overhead-related (inc. operational risks non-overhead)** | **Operational risks (non-overhead)** | | Covering non-fraud-related operational risks partly associated with intensity of payment system (e.g. software cybersecurity) |
| | **General operational risks** | | Covering non-fraud-related or non-payment system-related risks for customers (e.g. risk associated with general software and cloud solutions, socio-economic risks) |
| | **Risk policy** | | Costs of maintaining and implementing a risk policy (e.g. CRO, risk policy introduction, and implications of policy decisions) |

Various complicating factors play a role in mapping out the risk and compliance costs, which are incorporated in the cost methodology below:

- **Remediation**: as stated above, risk and compliance costs were not yet material at the time of the 2005 study but were so in 2021. This is partly due to the Money Laundering and Terrorist Financing Act, which came into effect in 2008 and requires banks to ensure that the products that they offer are not used for criminal activities. Enforcing compliance with this Act has become much stricter in recent years.

  Some of these risk and compliance costs are one-off and will not recur in the future. Consider in this regard the effort entailed in garnering customer information for the first time, or in keeping it up to date for existing customers, for example. This could be regarded as 'remediation'. As 2021 was chosen as the reference year for the study, the costs regarded as 'remediation' are e specified separately. Other costs, such as periodically checking data, or more accurate monitoring of certain transactions, are annually recurring costs. In view of the current developments within the risk domain, it is not always transparent which costs are one-off and which will be recurring. The extent to which these costs can increase or decrease depends on various factors, such as the expected end date of one-off instances of remediation (which vary from bank to bank), the extent to which regulations will develop further in future, and the extent to which banks will invest in topics as automation, for example.

Banks were asked to indicate the proportion of risk and compliance costs incurred in 2021 that represent remediation versus the previous year. At one of the four banks, there was no remediation. At one of the four banks, there was remediation, but this was not material in nature (<10% of KYC-related costs). At the other two banks, there were remediation costs of a somewhat material nature (10-25% of KYC-related costs). The three banks that reported limited or somewhat material remediation costs listed these costs separately when supplying the data or stated the percentage thereof, thus enabling these costs to be reported separately in the current report;

- **Allocation to payment services**: some risk and compliance costs directly relate to payment services because they are directly caused by a payment transaction and would not have arisen had the customer not made any transaction. Consider in this regard investigating a suspicious transfer, for instance. If a customer were not to make any transaction at all, then no costs would be incurred either. Conversely, there are risk and compliance costs that are not fully attributable to payment services and that would also exist were that customer to make no payment transactions at all. Consider in this regard screening a customer when he/she opens a payment account, for instance. These costs are associated with the presence of a payment relationship with the bank (e.g. the payment account), but not with making transactions.

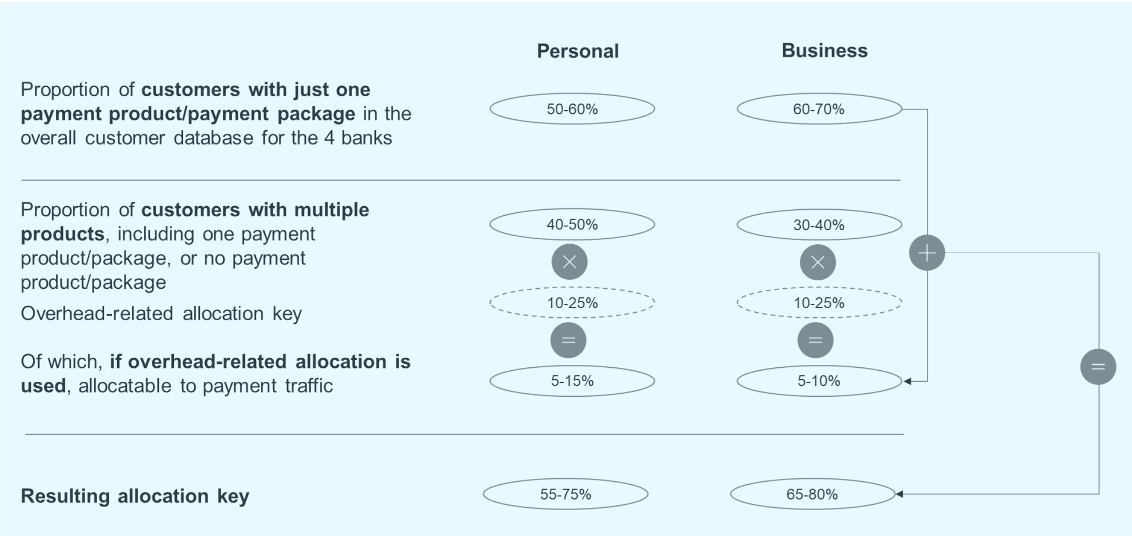
  All participating banks supplied their allocation keys for allocating risk and compliance costs to payment services. Based on discussions with banks involved, interviews with external payment experts and feedback from stakeholders, a common allocation key was selected which differs for each type of risk cost (Figure 4):

  - **Fraud-related costs**: these are regarded as direct costs attributable to payment services in almost all cases. Hence an allocation key of 100% is used for these costs. The rationale is that these costs would not (or barely) exist if a bank did not offer any payment products;
  - **Transaction-related costs**: these are regarded as direct costs 100% attributable to payment services. The rationale is that these costs would not exist if an existing customer did not make any payment transactions at all. This is consistent with how these costs are allocated within banks;
  - **KYC-related costs**: these costs are not fully attributable to payment services, though they are closely linked to it. On the one hand, these costs would still be incurred if a customer did not make any payment transaction. On the other hand, these costs are associated with payment services;
    - For example, these costs are often caused by the initial relationship that a customer enters with a bank, which often concerns a payment account. 50-60% of retail customers and 60-70% of business customers purchase only a payment product from a Dutch bank. Hence that proportion of the KYC-related costs is entirely attributable to payment services;
    - Other customers purchase multiple products, including payment products. Hence, a proportion (but certainly not all) of the KYC-related costs incurred for this group of customers is attributable to payment services. To this end,

the same allocation key for payment services as for overhead costs is used (i.e. 15-20%). These are general banking costs, a proportion of which is allocated to each product group, i.e. including payment services;

- According to this logic, one could expect that an allocation key of 60-80% can be used across all banks to allocate these costs to payment services; and indeed, a check on the data supplied by the banks confirmed this view. Hence it was possible to use internal banking allocation keys for KYC-related costs (Figure 4).

**Figure 4: Allocation key KYC costs**




## Method of including investments

In order to examine whether the costs reported by banks are one-off or recurring and whether 2021 was a representative year in that context (e.g. without an above-average amount of one-off investment expenditure), the total cost base was allocated to ‘change’ versus ‘run’ expenditures. Whereas ‘run’ expenditure is defined as costs referring to normal business activities and day-to-day operations with clear processes, ‘change’ expenditure is defined as one-off costs and costs relating to change processes (e.g. adjustments for Instant Payments). If it is possible to allocate most of the costs in 2021 (~70-90%) to ‘run’ expenditure (recurring), then it may be assumed that 2021 is not an exceptional year when it comes to expenditure patterns.

Joint investments in participations are reported separately (e.g. investments in iDEAL 2.0). It emerged in 2005 that the extent of one-off costs did not deviate incidentally from previous years but was in fact similar to investments in previous years. The nature of the investments does of course differ from year to year. As in 2005, the current conclusion is that the Dutch payment infrastructure requires a certain level of investment in terms of maintenance, innovation and improvement.

## Quantifying the transition to digital distribution

Payment services (and banking services in general) have become increasingly digital in recent years, undergoing a transformation from physical to digital distribution (e.g. closing bank branches in favour of more digital means of making payments, such as wallets and iDEAL). The cost structure of digital distribution differs from that of physical distribution and will therefore influence payment services' profitability. Nonetheless, that effect cannot be quantified based on the data request submitted by the participating banks (in part since this is a snapshot for 2021 only). Similarly, it cannot be said with confidence that the shift to digital distribution results in lower costs than physical distribution, as different costs are involved. Examples of these include investments in digitisation, maintenance of digital infrastructure and increasing risk costs in comparison to physical distribution.

## Indirect sources of income

In addition to direct revenue sources from payment services, there are potentially also revenue sources indirectly related to payment services. For example, related to the fact that banks hold data that could potentially be of value (now or in the future). Banks agree that this data might play a role as a source of income in the future, but that this is currently not yet the case and therefore not relevant for the reference year 2021. Other indirect revenue sources include for example income from cross-selling. Banks can provide payment products and/or services (e.g. a checking account (free of charge)) to boost customer loyalty and subsequently offer other income-generating banking products (e.g. an investment account). This source of income has not been included in the result for Dutch payment services either.

## 3.6 Methodology merchant services workstream

Revenues and costs from merchant services (acceptance side) are becoming increasingly relevant compared to the 2005 study. Unsurprisingly, stakeholders have argued to include an analysis of the overall merchant services market. This entails an estimate of the non-banking acceptance market (or so-called "payment institutions") in addition to the banking acceptance market. As described earlier in Section 2.2, non-banking players did not supply any internal data, though they did validate the outside-in analysis of the total costs and revenues for the acceptance side of payments (based on public sources and expert input). The following taxonomy has been used to map the revenues and costs of the acceptance side of the payment system:

- Total revenues, comprising:
  - **Terminal revenue**, calculated as the number of point-of-sale (POS) terminals multiplied by the average POS terminal price for the year 2021 (including for example hire/purchase, maintenance);
  - **Transaction revenues**, comprising:
    - Transaction revenues from physical (POS) card transactions (debit and credit cards);
    - E-commerce transaction revenues (including debit and credit cards, charge cards, iDEAL, Buy-Now-Pay-Later and gateway fees, etc., with gateway fees being income that the transaction processor charges to the retailer or

    'merchant' to cover the costs associated with receiving and processing the transaction);
  - Other online and payment transfer transaction revenues (non-e-commerce, iDEAL and direct debit transactions, e.g. for utility bills or subscriptions);
- Total costs, comprising **card transactions at the point of sale, e-commerce transactions and other online transaction costs**, calculated as the average costs per transaction (incl. processing, sales force, overhead, fraud, terminal and other costs) multiplied by the total number of transactions.

The difference between total revenues and total costs for the acceptance market is regarded as **operating profit**. This is shown separately for physical card transactions (POS) and online transactions (both e-commerce and other online transactions).

Even though the approach of mapping the costs and revenues for payment institutions differs from that used for the banking players, the scope is the same and all costs and revenues are included in the study for the overall merchant services market..

## 3.7 Methodology European comparison

In addition to the costs and revenues for payment services in the Netherlands, importance is also given to comparing the situation in the Netherlands to a wider European context based on outside-in research. Based on outside-in data from McKinsey & Company, a comparative perspective for the worldwide and European payments landscape is created, including specifically the differences between the Netherlands and other European countries (explained in more detail in chapter 5).

# 4. Results

This chapter details the results of the study. We will consecutively present: (1) size of the market, (2) the overall result (by product, channel, segment), (3) revenue by revenue type, and (4) costs by cost type. The results shown are various cross sections produced based on the same source data[11].

## 4.1 Market size and balances

There are ~24.4 million payment accounts in the Netherlands in 2021[12], of which ~21.7 million are retail accounts (~89% of the total) and ~2.7 million are business accounts (~11% of the total). This represents an average of ~1.6 payment account per capita aged 15 and above in the Netherlands and ~1.3 payment account per business in the Netherlands.

The total number of outgoing transactions in 2021 is ~9,937 million (encompassing cash withdrawals and deposits, card and cashless transactions). Outgoing transactions are transactions performed by retail consumers and businesses using their debit or credit card, for example, as well as cash withdrawals and deposits at ATMs. The most significant drivers of these are ~5,087 million cashless transactions and ~4,705 million card transactions (debit and credit) (Figure 5).

In-store cash transactions and cash transactions between payers have not been included in this total. Recent estimates from De Nederlandsche Bank (DNB) and the Dutch Payments Association suggest that another ~1,160 million cash transactions were made in the Netherlands, but these happen outside of the payments system (except for withdrawals and deposits, which have been included in the total number of transactions)[13].

Similarly, there are 5,121 million incoming merchant services transactions within the Dutch banking sector. Incoming transactions are payments received by merchants (retailers). In that regard, merchants are the ones accepting payments from retail consumers or businesses. The total number of incoming merchant services transactions is estimated to be ~6,536 million, of which approximately 70% are processed by banks. Of this, ~5,358 million transactions (~82%) comprise in-store card transactions and ~1,178 million (~18%) comprise online transactions[14].

Furthermore, there are 421,000 point-of-sale terminals[15], 4,920 ATMs (incl. IADs) and 730 bank branches in the Dutch market in 2021.

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[11] Amounts stated in figures and descriptive text have been rounded to the nearest € million for ease of reference. This rounding (of decimals) could result in total amounts not corresponding exactly to underlying cross sections (e.g. on underlying products).

[12] Based on data supplied by the 4 participating banks and extrapolated for the entire market. This differs somewhat from DNB payments statistics reporting (23.8 million payment accounts) due to minimal differences in scope.

