Cash Report 2011

G4S

Securing Your World

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* Note: Organisations and titles in the text marked with an * are taken on page 48.

For centuries, cash has been the most important means of effecting payment transactions. Not until the 20th century did serious competition arrive in the form of cheques, various electronic substitutes and debit and credit cards and, since the beginning of this century, with a variety of electronic and other contactless means of payment. Accordingly, the relative share of cash used in retail transactions has experienced a decline over the last decade. Whether and to what extent this trend will continue is virtually impossible to predict.

Various indicators suggest that a wholly cashless society is unrealistic. Rather, we seem to be moving towards – or seeking – a new balance in the proportion of cash and electronic payments. The two main drivers in this process are efficiency (including in costs) and safety. Ultimately, however, it is the customer who decides how to pay.

From a social standpoint, the Netherlands has much to gain from a payments system that is robust, efficient, safe and as inexpensive as possible. The key question, as we see it, is this: What shape should such a system take in order to meet the demands of the future? Moreover, are the various stakeholders – most importantly the major banks, the De Nederlandsche Bank (DNB)*, retail establishments, central government and

sector partners – capable of jointly realising such a payments system?

The payments system in the Netherlands is a current focus in various discussions platforms, which involve most of the forenamed stakeholders, and in which a range of stakeholder interests are at play. The banking world is pushing for a transition from cash to electronic payments, as evidenced in both banks' day-to-day services and the information they put out to the public. Retail establishments are struggling to strike the difficult balance between safety, costs, competitive position and consumer convenience. The central government, for its part, has diverse stakes in payment transactions, reflecting its diversity of public roles, and therefore cannot claim any single, unambiguous position. Consumer demands play only a very limited part in policy formation, despite the fact that they, for reasons elucidated in this Cash Report, are still making full use of cash payments and are likely to continue to do so.

The simple fact is that as long as there are cash transactions, both the individual consumer and society as a whole are served by ensuring that cash is as safe and efficient a means of payment as possible. Since cash circulates in a chain cycle, such assurance can only exist when all links in the chain are coordinated and willing to continue investing in its maintenance. Banks, retailers, the government and the cash sector must step up their joint efforts to develop a shared vision and strategy for making the cash-cycle safer and more efficient. This Cash Report seeks to provide a unbiased description of the positions of all stakeholders in the cash domain. To this end, we have left suitable representatives of leading stakeholders in the cash domain to speak in their own words, limiting ourselves to elucidating how their views tie together as based on our own desk research.

'Cash is here to stay, which means we also need to have a plan in place for dealing with it.'

Jos van der Stap,
National Coordinator on Robbery,
Korps Landelijke Politiediensten (KLPD)

This document seeks to lay a factual foundation for a more integral discussion between all stakeholders on the most desirable scenario – not least from the public perspective – for our future cash transactions.

Gert Askes
Managing Director G4S Cash Solutions
The Netherlands/Belgium

Paul van der Knaap
Director Solutions G4S Cash Solutions
The Netherlands/Belgium

1 Introduction

1.1 Management Summary

This document seeks to provide an unbiased description of the position of each stakeholder in the cash domain and discusses the various interests at play in this domain and how they tie together.

> *'It is a proven fact that people's patterns of expenditures depend on the form their money takes.'*
>
> Henriette Prast,
> Professor of Personal Financial Planning
> Tilburg University

Section 2 provides an overview of ***facts and figures,*** including how much money is in circulation, the frequency of electronic and cash payments and the average value of transactions. Though there is a clear rise in the total volume of PIN transactions, the volume of cash transactions is not yet showing any real signs of decline. This indicates that the total volume of transactions is continuing to grow in this country. This section also provides a description of the cash-cycle: cash changes hands constantly and has a life cycle that starts with production and distribution and eventually ends with destruction.

Section 3 addresses the question of ***why cash continues to be the most common form of payment despite the success of paying by PIN card.*** Here we must look to several unique attributes of cash such as the fact that it is anonymous, tangible and allows 'direct settlement'. The use of cash also offers a number of definite advantages from the consumer perspective, including the possibility of budgeting expenditures. A common misconception is that the use of cash is perceived as unsafe. To conclude this section, we explore the question of whether cash currency costs society more than cashless funds; as it turns out, a question to which is there is no simple answer.