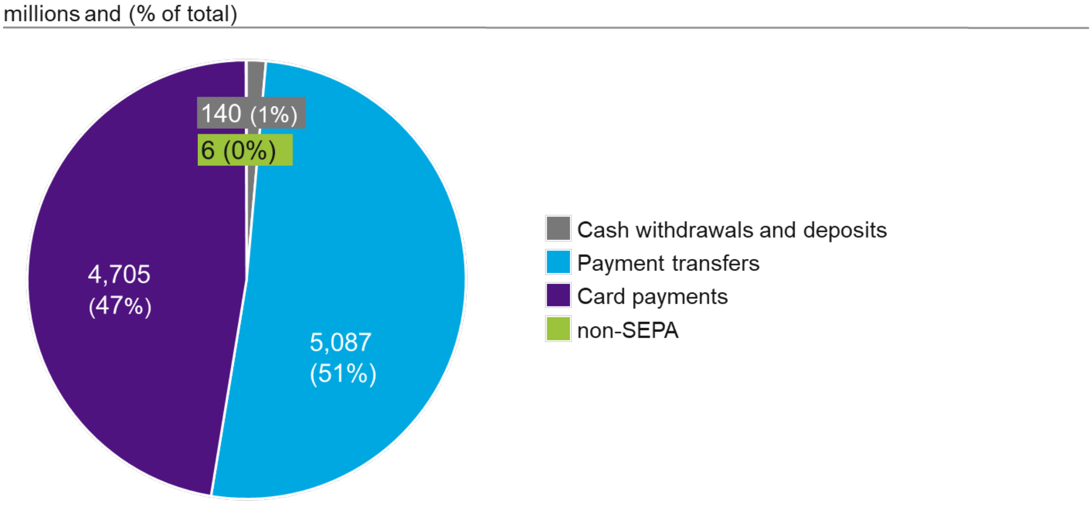
[13] Betalen aan de Kassa 2021, DNB and Dutch Payments Association.

[14] Note: The difference in number of transactions between outgoing card payments (4,705 million) and incoming card payments (acceptance side, 5,358 million) is since outgoing card payments only pertain to the banking sector, whereas incoming card payments encompass the entire Dutch merchant services market.

[15] Dutch Payments Association

The total outstanding balances on payment accounts for the reference year 2021 was equal to €310,733 million and debit balances (overdraft) of €1,764 million.

**Figure 5: Number of payment transactions 2021 excluding cash transactions (banking)**




NB Excludes merchant services transactions (which pertain to 5,121 million *incoming*, banking transactions)

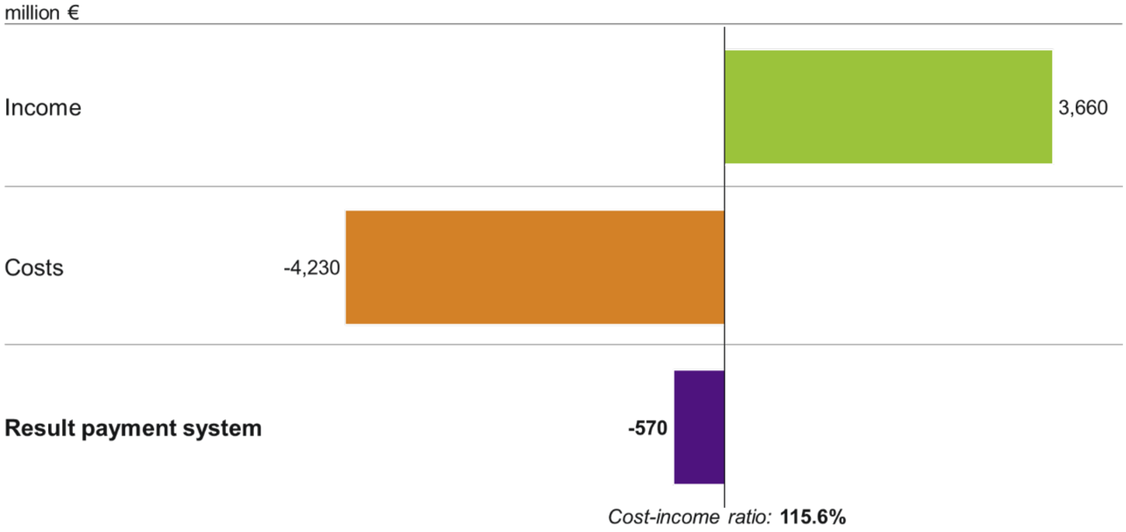
## 4.2 Total result

Banks in the Netherlands incurred a loss of €570 million before tax on payment services in 2021 (Figure 6), or a negative margin of 15.6% on total revenues of €3,660 million[16]. This results in a cost-income ratio of 115.6% on banking payment services, equating to a profit margin of -16%. This cost-income ratio is roughly 70% for the total result of all Dutch banks (i.e. entire portfolio of costs and revenues included, for example also including mortgages, savings and investments). This equals to a profit margin of 30%.

This banking payment result does not include the costs of the capital required by the banks to carry out payment services.

[16] All financial results featured in this report are before tax. This result encompasses banking results only. The negative result for all payment services (banking and non-banking) is estimated at €530 to €490 million (due to a slightly positive margin on merchant services made by payment institutions).

**Figure 6: Banking result payment services 2021**




There are significant differences result between segments and products, which are explained in detail below.

## Result by product

The payment result is not evenly distributed across all product groups.

With a total of €699 million, a positive result is realized on account servicing and credit cards. Below one can find an overview of the results for each product.

- **Account servicing**[17] generates a positive result of €567 million, mainly due to €1,596 million in interest revenues from outstanding account balances (61% of total income on account servicing). The profit per account equals €23.27. This is income derived from payment account credit and debit balances from retail or business clients. In contrast, the provision and servicing of the account, or the monthly or annual fees without interest revenues, compared to the operating costs associated with managing these accounts, produce a negative result of €1,029 million.
- **Credit card transactions (issuing)** generate a positive contribution of €132 million, partially from annual fees, higher interchange fees as a percentage of transaction value and higher transaction values compared to debit cards. This results in a profit of €0.67 per outgoing credit card transaction. Of the total contribution of €132 million, €45 million is from interest revenues on credit cards;

Most transaction-related products are loss-making. Banks are making a loss of €1,270 million on cash and cashless transactions, debit card transactions, merchant services and non-SEPA payment transactions.

[17] Including packages, excluding cash, cashless and card transactions.

- **Cash transactions** (handling cash withdrawals and cash deposits) generate a negative result of €273 million, even though the number of cash withdrawals and cash deposits (~140 million in total) is less than 1% of the overall volume of transactions[18]. This equates to a loss to banks of €1.95 per cash withdrawal or deposit;
- **Cashless transactions**, including transfers, direct debits, accept giro forms, iDEAL and other digital payment methods, generate a negative result of €351 million on a transaction volume of ~5,087 million transactions, 31% of the total transaction volume. Hence banks are making a loss of €0.07 on each outgoing cashless transaction;
- **Debit cards (issuing)** produce a negative result of €517 million on a total transaction volume of ~4,509 million, ~27% of the total transaction volume. This equates to a loss to banks of €0.11 per outgoing debit card transaction (excluding the costs incurred on the retailer's side, which fall under merchant services). This is caused by the extremely low transaction (interchange) fees, that cannot compensate for the transaction costs. The Netherlands has a statutory maximum fixed interchange fee of € 0.02 per debit card transaction. That is an exception to the 0.2% of the transaction value commonly used in other countries. Other income flows such as annual fees for debit card issuance are also not sufficient to cover costs;
- **Non-SEPA transactions** (non-SEPA transactions excluding FX fees) produce a negative result of €40 million (on a transaction volume of ~6 million non-SEPA transactions, <1% of the overall transaction volume) or €7.21 per non-SEPA transaction, primarily because the fees paid in the Dutch market for these transactions do not cover costs;
- **Merchant services for banks** (services for receiving payments, Figure 8) account for a negative contribution of €89 million, primarily due to a loss on in-store card transactions of €84 million, accounting for 94% of this result (Figure 8). The result on online acceptance accounts for only €5 million (6%) of the total loss to banks on merchant services. This equates to a loss of €0.02 per transaction on a total of 5,121 million merchant services transactions in the Dutch banking sector.

  The total result on **merchant services, both banking and non-banking**, is €40 to 80 million higher than the banking result[19]. For the total market, the loss on merchant services is between €9 and 49 million. The loss for the total market is driven by in-store card transactions (POS, with a negative result of €47 to 65 million), which is partly offset by online transactions with a positive result of €16 to 38 million (note: figure 9 shows the non-banking result for merchant services).

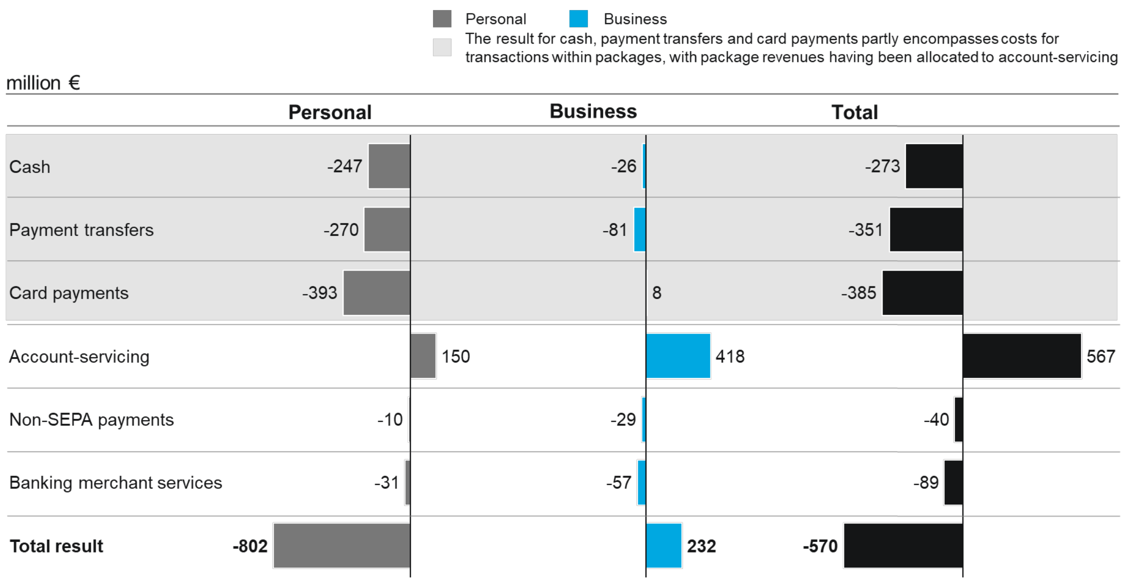
  Important to note is that within the total merchant services costs, one-off investments made by payment institutions have not been included in the total operational result. Nevertheless, these investments are essential for future growth and development of the online and in-store acceptance market and are therefore structural in nature. However, where they have a clear

[18] Note that this only pertains to cash withdrawals and deposits and not transactions between residents. If the estimated 1,160 million cash payments (inc. withdrawals and deposits) is included, then cash payment traffic accounts for ~10% of the total transaction volume. Nevertheless, most of these transactions are made outside of the payments system.

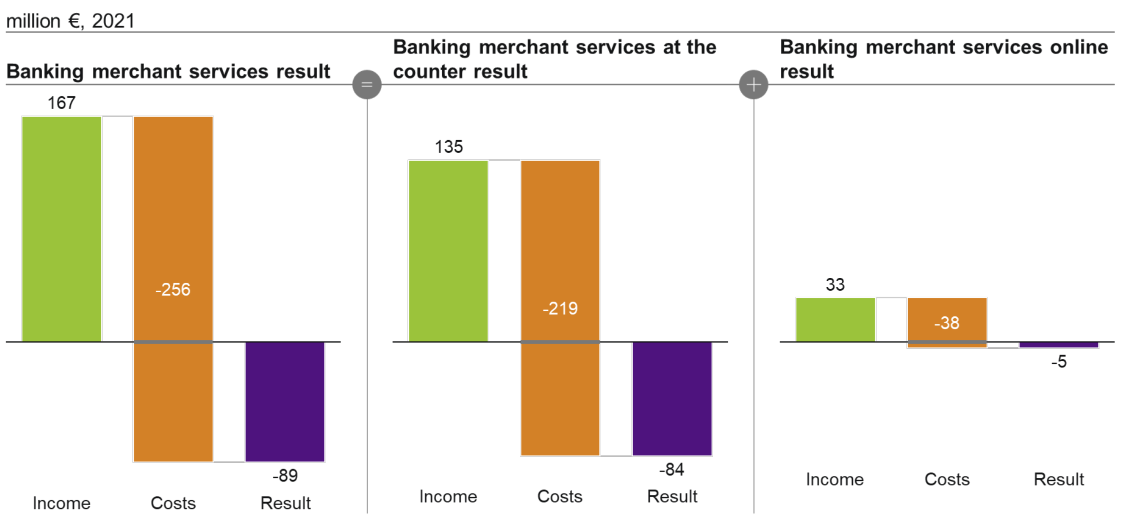
[19] Total non-banking revenues (~€330 million) are estimated at ~8% of total payment revenues, the costs (250 – 290 million) at ~6%. This indicates that non-banking players ("payment institutions") account for an estimated ~12% of the result of the entire payment system.

impact on the result for some payment institutions, they are not directly linked to "business as usual" Dutch payment services, but mostly part of international competition. For some individual online and POS payment institutions, a significant proportion of these investments were expensed in 2021 (on topics as digitization, KYC), as a result of which their margin in the relevant year differs from the average used in this report[20].

### Figure 7: Banking result payment services by product 2021

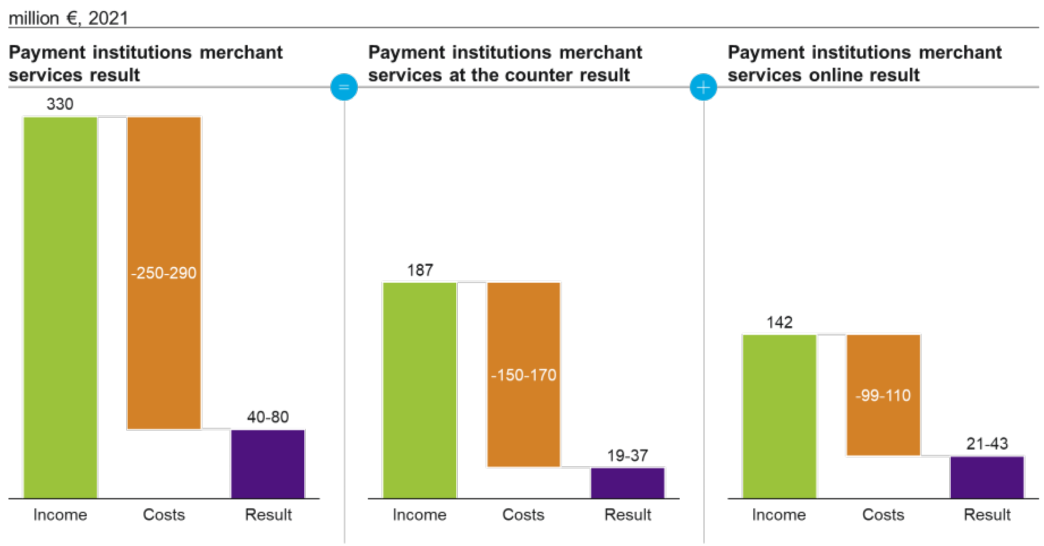



### Figure 8: Banking result merchant services 2021




[20] Note: Accounting principles used may vary for each payment institution and/or parent company's business address.

**Figure 9: Payment institutions result 2021 (non-banking)**




## Result by channel

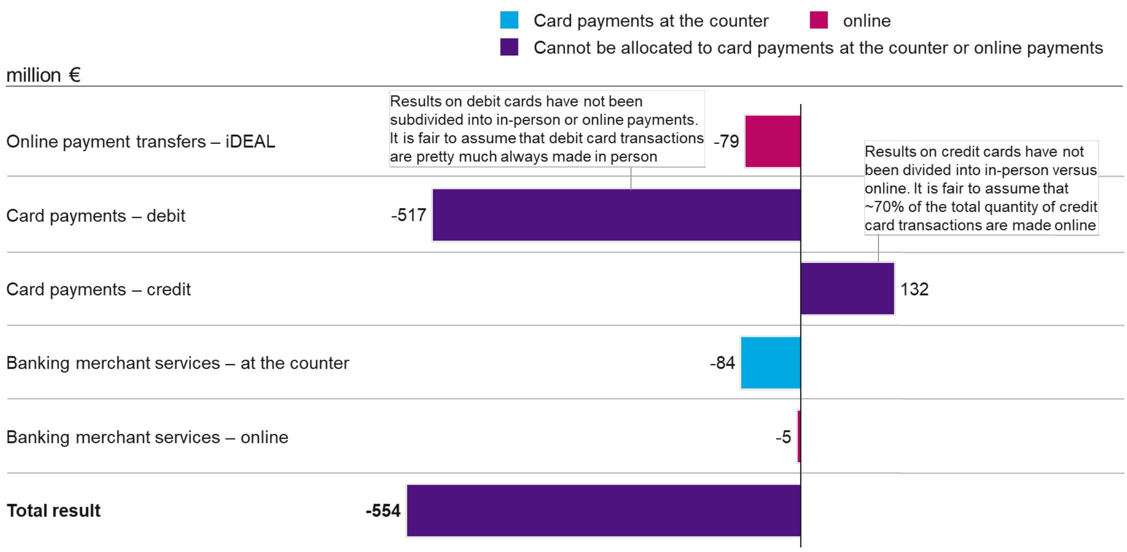
Although this is not possible for all results, some of the electronic transactions can be split into in-store card transactions and online transactions (Figure 10). Generally, it can be said that online transactions are less loss-making than in-store card transactions, but that both channels are loss-making for Dutch banks. Within in-store card transactions, the result on debit cards is - €517 million and the result on merchant services is - €84 million. Within online, the result on iDEAL is - €79 million and the result on merchant services is - €5 million.

The negative result for the overall merchant services market (banks and non-banking institutions) is estimated at €47-65 million for in-store card transactions, partly compensated by the online market with a positive result of €16-37 million. The operational margin on online transactions for payment institutions is higher than that of in-store card transactions, but due to a relatively smaller volume, the impact on the total operational margin is limited (only 18% of banking and non-banking transaction volume is online). It is estimated that total revenues are 65% from in-store card transactions and 35% from online transactions.

The operational margin for payment institutions only (non-banking) is estimated at ~15-30% for online transactions (acceptance) and ~10-20% for in-store card transactions (acceptance). It is important to mention that this analysis only represents the Dutch merchant services market (players based in the Netherlands, with profits generated in the Netherlands) and that profitability can vary considerably between different types of players.

No data is available that would enable one to ascertain the distribution between revenues and costs associated with in-store versus online card transactions (debit and credit), but it is assumed that nearly all debit card transactions are made in-store (physically) and ~70% of credit card transactions can be attributed to the online channel[21].

**Figure 10: Banking result payment services by channel 2021**




## Result by customer segment

The Dutch payments market also shows significant differences in results between customer segments. Whereas business banking generates a positive result of €232 million, retail banking produces a loss of €802 million (Figure 7). This amounts to a cost-income ratio of 87% for the business banking segment versus a cost-income ratio of 144% for the retail banking segment.

The difference in result between the segments is primarily the result of differences in transaction-related products and account servicing:

- Revenue attributable to **account servicing** for retail is only €150 million (26%), compared to €418 million (74%) for business;
- For the **other product categories**, retail results are consistently more loss-making than business results (except for non-SEPA payments), with the retail segment being responsible for a loss of €952 million versus the business segment for a loss of €186 million.

[21] Based on MOB 2021, Betalen aan de Kassa 2021, DNB and Dutch Payments Association.

## 4.3 Income by revenue type

Revenues from Dutch payment services can be subdivided into four categories, which are explained below.

Note that on top of total banking revenues (incl. the banking share of merchant services), it is estimated that non-banking merchant services account for additional revenues of €330 million (€187 million in-store card transactions and €142 million online transactions). This revenue has not been broken down into revenue types.

### Net interest income

Payment revenues are for 45% determined by net interest revenues, evenly distributed between the retail and business segments (Figure 11). Total revenue on debit and credit balances is €1,641 million. This comprises internal interest allocated to credit funds (i.e., proceeds on amounts held on payment accounts and credit cards) and interest received from customers (negative interest payments). Considering net interest income by product type, €1,596 million is attributable to account servicing[22] (with a total outstanding balance on payment accounts of €310,733 million and debit balances (overdrawn) of €1,764 million). The other €45 million is attributable to credit cards.

A validity test shows that the interest income provided by banks is plausible. Dividing the total allocated interest revenues by the total positive outstanding balance on payment accounts shows an average effective interest rate of 0.53% for payment services in the Netherlands in 2021. This effective interest rate corresponds to an average risk-free market interest rate with a duration of 6.2 years[23], comparable to the duration used in 2005.

### Transaction fees

Transaction fees amount to €868 million or 24% of total payment services revenues (incl. banking merchant services revenues), with the business segment largely accounting for this type of revenue (€648 million or 75% of total transaction fees). As transaction fees relate to fees that users pay to banks when making or receiving payments, this form of income is directly associated with transaction volume. The total outgoing transaction volume excluding cash transactions is 7,987 million for the consumer segment and 1,950 million for the business segment.

### Periodic fees

Periodic fees (servicing income) represent the monthly or annual fees that users pay for maintaining payment solutions, such as annual package fees, debit card fees and other subscription charges or holding a credit card. These fees amount to €1,127 million or 31% of total income. The retail segment accounts for a sizeable proportion of these fees (€745 million or 66% of the total periodic fees).

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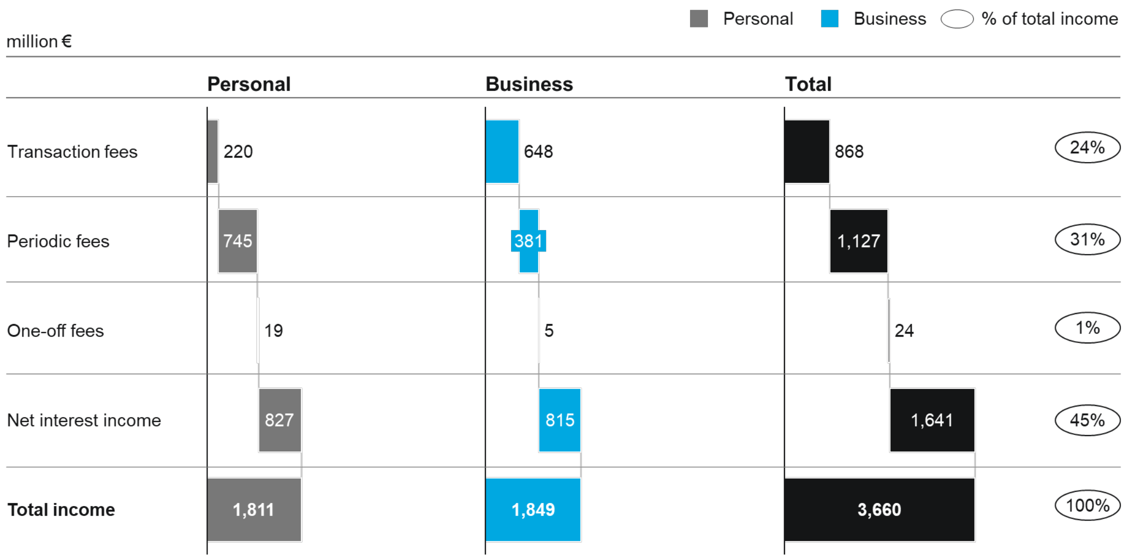
[22] Including packages, excluding cash, cashless and card transactions.

[23] Based on a comparison with historic averages of Euro swap rates. Euro swaps are futures contracts commonly used as reference interest rates in financial markets. For 2021, an average duration of 6.2 years can be obtained by taking a 39% and 61% position in interest-bearing portfolios comprising five-year and seven-year futures contracts respectively.

## Incident fees

Incident fees are fees for exceptional payment services situations, such as losing a card, having ‘overdraft’ on an account, or incorrect usage of a payment instrument. With a total of €24 million or 1% of total revenues, this source of income is limited compared to the other types of revenue.

**Figure 11: Banking payment revenue by type of income 2021**




## 4.4 Cost types

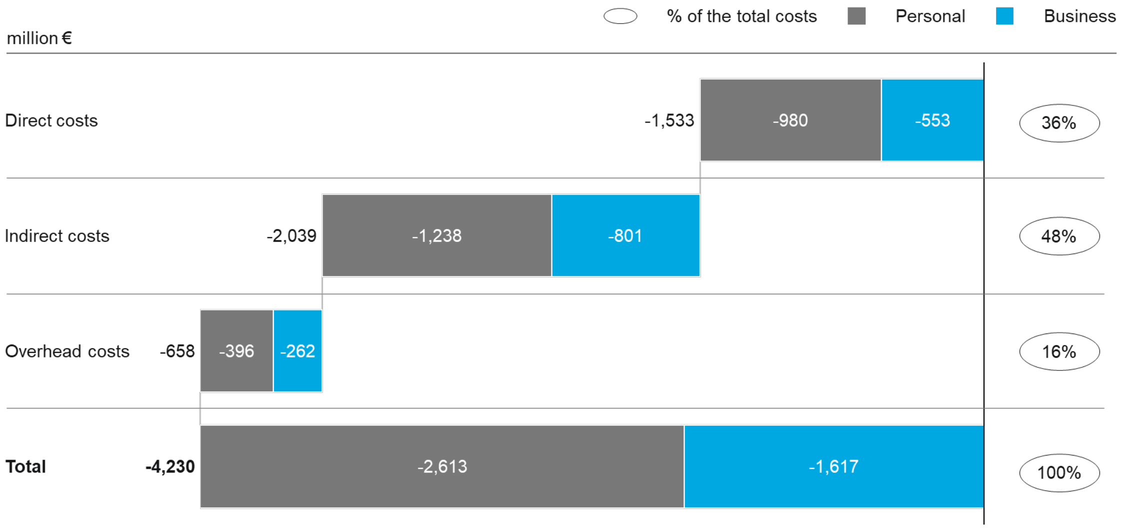
Total payment services costs in the Netherlands for banks are € 4,230 million, 62% in the retail segment (€ 2,613 million) and 38% (€ 1,617 million) in the business banking segment.

## Allocation of costs

Three types of costs are distinguished, spread over the various products and segments (Figure 12).