Section 4 describes ***the position of various cash domain stakeholders*** as regards cash and the use of cash. Seeking to save costs, the major national banks are pursuing a definite policy of discouraging the use of cash and promoting the use of electronic payment methods. And yet this policy is not actually supported by any hard data as it is almost impossible to ascertain whether a cash payment costs a bank more, as much or less than an electronic payment. For retailers, cash is both a blessing and a curse. Where major retailers would prefer, for safety reasons, to do away with cash in their shops altogether, small and medium-sized enterprises (SMEs) tend to opt for cash or a combination of cashless and cash funds

– either because they fear falling foul of customers, losing revenue or, occasionally, because cash payments are simply convenient. And whilst other retail establishments are not against cash in theory, individual views differ widely. This section also discusses the position of the central government, for which cash represents an irreplaceable source of revenue. At the same time, it is in the government's interest that as many payments as possible are made electronically. After all, electronic cash flows are more controllable and therefore simplify processes like taxation, combating black money and tracking down criminal monies. The section concludes with a discussion of the position of the cash sector, which is striving to build the safest and most cost-efficient possible cash-cycle. The sector is expected to undergo rapid development in the period to come, with existing service providers placing an increasing focus on chain management and evolving into total solutions providers. Before that can happen, however, a number of legislative, regulatory and other obstacles will first need to be removed.

'Business owners are keen to deal with cash in a way that's safe and cost-efficient.'

Els Prins, Secretary for Copyright, Payments and Criminality, MKB Nederland

Last but not least, ***Section 5*** deals with the ***future of cash,*** premised on the idea that it is unlikely that cash will ever entirely disappear. There are simply too many advantages to using cash, and too many drawbacks to relying – exclusively or in part – on electronic payments. We may well ask whether the decline in cash transactions should even be seen as a favourable development. In point of fact, no payments system in the world – including a funds transfer system – can be sustained without backup. In the case of transfer transactions, that backup is cash. Not only can the critical systems that support cashless transactions be affected by major or minor malfunctions but the security of data or other components can also be at stake. In such circumstances, cash will prove invaluable. Equally true, however, is that cash comes with certain drawbacks that need to be minimised in order to keep the costs for society and for each individual stakeholder as low as possible and to guarantee the safety of cash users. Since cash circulates in a chain cycle, such assurance can only exist when all links in the chain are coordinated and willing to continue investing in its maintenance. The Cash Report 2011 ends by advocating an approach of envisioning possible scenarios and of cooperation between all parties involved in the cash-cycle in order to shape a shared vision of the future of cash in the Netherlands and keyed to realising the safest and most efficient cash domain.

1.2 Approach and methods

The Cash Report 2011 seeks to paint as objectively as possible a picture of the cash domain in the Netherlands. We consider how it has evolved over the years and place the Netherlands in the European context. We have drawn on a diverse range of written sources compiled by myriad parties with a stake in the payments system. Citations from these sources are noted in the text and an overview of the publications used is provided in the appendix.

We further conducted an extensive series of interviews with specialists and professionals from organisations and enterprises with a direct or indirect stake in the cash-cycle in the Netherlands. These interviews focused primarily on the specific interests of individual organisations in our cash domain and their views on safety, costs and future trends.

Interviewees were selected to offer a representative sample of the various roles and interests tied up in the Dutch cash-cycle, presented in their own words so as to provide as true and objective as possible a reflection of the cash domain as a whole. The names of all interviewees are provided in the appendix. The transcripts of these discussions are confidential and cannot be released; however, the present document does include information paraphrased from the transcripts. Quotes have been taken directly from these interviews and were approved by the interviewees. If discussions between cash domain stakeholders are to be constructive, it is important that we have common recourse to clear sources, supported along the way by a consistent approach and methods. To facilitate this process, we intend to repeat this study at regular intervals in the future.

> *'An efficient payments system is contingent on good organisation and the right scale. And the right scale is the product of good cooperation.'*
>
> Piet Mallekoote,
> Managing Director Currence


ECB EZB EKT EKP 2002
200
100

2 The cash domain in the Netherlands

2.1 What is money?

In its entry for 'money', Wikipedia provides the following definition: 'Money is any object or record that is generally accepted as payment for goods and services and repayment of debts in a given country or socio-economic context'. The main functions of money cited are: a medium of exchange, a unit of account, a store of value and, infrequently, a standard of deferred payment.

There is an essential distinction to be made between cash and cashless funds. In the Cash Report 2011, cash refers to currency; that is, banknotes and coins. Accordingly, the cash domain encompasses all areas in which cash changes hands within the national boundaries of the Netherlands. The present document considers the cash domain in the context of the Dutch payments system as a whole, thus including cashless transfer transactions. If we narrow our focus to cash transactions, then banknotes and coins are the media used to make cash payments. Both media are forms of 'legal tender'. In circulation at present are banknotes in seven different denominations[1] and coins in eight denominations[2]. In 2004, the Dutch collective of retail establishments and commercial banks signed an agreement to round payments off to the nearest EUR 0.05. As a result, coins in the denominations of EUR 0.02 and EUR 0.01, though still qualifying as legal tender, have all but stopped circulating.
In the Netherlands, De Nederlandsche Bank (DNB)* holds the exclusive right to issue euro banknotes, in accordance with the Bank Act 1998[3].