Note that on top of total banking costs (incl. the banking share of merchant services) it is estimated that non-banking merchant services account for additional costs of €250-290 million (€150-170 million from in-store card transactions and €100-120 million from online transactions). These costs have not been broken down into direct costs, indirect costs and overhead costs.

**Figure 12: Banking payment services costs by type of cost 2021**




## Direct costs

Direct costs are costs directly related to offering payment services, such as product development and product servicing costs, costs associated with the bank ATM network, or fraud-related costs. These costs amount to €1,533 million, or 36% of the total payment cost base for Dutch banks. €980 million in direct costs is attributable to the retail segment and €553 million to the business segment.

## Indirect costs

Indirect costs are costs that cannot be directly allocated to payments yet do depend on payment services intensity. These costs are incurred to accommodate for payment services but would also exist (at least partially) without payment services, such as costs associated with the distribution network, with customer service and other front office activities (e.g., related to setting prices, marketing, branding, etc.) and KYC costs. Indirect costs represent 48% of the total cost base or €2,039 million, €1,238 million of which can be attributed to the retail segment and €801 million to the business banking segment.

## Overhead costs

Overhead costs are costs incurred to ensure banks' general business operations, but that do not directly depend on payment services intensity. These costs are proportionally allocated to products and services and hence to payments. Examples include costs associated with business property and support roles such as legal support, finance and HR. Overhead costs represent 16% of total payment services costs or €658 million, €396 million of which can be attributed to the retail segment and €262 million to the business segment.

## 4.5 Two deep dives; risk and compliance costs and investments

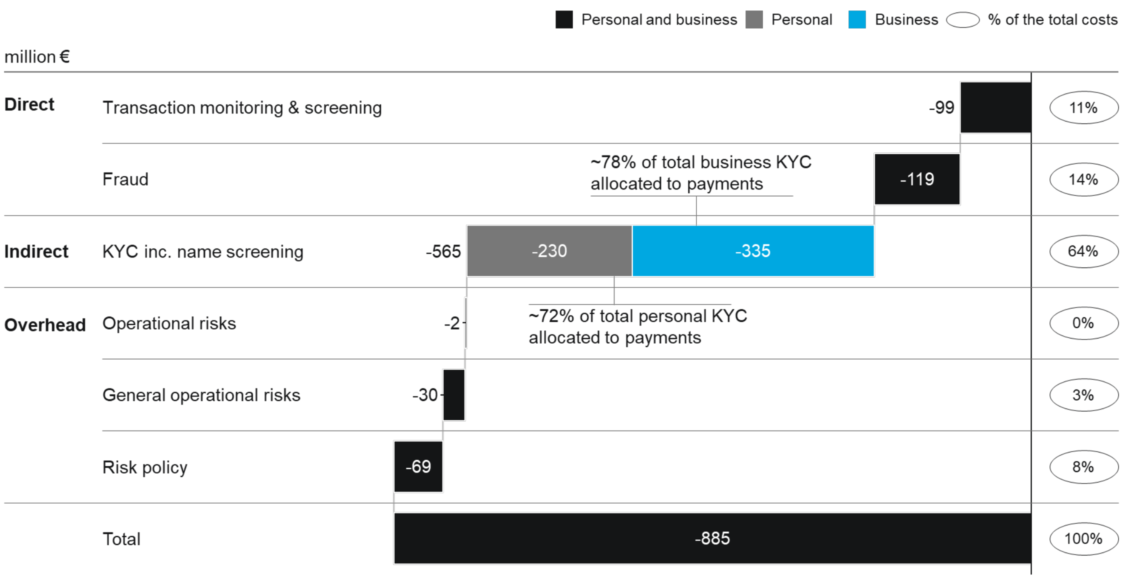
### Risk and compliance costs

Risk and compliance costs reported by banks represent 20% of the total Dutch payment services costs (€ 885 million). Risk costs are primarily driven by KYC-related costs of € 565 million (64% of total risk and compliance costs, Figure 13), with 78% of total KYC-related costs allocated to payment services for business clients and 72% allocated to payment services for retail customers. As stated in Chapter 3, one could expect that an allocation key of 60-80% would be used across all banks. The actual costs reported by the banking sector are indeed in line with the expected allocation key.

Some of these risk and compliance costs are one-off and might not recur in the future (e.g. consider in this regard the effort entailed in garnering customer information). These costs could be regarded as 'remediation' costs. Hence 'remediation' costs are specified separately.

In 2021, 10-20% of the total KYC-related costs can be considered as 'remediation' costs, or € 60-110 million. In view of the current developments within the risk domain, it is not always clear which share of these costs are one-off and which will be ongoing. The extent to which these costs might increase or decrease depends on various factors, such as the expected end date of 'remediation' (which vary from bank to bank), the extent to which regulations will develop further in the future, and the extent to which banks will invest in topics like automation.

**Figure 13: Total payment services risk costs for banks 2021**




### Investments

In 2021, 80-85% of costs associated with payment services can be identified as 'run' costs, or costs that refer to normal business activities and day-to-day operations with clear processes. Only 15-20% of costs associated with payment services are 'change' costs, or expenditure defined as one-off costs and costs related to change processes. The extent of these one-off costs does not deviate incidentally from previous years but is like the expenditure pattern in previous years. Hence it is fair to assume that 2021 is not an exceptional year in terms of the expenditure patterns. Considering joint investments in participations in 2021, this amounts to ~€36 million, mostly comprising investments in iDEAL 2.0 (Currence) amounting to ~€20 million.

In addition to one-off investments made by banks, it is important to state that POS and online payment institutions also make significant investments focused on the Dutch market, with international growth and competition in mind. These one-off investments are essential for the future growth and development of the acceptance market but were not included in the 2021 result as shown.

# 5. Results in global and European context

In addition to the costs and revenues for payment services in the Netherlands, it is important to compare the situation in the Netherlands to a wider European context based on factual research. A comparative perspective on the global and European payment landscape, and specifically on the differences between the Netherlands and other European countries, has been built based on outside-in data from McKinsey & Company's Global Payments Map (GPM). GPM is a database that estimates the historical, current and future payments market based on various public and internal sources. For the Netherlands, the outside-in estimate has been further refined based on current data supplied by banks[24].

## 5.1 Global payment landscape

Payment services constitute a global market worth ~€ 1.8 billion, of which 20% comes from Europe. Payment services revenues make up ~40% of total bank revenues. Within the revenues generated by the global payment services market, Europe is growing more slowly (1% per annum) than other parts of the world such as APAC (Asia-Pacific) and North America, which are growing at 10% and 3% per annum, respectively.

The global payment services market is subject to acceleration of digitization and intensified competition:

- **The shift towards electronic payments has been accelerated by COVID-19**: 2021 showed a drop in worldwide payment services revenues, primarily caused by a fall in net interest income because of the interest rates falling further, but also due to lower credit card revenues and cross-border revenues (due to COVID-19). Moreover, the payment services landscape is shifting towards electronic transactions, a trend that has been accelerated by the pandemic. This is accelerating the trend of cash replacement by electronic money (incl. online payments). As a result, the majority of transactions in North America and Europe are being made electronically – 71% and 52%, respectively;
- **The rise of specialist payment service providers and Fintech's**: specialist payment service providers generate ~6 times more shareholder value worldwide and have higher margins than banking players. In Europe, we are also seeing the rise of fintech players focused to a significant extent on payment services (~40% of all fintech companies). Issuers and card processors are experiencing increasing regulatory pressure and rapidly changing market trends (e.g., accelerating worldwide consolidation of players, rising competition, innovating platforms). Banks confirm that payment services are a strategic priority, and they regard this as an important aspect of their proposition.

[24] Prior to the data being supplied by the participating banks, outside-in data from GPM was used. These results did not materially deviate from the values provided by the banks. This indicates that the data for other countries available in GPM is sufficiently reliable.

## 5.2 European payment landscape

European payment services revenues come to ~€ 300 billion and make up one third of banking revenues (versus ~40% worldwide). There are 4 angles to consider when assessing the European payment services landscape:

- **Segment**: Business payment revenue in Europe grew 2,5 times faster than the retail segment over the 2015-2021 period;
- **Product**: Fees for accounts and cross-border transactions make up a majority (>50%) of revenues in Europe, with the margin being 33% across all products;
- **Value chain**: The payments value chain is fragmented and changing rapidly. Looking at card payments, issuers are generating ~65% of total revenues but acquirers are growing approximately twice as fast;
- **Channel**: Digital channels are growing: digital transfers are increasing by ~6% per annum, for instance, and the costs are ~90% lower than the cost base for physical transfers.

## 5.3 Dutch payment landscape in European context

In this section, performance of payment services in the Netherlands is placed in European context.

In order to guarantee a similar scope to the rest of Europe, the data for the Netherlands in Section 5.3 encompasses both banking and non-banking payment results:

- The **Dutch banking result** contains inside-out data, supplied by banks, and corresponds to the aforementioned result of - €570 million (€3,660 million in revenues and €4,230 million in costs);
- The **Dutch non-banking result**, i.e. merchant services provided by payment institutions, is estimated at €40-80 million (€330 million in revenues and €250-290 million in costs);
- This indicates that the Dutch payment system is loss-making, with a **negative result** of ~€510 million (- €490-530 million), with €3,990 million in revenues and ~€4,500 million (€4,480-4,520 million) in costs. The cost-income ratio changes from 115.6% for banking-related payment services to 112.8% for total payment services (banking and non-banking) in the Netherlands, or a profit margin from -16% to -13%.

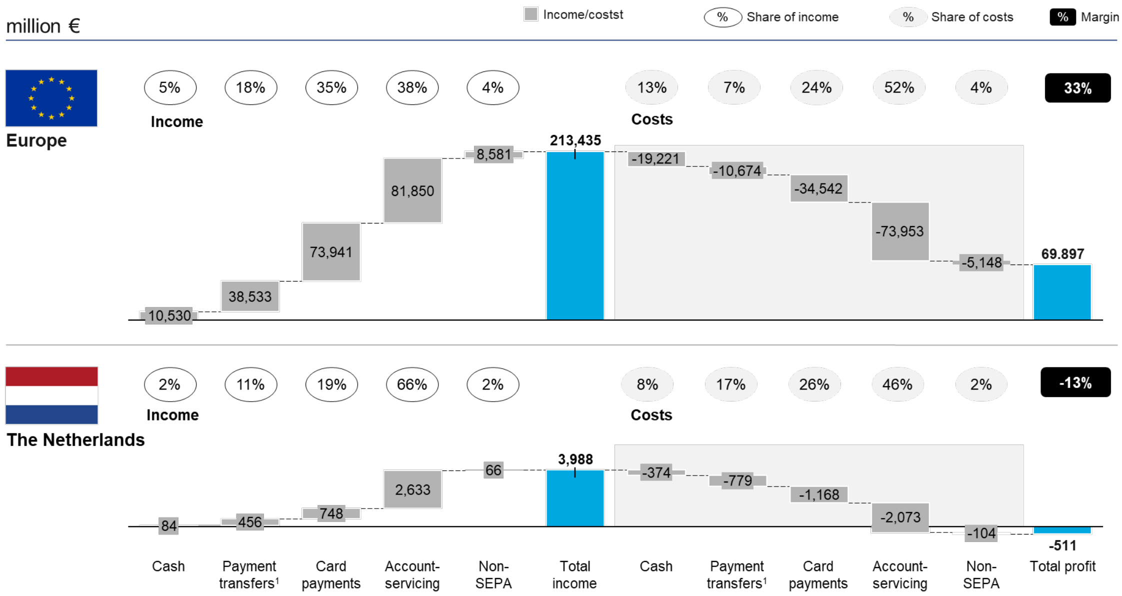
As described in Section 1.2, the payment system in the Netherlands is performing well in a variety of respects. The payment services landscape is characterized by a high degree of digitization and financial inclusivity, e-commerce penetration (~20% higher than European average) and a solid infrastructure with a higher proportion of real-time transactions than other euro countries, in line with front runners in Scandinavia.

Contrasting to these strengths is the fact that the Dutch payments sector is not making a profit and is generating a negative margin (-13%) compared to the European average[25] (33%) (Figure 14).

[25] European average calculated based on the following countries: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, The Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, United Kingdom.

Income from account balances is positive in the Netherlands, but that income is insufficient to compensate for losses elsewhere. Consequently, the Dutch payments sector as a whole is not making any profit.

**Figure 14: Profit margin in Dutch payments sector compared to Europe 2021**[26]




To explain this, we consider both costs and revenues.

## Costs

The Dutch payment services costs are lower than the European average, therefore rendering the Netherlands relatively cost-efficient compared to other European countries:

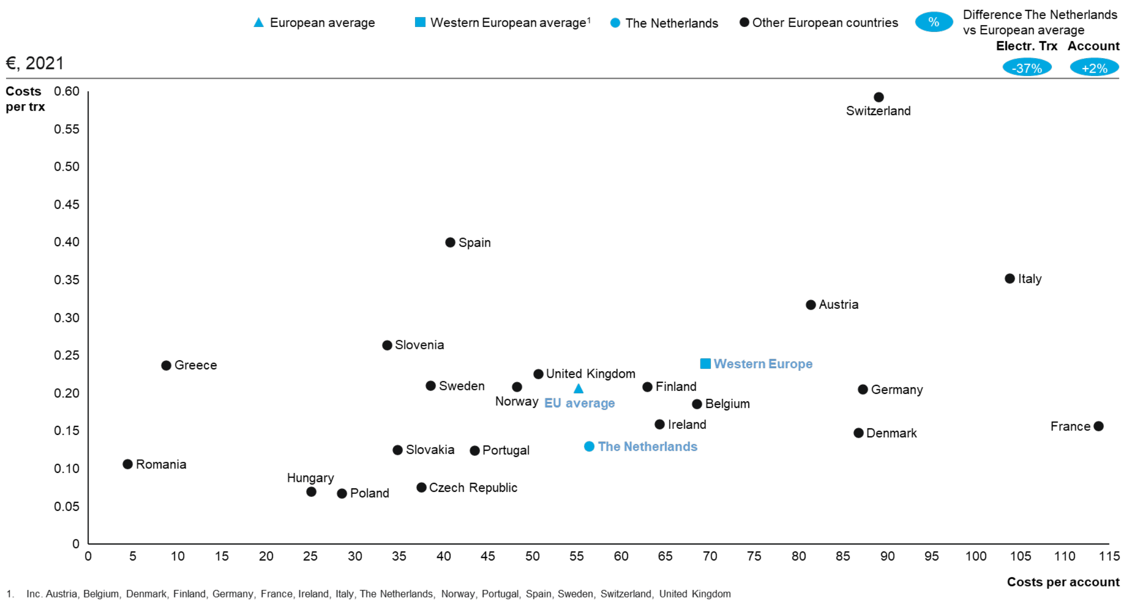
- **Domestic payment services costs** (excluding cross-border) per electronic transaction for the retail segment is 37% lower for the Netherlands (~13 euro cents) compared to Europe (~21 euro cents). Payment services costs per retail account is approximately the same in the Netherlands and Europe, ~€56 (Figure 15);
- Compared to Western Europe[27], the payment traffic costs per retail account are 19% lower in the Netherlands than the average (~€70) (Figure 14);

[26] To illustrate: Payment profit margins (excl. FX fees) of Dutch neighbouring countries are: Belgium (15%), Germany (2%), France (8%). Payment profit margins (excl. FX fees) of European frontrunners are: United Kingdom (39%), Denmark (40%), Norway (33%) and Sweden (12%). The Netherlands is the only country in Europe that is loss-making when it comes to payment services.

[27] Incl. Austria, Belgium, Denmark, Finland, Germany, France, Ireland, Italy, The Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom.

- Total **domestic payment services costs compared to GDP** is lower in the Netherlands for retail and business compared to the European average[28],[29]:
    - For the retail segment, these costs are 30% lower in the Netherlands than the European average (namely: 0.44% of GDP European average compared to 0.31% of GDP for the Netherlands);
    - For the business segment, these costs are 33% lower in the Netherlands than the European average (namely: 0.30% of GDP European average compared to 0.20% of GDP for the Netherlands).

**Figure 15: Domestic payment services costs per retail transaction and per retail account compared to other European countries 2021 (banking and non-banking)**




## Revenues

Although in terms of number of transactions the Netherlands is the 5th market for electronic payment usage (which would ordinarily be a driver of income) in Europe, the Netherlands is ranking 17th in terms of market revenues from electronic transactions (i.e. fees for operating the payments system). Two perspectives are important to explain this, segment and product:

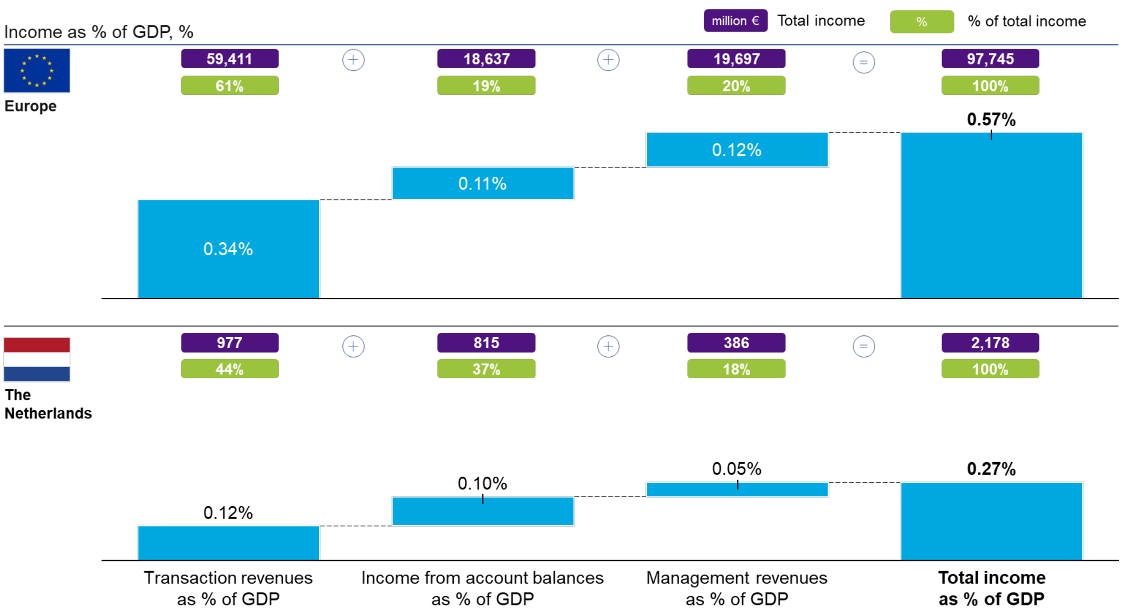
- **Segment (banking and non-banking)**:
    - **Business** (Figure 16): 55% of payment revenue in the Netherlands is generated by business customers:

[28] European average calculated based on the following countries: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, The Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, United Kingdom.

[29] Note: The European countries' position within the average is partly determined by relative GDP level.

- This primarily relates to income from account servicing (57% versus 33% compared to the European average);
- Total business revenue is particularly low in the Netherlands compared to the European average. Domestic business income compared to GDP is nearly 2 times lower in the Netherlands (0.27%) than it is in Europe (0.57%). Looking solely at North-Western Europe, this difference in business revenue is even larger, such as the United Kingdom (0.86% of GDP) and Sweden (0.63% of GDP):
    - Transaction income (as % of GDP) is ~3 times lower in the Netherlands (0.12%) than it is in Europe (0.34%);
    - Net interest income in the Netherlands (as % of GDP) is approximately the same as it is in Europe;
    - Account servicing income in business banking (as % of GDP) is ~2 times lower in the Netherlands (0.05%) than it is in Europe (0.12%).

**Figure 16: Business banking income from payments compared to GDP in the Netherlands versus Europe 2021 (banking and non-banking)**




- **Retail**: 45% of income in the Netherlands is from retail customers:
    - For the retail segment, the share of income from cash, cashless and card transactions is lower than Europe (Figure 18):

- The share of income from cash and cashless transactions in the retail segment in the Netherlands is 3% and 2% respectively, compared to 6% and 11% respectively in Europe;
- 76% of retail income in the Netherlands is generated from account servicing, compared to 43% in Europe;
- At 57%, the share of interest revenues within account servicing in the Netherlands is higher than the European average of 46%.

▪ Retail income per capita in the Netherlands is ~2 times lower than it is in Europe (Figure 17):

- Transaction income per capita in the retail segment is over 4 times lower in the Netherlands (€12) than it is in Europe (€58). In addition, absolute transaction income as a percentage of total income is lower in the Netherlands (12%) compared to Europe (25%):
- Income from account balances (net interest income) per capita is ~40% lower in the Netherlands (€48) than it is in Europe (€77), with a possible explanation being that the interest attributed to credit capital in the Netherlands is lower than it is in Europe due to interest rates and average duration. Nevertheless, the share of absolute revenue from account balances as a percentage of total income is higher in the Netherlands (46%) than it is in Europe (34%);
- Servicing income per capita in retail is 2 times lower in the Netherlands (€44) than it is in Europe (€93). Absolute servicing income as a percentage of total income is relatively similar, 42% and 41% for the Netherlands and Europe respectively.

**Figure 17: Retail payment income per capita in the Netherlands versus Europe 2021 (banking and non-banking)**


- **Product (banking and non-banking)**: The composition of retail banking revenues for cashless transactions, cards and accounts in the Netherlands differs from the European average (Figure 18):
  - On average, fees for payment packages are ~50% lower in the Netherlands versus other relevant countries, despite package conditions in the Netherlands being similar to that of other European countries (Figures 19 and 20);
  - The Netherlands has an above-average level of dependency on net interest revenues derived from account servicing. This net interest income has fallen due to the falling interest rate over the 2010-2021 period. At present, the share of income from account balances within account servicing for the retail segment is ~24% higher in the Netherlands (57%) than it is in Europe (46%). The share of income from account balances within cards is nearly 3 times lower in the Netherlands (13%) than it is in Europe (37%), in particular due to lower usage of credit cards in the Netherlands;
  - The share of cashless transaction income in the Netherlands is 2% compared to 11% in Europe, due to the lower transaction fees in the Netherlands, e.g.:
    - European average of ~€0.68 per transaction for a transfer (ACH, Automatic Clearing House) versus ~€0.002 in the Netherlands[30];

[30] Based on outside-in estimates for both the Netherlands and the European average (based on McKinsey Global Payments Map).

        - European average of ~€0.03 per transaction for a direct debit transaction compared to €0.00 in the Netherlands[31];
    - Debit card usage in the Netherlands is above average, whilst the fees are the lowest in Europe[32]:
        - The number of debit card retail transactions per capita is 1.5 times higher in the Netherlands (263 transactions) than the European average (175 transactions);
        - The Netherlands has the lowest interchange fee (average 7 bps[33] versus 18 bps in Europe) and one of the lowest net merchant discount rates (10 bps versus 41 bps in Europe), with the overall average transaction fee being more than 3 times as low as the European average;
        - The Netherlands has a statutorily capped, set interchange fee of €0.02 per debit card transaction. This deviates from the 0.2% of transaction value common in other countries (which equates to an average of €0.05 per transaction with an average transaction value of €25);
    - Fees for credit card transactions are above average in the Netherlands, but usage is low compared to Europe[34]:
        - The Netherlands has the second highest fee for credit cards (125 bps) within Europe: ~1.5 times higher than the European average (86 bps);
        - However, the number of credit card transactions per capita within retail is 2 times lower in the Netherlands (12 transactions) than the European average (24 transactions).

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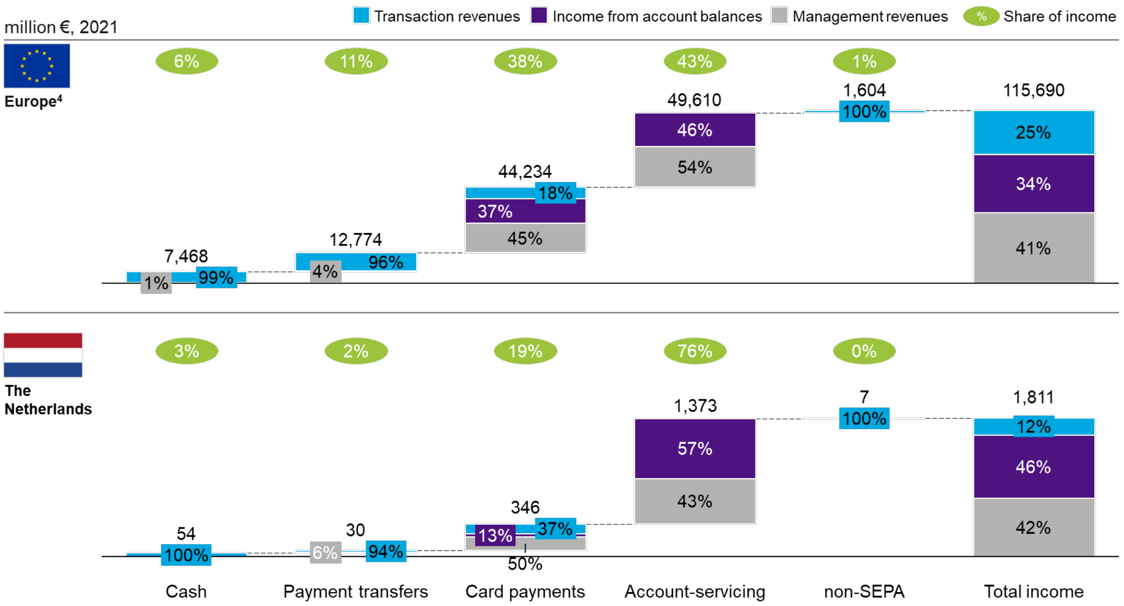
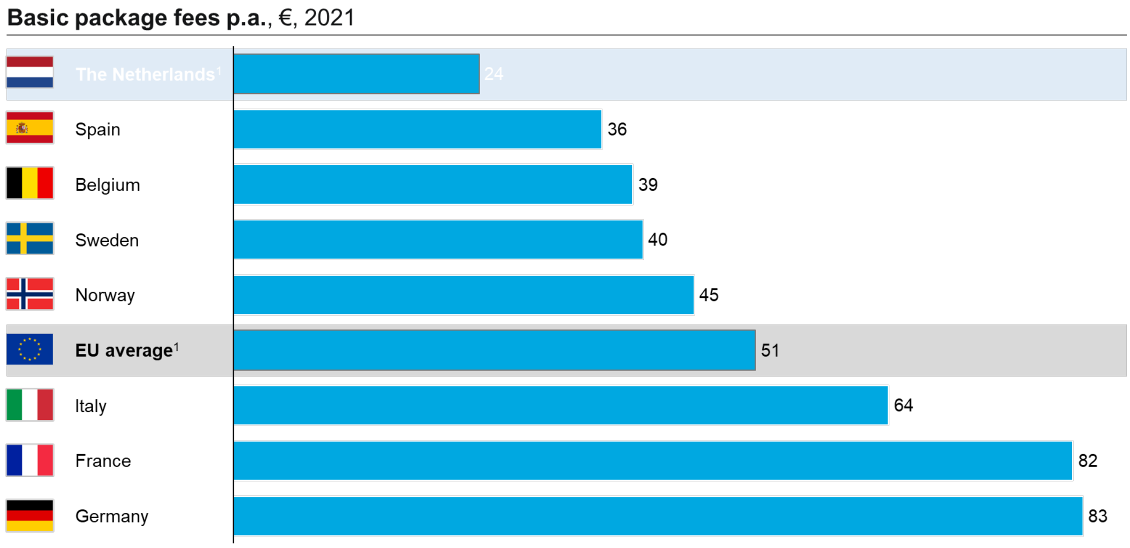
[31] Based on outside-in estimates for both the Netherlands and the European average (based on McKinsey Global Payments Map).
[32] Based on outside-in estimates for both the Netherlands and the European average (based on McKinsey Global Payments Map, Visa, Mastercard, ECB report 'Study on the Payment Attitudes of Consumers in the Euro Area', Linklaters, European Commission).
[33] Bps or basis point is a unit equal to 1/100th of a percentage point.
[34] Based on outside-in estimates for both the Netherlands and the European average (based on McKinsey Global Payments Map, Visa, Mastercard).

### Figure 18: Composition of retail income for cashless transactions, cards and accounts for the Netherlands and the European average (banking and non-banking)




### Figure 19: Basic package fee per annum in the Netherlands compared to Europe 2021




1.Based on published rates from ABN AMRO, ING, Rabobank | 2. Average based on countries shown

## Figure 20: Package conditions in the Netherlands compared to Europe 2021

✓ Included in package | Cheapest | Most expensive

| All amounts in €[1] | | ABN AMRO ING Rabobank | SEB | Nordea | KBC | | | BBVA | INTESA SANPAOLO |
|---|---|---|---|---|---|---|---|---|---|
| **Account[3]** | Annual costs | ~24 (Cheapest) | 40 | 45 | 39 | 83 (Most expensive) | 82 | 36 | 64 |
| | Account | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| **Cards** | Debit card | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| | Extra debit card | | | | ✓ | | | | |
| | Credit card | | ✓ | ✓ | | | | | |
| **Transfers/cash** | Electronic transfer own country + SEPA | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | |
| | Receipt of SEPA payments | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ |
| | Cash withdrawal DC – own currency – own cash machine | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | Cash withdrawal CC – own currency | | | | | | | | ✓ |
| | POS DC/CC – own currency | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ |
| | Cash deposit own account | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

1. Converted to € based on FX rates from 25 March 2022 until end of year | 2. Total costs including annual charge, 2 debit cards, 1 credit card, 10 transfer per month in SEPA, 1 x €1,000 transfer beyond SEPA, 2 cash withdrawals per month in BE, €500 DC cash withdrawal beyond SEPA, €1,000 CC POS payments beyond SEPA | 3. A basic package has been selected for each country and each bank (if there was a choice between a basic and premium package)

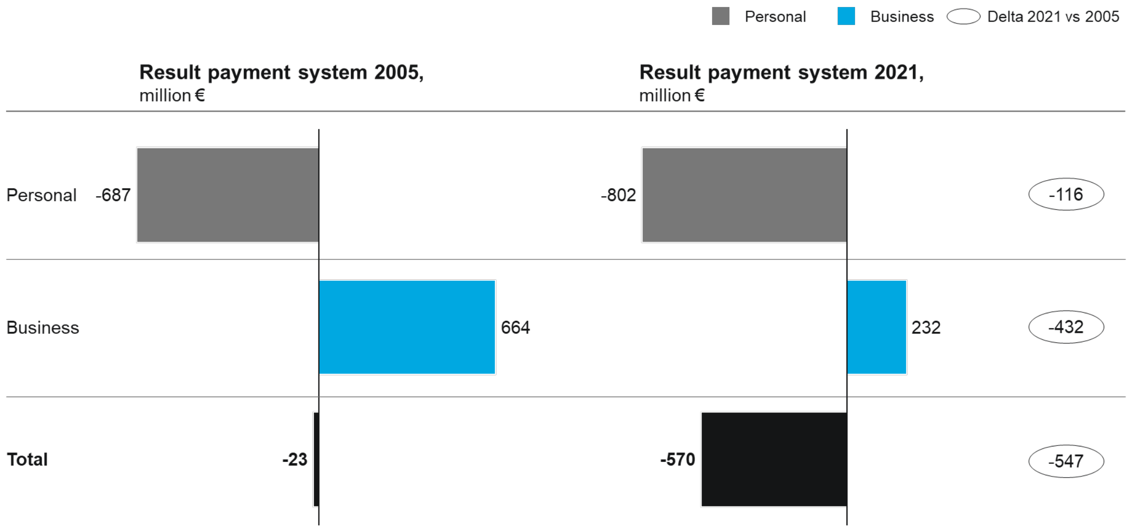
# 6. Results compared to 2005

The study performed in 2005 revealed that in total Dutch banks made a loss of €23 million before tax on payment services. The margin on payment services was -0.6% on a total of €3,996 million’s worth of revenues. This resulted in a cost-income ratio of 100.6%. At the time, this ratio for the entire Dutch banking sector was around 70%. Banks incurred a loss of €2,664 million on executing payment transactions and offering payment accounts, primarily from servicing payment accounts (€1,215 million) and payment transfers and point-of-sale payments (€1,365 million, including a loss of €779 million on cash). In contrast, revenues from account balances, the interest margin that banks capture by lending money that individuals and companies keep on their payment accounts (both credit and debit balances), resulted in a positive contribution of €2,640 million. €2,504 million of this is attributable to credit card balances. This represents an interest margin of 2.7% on the total credit card balances of €93 billion. The share of balance revenues in 2005 was 66%, whereas the share of transaction and management revenues was 36%.

In 2021 the Dutch payment services market incurred a loss of € -570 million before tax. This marks an increase in losses of € 547 million compared to 2005, resulting in a cost-income ratio of 115.6% compared to 100.6% in 2005, whereas this ratio for the Dutch banking sector has remained stable at around 70%.

The drop in result in 2021 compared to 2005 is largely driven by a decrease in the business banking segment (€664 million profit in 2005 compared to €232 million in 2021, a drop of €432 million or 65% over the 2005-2021 period). The retail banking segment proved to be more loss-making as well, although to a lesser extent than the business banking segment (€687 million loss in 2005 compared to €802 million in 2021, a drop of €115 million or 17% over the 2005-2021 period) (Figure 21).

**Figure 21: Banking result for payment services in 2021 compared to 2005[35]**

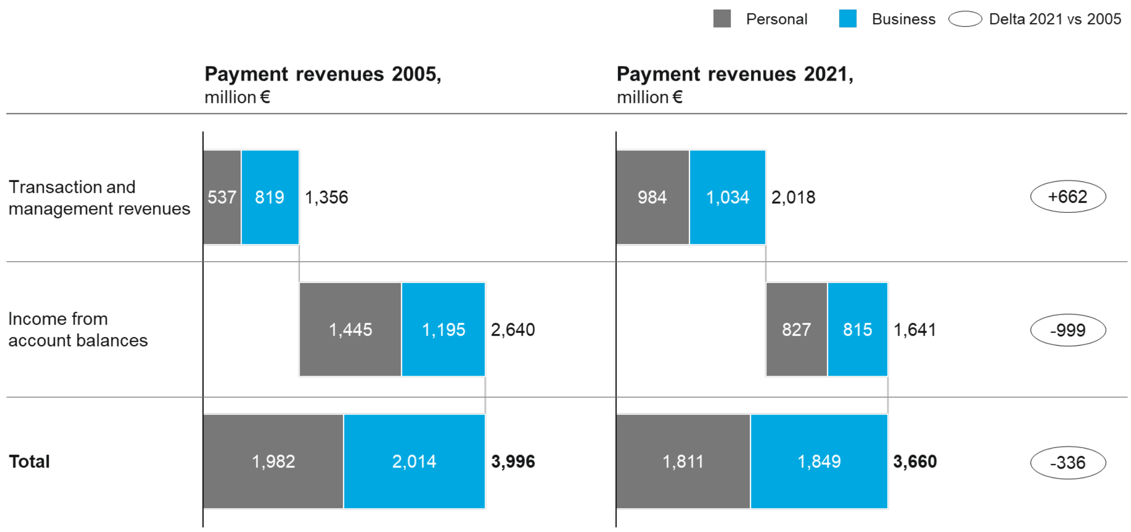



Total payment services revenue amount to €3,660 million in 2021, a drop compared to 2005 (€3,996 million) of €336 million (8%), mainly due to a decrease in net interest income, that is only partially offset by an increase in transaction- and periodic fees. In 2005, 66% of total revenues was derived from net interest income (€2,640), falling to 45% in 2021 (€1,640 million) due to the falling interest rates, even though outstanding balances increased over the 2005-2021 period. Net interest margins allocated to payment services fell from 2.7% to 0.53%, while the total of outstanding balances on payment accounts (credit balances) increased from €93,000 million in 2005 to €310,733 million in 2021.

On the other hand, transaction and servicing (periodic and incident) revenues increased from €1,356 million (36%) in 2005 to €2,018 million (55%) in 2021 due to a combination of growth in number of transactions and accounts but also due to increases in fees (Figure 22).

[35] 35 Note: In the 2006 final report, these results were presented slightly differently (€708 million profitability for the business segment and €642 loss for the retail segment). The difference can be explained by a different scope: this result did not include credit cards and cross-border payments (€89 million), which was not allocated to a segment at the time. This has now been done pro rata to ensure comparability with 2021.

**Figure 22: Total banking payment revenue in 2021 compared to 2005**



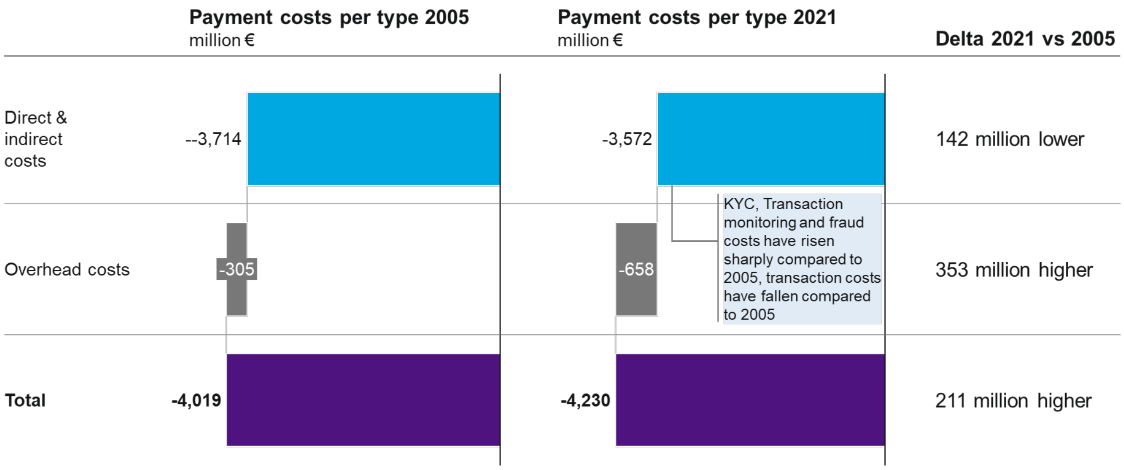

In 2021 total costs increased by €211 million compared to 2005 (5.2%) (Figure 23). Increased regulation has increased risk and compliance costs compared to 2005, whereas transaction costs have fallen. Nonetheless, Dutch payment services has become more efficient, as evidenced by the volume of payment transactions. Whereas the volume of cashless transactions has risen from 4,010 million in 2005 to 9,937 million outgoing transactions in 2021, or 250%[36], total costs have risen by just 5.2%, indicating an increase in efficiency. The efficiency is mainly from optimization in direct and distribution costs, e.g. through digitization and collaboration efforts.

It is important to mention that the comparison of results between 2005 and 2021 has not been adjusted for inflation. Total increase in price levels in the Netherlands over this period was approximately 28%, corresponding to annual inflation of 1.5%. Banks' overall costs over this period increased by just 5.2%, again indicating an increase in efficiency for banking payment services.

Banks have not directly passed on the inflation-related cost increase in their fees. That said, transaction and account servicing revenues increased by 48% between 2005 and 2021 (€662 million), although the increase in transaction volumes was considerably larger (250%). This implies that the increase in total revenues is due to increased volumes. Fees (transaction and account servicing fees) per outgoing transaction dropped from ~€0.34 in 2005 to ~€0.20 in 2021.

[36] Note: The number of transactions in 2021 only includes outgoing transactions (~10 billion, e.g. payment transfers, card transactions), excludes incoming transactions (~6.5 billion merchant services, of which ~5.5 billion banking merchant services).

**Figure 23: Total banking costs of payment services in 2021 compared to 2005**



# 7. Validation reference year 2021

The previous chapter discussed the results of the 'snapshot' in 2021 of the costs and revenues of payment services in the Netherlands. This chapter elaborates on why 2021 in the context of the COVID-19 pandemic and low interest rates is a representative year for the payments services market in the Netherlands.

The effects of COVID-19 on payment services in 2021 is mostly seen in a reduced overall number of transactions (fewer purchases made during the lockdowns) and by a change in the payment services mix (fewer transactions through cash, and cashless transactions happening more online than in-store).

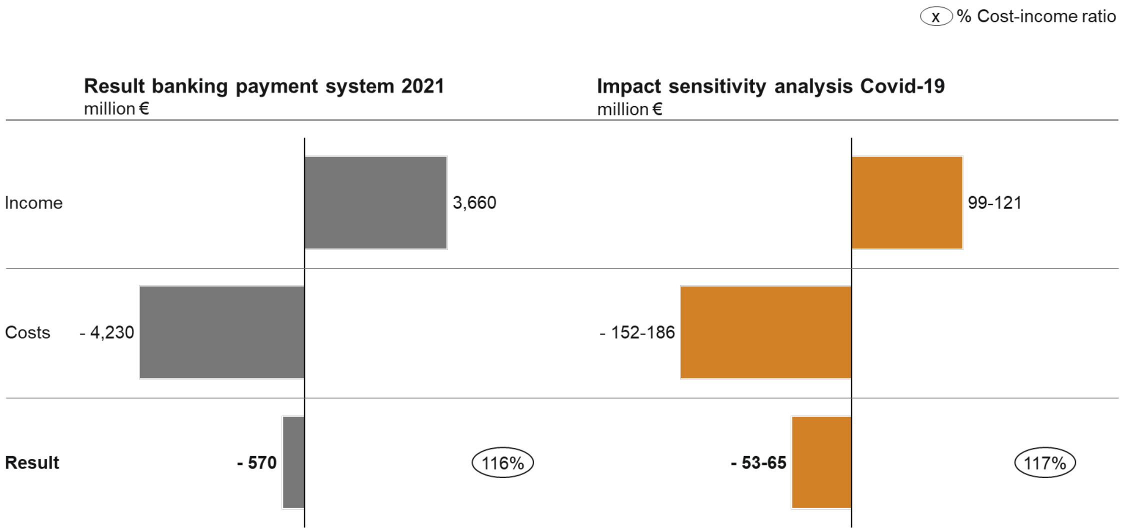
On the other hand, the impact of the low interest rate in that same year is also considered, affecting payment services revenues.

Both factors will be examined below based on several sensitivity analyses. These analyses were performed using the data supplied by the participating banks (i.e. excluding the outside-in estimate for non-banking players).

## 7.1 Impact of COVID-19

Als de variabele kosten en opbrengsten van het betalingsverkeer (kosten en opbrengsten die If the variable costs and revenues of payment services (costs and revenues dependent on the total number of transactions) for cash transactions, in-store card transactions and online transactions are scaled to correct for COVID-19, then this would equate to €152-186 million additional costs for banks, and €99-121 million additional income. That would mean a drop of €53-65 million in the operational result (Figure 24).

**Figure 24: Impact sensitivity checks reference year 2021 COVID-19 (banking)**




During the COVID-19 pandemic there has been a shift in payment mix. In addition, more money was saved by households over this period. Both factors affected the overall number of transactions in 2021, both in terms of the number of cash and in-store debit card transactions and in terms of the number of online transactions.

If the historical growth rates for the number of in-store card transactions and online transactions over the 2016-2019[37] period are extrapolated to 2020 and 2021, the number of in-store card transactions would be 21.0% higher and the number of online transactions would be 4.9% higher than the actuals in 2021. This corresponds to an absolute rise of 946 million in-store card payments and 58,000 online transactions. In addition, €28.3 billion's worth of cash transactions would have been performed (rather than €20.0 billion), an increase of 41.7%.

More detailed examinations of each of these two effects of COVID-19 on Dutch payment services are given separately below, these effects being a lower number of cash payments and a change in the payment mix from electronic POS transactions (or in-store card transactions) to online transactions.

## Lower volume of cash transactions

Since 2003, the number of in-store cash transactions has been falling while the number of card transactions has been rising. Nevertheless, the shift towards electronic payments was accelerated by COVID-19. The reduced usage of cash during the COVID-19 pandemic is the result of discouraging face-to-face contact during transactions to minimise the risk of infection (on the one hand due to closing shops during lockdowns and on the other hand due to a deliberate policy of encouraging contactless payment). As a result, the underlying transaction value for in-store cash transactions decreased by 5.6% between 2016 and 2019 yet fell by 34.4% in 2020. Encouraging (contactless) card transactions during the pandemic had a clear effect on cash usage. However, this drop did not

[37] 3-year (2016-2019) growth rates included to provide as faithful a picture as possible of historical growth, with 2020 omitted from consideration due to it being a year in which the impact of COVID-19 on payment traffic was already more than evident.

continue to the same extent in 2021, when the underlying value of cash payments decreased by 4.8%.

If one were to assume the same historical percentage drop in the value of in-store cash transactions for the years 2020 and 2021, then € 28.5 billion's worth of cash transactions would have been performed at the point of sale in 2021 rather than € 20.0 billion (the actual amount in 2021). Based on the historical growth rate, the total value of cash withdrawals would have been € 33.9 billion rather than € 23.0 billion, and the total number of cash withdrawals would have been 206 million (rather than 119 million). Transactional revenues for cash transactions are scaled pro rata with the hypothetical increase in the number of cash withdrawals had the pandemic not happened. Variable cash costs are dependent on the number of withdrawals and on the withdrawal amount (value). Both factors are scaled with the increase in the number of cash withdrawals and total withdrawal amount, respectively.

The above exercise results in €89-109 million in additional costs and €55-68 million in additional income, reducing the operating result by approximately €34-42 million. In contrast, the number of electronic payments and associated costs and revenues would be lower with an increase in cash transactions. This would ultimately bring the estimated impact on the operational result to minus € 32 to 40 million. Hence the accelerated drop in cash usage in favour of electronic payments had a positive effect of approximately €32-40 million on the Dutch payment services result in 2021.

## Shift from in-store electronic payments to online payments

There were nationwide lockdowns in force for several months in 2021, which limited the extent to which in-person purchases could be made (at point-of-sale merchants). Hence, relatively fewer in-store card transactions were performed over this period, but the share of online transactions was higher. This was also the case for 2020, which was a year also disrupted by the pandemic. Whereas the number of online transactions increased by 31.0% per annum on average over the 2016-2019 period (and the number of in-store card transactions increased by 8.8%), there was a 30.2% increase in online payments in 2020 (versus a 2.5% fall in in-store card payments). This shift from in-store card transactions to online transactions levels off in 2021, with a rise of 27.1% in online transactions compared to a rise of 0.2% in in-store card transactions.

If the growth over the 2016-2019 period were to have continued for these two types of transactions, then the share of online transactions within merchant services would have been 18.7%, in contrast to the actual share of 20.9% in 2021. Since the cost and revenue structure for online transactions differs from that of in-store card transactions, this will also influence the total costs and revenues of Dutch payment services. It is estimated that this would increase total costs by €5-6 million and total income by around €3 million, which amounts to a downward shift in the operating result of approximately €2-3 million. Nevertheless, banks, stakeholders and industry experts agree that this will probably be a lasting phenomenon and that the share of online transactions will continue to increase over the next few years.

## 7.2 Interest rates

On the one hand, lower interest rates in 2021 led to lower interest income on invested capital (fixed-rate loans). On the other hand, low interest rates also had a positive effect on interest income through higher balances on payment accounts and more negative interest passed on to customers. The scope of the impact for net interest income of these effects from 2020 to 2021 is jointly estimated at € 71 million negative to € 111 million positive (Figure 25).

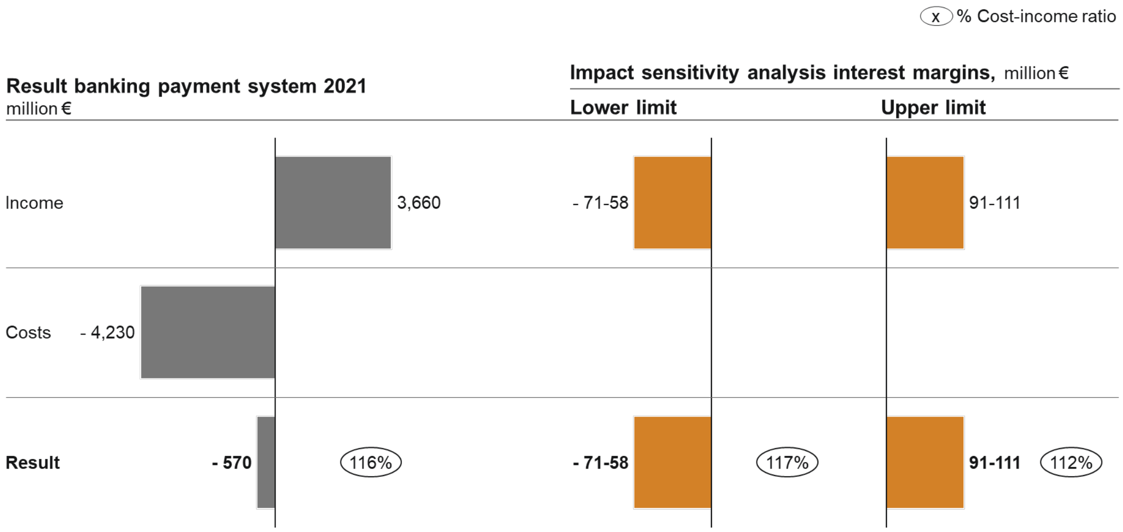
In monetary terms, 2021 was characterised by historically low interest rates. On the one hand, this had a negative impact on banks' net interest revenues through declining yields on fixed-interest loans. Banks put their account holders' balances against bonds (fixed-interest loans) with different maturities (time after which the bond is repaid to the lender). On the other hand, banks received relatively more interest revenues in 2021 due to charging negative interest to payment account holders with balances over a certain threshold. Banks changed this negative interest threshold from €100,000 to €150,000 in 2021. The deposit rate – the interest that banks receive or pay for depositing money risk-free with the central bank – is set by the ECB and has been -0.5% since 18 September 2019. Banks' partial passing on of this expense to account holders had a positive effect on net interest revenues from payment accounts. In order to test the sensitivity of both developments, a range is being calculated for possible net interest revenues for the year 2020.

To calculate the impact of the adjusted interest rate from 2020 to 2021 on the overall payment services result, various factors are significant:

- On the one hand, the change in **effective interest rate** related to interest-bearing loans. For 2021 it has been calculated that banks used capital from outstanding balances on payment accounts subject to interest with an average duration of 6.2 years. If the same duration is assumed for interest-bearing loans in 2020, this assumes a change in the effective interest rate received from fixed-interest lending of payment account balances. Multiplying the interest rate on interest-bearing credit balances for 2020 by the total of outstanding balances on payment accounts in 2020 (16% lower in 2020 than in 2021) gives the interest revenues on capital lent by banks from payment accounts. Interest revenues on interest-bearing capital should be higher in 2021 than in 2020 due to the higher interest rate in 2020;
- On the other hand, income from **negative interest** was lower in 2020, as less negative interest was received from payment account holders. After all, the balance threshold for negative interest was higher in 2020 than it was in 2021.

If the interest received from customers in 2021 were to be between 50% and 80% of the interest received in 2020 (relative to outstanding balances on payment accounts), this would have an impact of minus €71-58 million (50%) to plus €91-111 million (80%), corresponding to a cost-income ratio of 117.4 to 117.9% and 112.2% to 112.8% for banking payment services. This range is relatively large due to the unknown value of negative interest received from customers in 2020. If the interest received were to halve (50%), then net interest revenues in 2020 would have been lower than they were in 2021. If the interest received were to fall by just 20%, then net interest revenues in 2020 would have been higher than they were in 2021.

**Figure 25: Impact sensitivity checks reference year 2021 interest rates (banking)**



# 8. Outlook

Stakeholders involved in this study requested an outline of the possible effects of future developments on the costs and revenues of payment services. These developments are described below and may form the basis for more detailed research and further discussions once this report has been published.

## 8.1 Interest rate development

The interest rate has been low for quite a while, and 2021 was also characterised by extremely low interest rates. In addition, negative interest was increasingly charged to retail and business customers on payment accounts, as banks further lowered the balance threshold for negative interest in 2021 (usually from €100,000).

Given the high dependence of the Dutch payment system on net interest revenues (i.e. 45% of total revenues in 2021 were net interest revenues), the evolution of the interest rate is relevant for providing a perspective on the future outlook.

With the (announced) increases in deposit rates by the ECB (since June 2022) income on interest-bearing credit balances (e.g. on bonds) of banks may increase in the future. It is unlikely that net interest revenues from payment services will shift exactly in line with these rising interest rates, given that net interest revenues depend on multiple components, namely: 1) the interest rate for fixed-interest capital, 2) the total outstanding balances on payment accounts, and 3) the proportion of interest rate income that is paid to (or received from) account holders. If 2022's higher interest rate levels persist for a longer period, then banks' interest revenues could end up higher over the next few years than they were in 2021. However, the extent to which this will occur is uncertain, given the uncertainty of the future value of the underlying components:

- Firstly, income from fixed-interest capital will increase but with a delay, as banks hold interest-bearing assets with a certain duration (~6 years in 2021). This means that rising interest rates will only affect more recent interest-bearing credit balances being traded at higher interest rate margins, but will not affect the historical portfolio;
- Furthermore, in a climate of rising interest rates, a decrease in outstanding balances on payment accounts is expected (in favour of savings accounts). After all, with higher interest rates, account holders will receive more interest on savings deposits than they will receive on payment accounts. A precise quantification of this effect is uncertain as a long-term rise in interest rates has not occurred in the past decade and the necessary data is therefore hardly available. Moreover, the expected total assets of payment account holders and savings account holders will also change over the next few years (e.g. due to inflation), which creates additional uncertainty in determining future balances of payment accounts;
- Lastly, in 2021, banks received interest income from payment accounts through charging negative interest on high account balances (usually a threshold from €100,000). This situation could change in the future, resulting in a drop in income from negative interest.

Going forward, banks might also need to pay interest on payment account balances to their account holders, which is particularly relevant for the business segment. This could lower future net interest revenues from payment services.

## 8.2 Change in the payment instrument mix

Given historical trends of the use of various payment instruments and the lasting influence that COVID-19 has had in that regard, a further shift in the payment instrument mix is plausible. Specifically, this can concern a further decline in cash transactions (with a shift towards more debit card transactions), and continued growth in online payments and the arrival of online debit card payments.

DNB’s CITO report issued in 2021 provides insight into the expected development of the role of cash within Dutch payment services. This report highlights the expectation that the use of cash will continue to decline at the current pace, possibly levelling off in the longer-term. In 2021, 20% of point-of-sale transactions were cash, and is likely to fall to 5%, similar to current cash usage in Sweden and Norway. With associated fall in cash withdrawals and cash deposits, total cash costs for banks will drop, but the costs per cash transaction will increase further due to the need to maintain the cash chain infrastructure (Geldmaat infrastructure, owned and financed by the three major Dutch banks).

A shift is occurring at physical retailers from cash transactions to debit card transactions. The annual growth of debit card transactions of 4.7% between 2016 and 2021 will most likely continue going forward. At the same time, the number of online transactions increased more steeply over this period, with average growth of 30% per annum. These developments will have an effect on the costs and revenues for debit card transactions and online transactions within the payment services market in the Netherlands.

## 8.3 Future one-off investments

As was the case in 2021, one-off investments will be executed in the future for the purposes of optimizing payment services. The objective of these investments could vary from year to year, but the expectation is that the extent of these one-off costs will not differ on an occasional basis from previous years (just like in 2021, and in 2005). They could relate to topics such as creating Open Banking APIs, implementing the ISO 20022 electronic messaging standard (cross-border, already implemented for SEPA payment services), the launch of the Digital Euro (CBDC), support for European payments initiatives (EPIs) or the further introduction of new payment products, such as RTPs (Request to Pay).

## 8.4 Possible change in risk management and compliance costs

As chapter 4 showed, risk management and compliance costs make up a substantial proportion of the total payment costs by banks (~20%, or €885 million). Some of these costs (~€60-110 million) represented so-called ‘remediation’ costs. Strictly speaking, it may be that this remediation will be over within a certain time frame and the costs might fall due to collaboration or digitisation in the risk management and compliance space, but at the same time the costs for risk management and compliance could also rise over the next few years (and therefore require additional investments and 'remediation'), e.g. due to new or tightened regulations.

## 8.5 Inflation

Worldwide inflationary developments over the past year have impacted on costs and revenues in various sectors. The Dutch payment system is also subject to inflation and payment services costs could rise as a result. The extent to which Dutch participants in the payments sector will be able to respond to this trend by increasing price levels will differ from payment product to product. In addition, there is uncertainty surrounding the degree to which the current high level of inflation will persist over the longer term. Growing inflation could push up costs for payment services. Revenues based on a percentage of transaction volumes could grow in tandem with these costs. However, given its dependence on (low) fixed transaction fees (rather than percentage charges), inflation could result in further losses for the Dutch payment system. Furthermore, inflation also impacts interest rates, but given the six-year average duration, it is expected that it will take several years for an interest margin pushed up by inflation to have a significant impact on the overall result. These various tendencies could indicate that inflation is more likely to have a negative impact on the market result in the Netherlands, unless inflation can directly be passed on in transaction fees.

# 9. Insights

Several important observations emerge from the study to the costs and revenues of the Dutch payment system for banks in 2021:

- Payment services in the Netherlands are not profitable for banks. Banks are making an aggregate loss of €570 million. In 2005, this was a collective loss of just €23 million. Hence the loss increased with €547 million. This loss is mainly caused by a drop in net interest revenues on the one hand and by an increase in risk management and compliance costs on the other hand (20% of the total costs in 2021);
- Business and retail segments show significantly different results for payment services. A profit of €232 million (cost-income ratio of 87%) is realized in the business segment compared to a loss of €802 million (cost-income ratio of 144%) in the retail (private) segment;
- Within the current costs and revenues model for the Dutch payment system, banks are making a loss on all payment products except on credit cards and account servicing. It should be noted that the costs of specific payment products that are included with a payment account, are attributed to those products (such as cash deposits and withdrawals, credit transfers and payment cards) The positive result on account servicing (€567 million), consists mainly of positive interest revenues. Transaction fees contribute to the positive result for credit card transactions (€132 million for outgoing transactions). Dutch banks are making a total loss of €1,270 million on the aggregate of cash, credit transfers, debit card transactions (issuing), merchant services and non-SEPA payment transactions;
- When Dutch profitability is placed in a wider European context it shows conclusively that the Dutch payment system is significantly loss-making (-13%) whereas the European average is profitable (+33%). The negative margin for Dutch payment services compared to other European countries can be explained by relatively low income from fees, for debit card transactions amongst others.The Dutch transaction (interchange) fees do not cover transaction costs. Therefore Dutch payment services are more dependent (45%) on net interest income for its total revenues compared to the European average. This is apparent in the share of balance revenues from account servicing in the private segment that is roughly a quarter higher in the Netherlands (57%) than in Europe (46%);
- Nevertheless, the Dutch payment system is extremely efficient: transaction volumes have more than doubled (250%) compared to 2005, whereas costs have only risen by 5%. Moreover, payment transaction costs are lower than the European average for both the business and the retail segment (~30% compared to GDP).

The above observations provide a solid basis for more detailed discussions on future-proofing the Dutch payment system.

# Appendix 1: Stakeholders involved

## Bank expert sessions

- Wouter Bartels (ABN AMRO)
- Maurice Hemelaar (ABN AMRO)
- Bernard Korver (ABN AMRO)
- Niek Smits (ING)
- Chiel Keijzer (ING)
- Patricia van Starkenburg-Vlek (ING)
- Han Joosten (Rabobank)
- Edwin Sanders (Rabobank)
- Robert Renskers (de Volksbank)
- Arjen Brans (de Volksbank)
- Carlo Winder (DNB)
- Nicole Jonker (DNB)
- Frans van Beers (Dutch Payments Association)
- Miriam Osten (Dutch Payments Association)
- Renate de Vree (Dutch Payments Association)

## Payment institution expert sessions

- Paul Scholten (Buckaroo)
- Diederik van Wijnbergen (Buckaroo)
- Jan Hartjes (CCV)
- Enny van de Velden (CCV)
- Mireille Melis (CM.com)
- Noor Pierik (CM.com)
- Maurice Jongmans (Online Payment Platform)
- Michiel Rouppe van der Voort (Worldline)
- Bart Tieben (Worldline)
- Nicole Jonker (DNB)
- Marnix Blom (Dutch Payments Association)
- Miriam Osten (Dutch Payments Association)

- Renate de Vree (Dutch Payments Association)

### Stakeholder workshops

- Paul Alfing (VNO-NCW en MKB-Nederland)
- Janwillem Burgering (NSO)
- Mark Drabbe (Consumentenbond)
- Michel Dekker (VGI)
- Just Hasselaar (Thuiswinkel.org)
- Martijn van der Kolk (BETA)
- Eus Peters (RND)
- Paul Schoormans (KHN)
- Nicole Jonker (DNB, observer)
- Annick Besançon (MinFin, observer)
- Anna-Sophie Steinbach (MinFin, observer)
- Wouter Bartels (ABN AMRO)
- Gijs Boudewijn (Dutch Payments Association)
- Miriam Osten (Dutch Payments Association)
- Renate de Vree (Dutch Payments Association)

### Steering committee/sponsor group

- Erica Kostelijk (ABN AMRO)
- Narjiss Aydoun (ING)
- Michiel Kwaaitaal (Rabobank)
- Joyce van der Est (de Volksbank)
- Inge van Dijk (DNB)
- Gijs Boudewijn (Dutch Payments Association)
- Miriam Osten (Dutch Payments Association)
- Renate de Vree (Dutch Payments Association)

### Other

- Netherlands Authority for Consumers and Markets (ACM) employees
- Ministry of Finance employees

# Appendix 2: Sources

In addition to the confidential data supplied by the various parties involved in this study, the following, publicly accessible sources were used:


- ABN AMRO – Interchange Fee Regulation (2022)
- Adyen – Annual Report (2021)
- Adyen – Fees (2022)
- Buckaroo – Payment Methods & Fees (2022)
- CCV – Payment Solutions Overview (2022)
- CCV – Fees Payment Methods (2022)
- CM.com – Card Terminal Overview (2022)
- Currence – Annual Report (2021)
- Currence – Fees iDEAL (2021)
- DNB – Payments at the Point of Sale (2021)
- DNB – The Future of the Cash Infrastructure in the Netherlands (2021)
- DNB – DNB Vision on Payment 2022-2025 (2022)
- ECB – Payment Statistics Netherlands (2021)
- DNB – Interest and Capacity for Change (2022)
- ECB – Statistical Data Warehouse (2022)
- ECB – Study on the Payment Attitudes of Consumers in the Euro Area (SPACE) (2021)
- EMS – Overview Fixed Fees (2022)
- European Mobile Payment System Association – General Report (2022)
- ESB - The Payments Sector has Sufficient Profitable Niches for Small Businesses (2022)
- ING – Pricing for Processing Transactions using Debit and Credit Cards (2021)
- Mastercard – Interchange Fees (2022)
- Mastercard – Interchange Fees The Netherlands (2022)
- McKinsey & Company – Payment Traffic in the Netherlands: a Study of the Costs and Income for the Banking Sector (2006)
- McKinsey & Company – Finalta (2022)
- McKinsey & Company – Global Banking Pools (2022)
- McKinsey & Company – Global Payments Map (2022)
- McKinsey & Company – Panorama (2022)

- McKinsey & Company – PFIC (2022)
- Mollie – Fees Overview (2022)
- Panteia – Costs of Online Payment Traffic for Point-of-sale Establishments (2020)
- Panteia – Costs of Point-of-sale Payment Traffic (2020)
- Rabobank – Interchange Fee (2022)
- Thuiswinkel.org – Market Monitor (2021)
- Visa – Interchange Fees (2022)
- Visa – Interchange Fees The Netherlands (2022)
- World Bank – Global Financial Inclusion Databank (2022)
- Worldline – Credit Card and Debit Card Acceptance (2022)
- Worldline – Point-of-sale Payment Terminals Price List (2022)
- Worldline – Universal Registration Document (2021)
- WorldPay – Global Payments Report (2021)

# Appendix 3: Consultative forums

The following consultative forums were used during the study:

- **Bank expert sessions**: the aim of these sessions was the methodology and to solve issues that transcend individual banks during the data collection phase. The sessions were attended by the banks' payments experts at advisory council level and their colleagues who were involved in supplying the data, as well as by payments experts from the Dutch Payments Association and DNB. These sessions were held on a weekly basis during the first phase, with the frequency being adjusted to bi-weekly during phases 2 and 3;
- **Payment institution expert sessions**: the aim of these sessions was the methodology and to validate the results specifically with regard to the acceptance side within Dutch payment services ("merchant services"). The sessions were attended by the payment institutions' experts as well as by experts from the Dutch Payments Association and DNB. During these sessions, feedback was given on the outside-in estimate of the total costs and revenues of the merchant services market. These sessions were held three times over the course of phases 1 and 2. The banks' experts also attended one of the sessions;
- **Stakeholder workshops**: the aim of these sessions was to test and endorse the methods and the results of the costs and revenues analysis based thereon, without passing judgement on it. The meetings were attended by representatives of the aforementioned stakeholders, a representative on behalf of the banks collectively, a representative from DNB and several representatives from the Dutch Payments Association. These sessions were held at least once in each phase, for a total of five times;
- **Steering committee**: this consisted of bank representatives at the level of the Executive Board of the Dutch Payments Association, the directorate of the Dutch Payments Association and a representative from DNB. The steering committee met at the end of each phase;
- Alongside the specific stakeholder workshops, a wider group of stakeholders was informed through the **Dutch Payments Association's stakeholder forums**. Thus keeping other representatives of consumers, entrepreneurs, major payment transfer users and ministries abreast of the developments.