2.2 Money is trust!

Since leaving the Gold Standard in 1936, the Dutch payments system has been based on fiat money. Fiat money has no intrinsic practical value as a physical commodity. Banknotes are in truth little more than sophisticated pieces of paper to be used as debt instruments, indebting DNB to pay the holder the nominal value of the note. Banknotes, and to a lesser degree also coins, have a lower intrinsic value than their nominal value.
Money has value purely because the government has designated that money as legal tender, and the reason money is generally accepted as a means of payment

1 EUR 500, EUR 200, EUR 100, EUR 50, EUR 20, EUR 10 and EUR 5.

2 EUR 2, EUR 1, EUR 0.50, EUR 0.20, EUR 0.10, EUR 0.05, EUR 0.02 and EUR 0.01.

3 Pursuant to Section 105a of the Treaty establishing the European Community, the European Central Bank (ECB) holds the exclusive right to authorise the issue of banknotes. Responsibility for minting coins was transferred to the Royal Dutch Mint* by the Dutch State/Ministry of Finance in 1948, and is conducted under the latter's supervision.

for goods and services is rooted in trust (or faith) in the government that creates it. Cashless money is intangible and exists only in the form of bank reports; however, since cashless money is a generally accepted means of payment it, too, can be used to perform the basic functions of money. Should that trust in money, in whatever form, be eroded, consumers will look to an alternative that *can* be trusted.

2.3 How much money is in circulation?

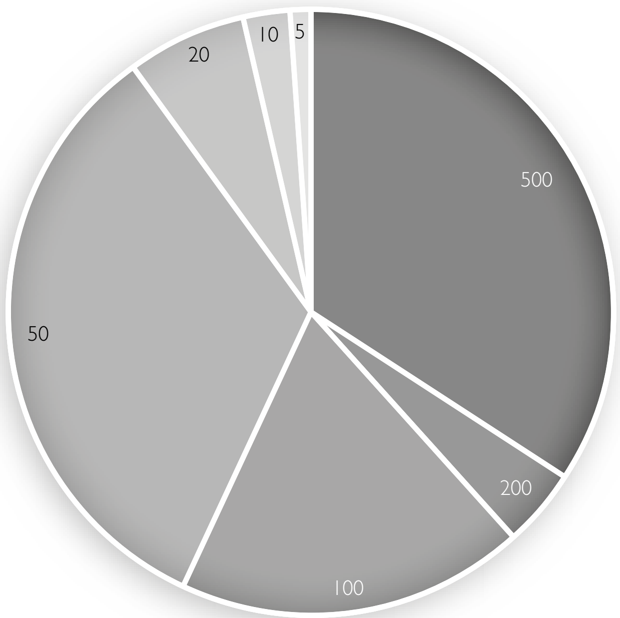
At the close of 2010, the value of all money, both cash and cashless[4], in circulation in the Netherlands totalled approximately EUR 10,000 billion. The balance of cashless money is in fact much higher (by around a factor of ten) than the total value of cash in this country. At the end of 2010, the value of all banknotes in circulation totalled EUR 816.8 billion[5].
The total value of coins has been hovering around EUR 20 billion for some years now, making these just a small fraction of the total volume of cash in circulation, even though in terms of pure numbers the quantity of coins is large. The total volume of banknotes in circulation in Europe at the end of 2010 was around 13.6 billion notes (see fig. 1) – the majority within the eurozone and a portion outside it. According to DNB estimates, there are roughly 300-400 million euro notes in the Netherlands. Most of the notes in circulation are EUR 50 notes (39%), followed by notes of EUR 20 (19%) and EUR 10 (14%).

The number of new notes issued annually by DNB depends on the growth in circulation, the number of notes destroyed and the in- and outflow of notes across the border. Depending on the denomination, the average life of a euro banknote does not exceed a few years.

2.4 Is the volume of cash money in the Netherlands growing?

ECB statistics on the growth in circulation show that the total amount of cash in use within the eurozone has seen an effective

Figure 1 Total value of banknotes in circulation in Europe at the end of 2010



SOURCE: ECB STATISTICS 2010

4 Where the value of cashless funds is defined as the combined balance of the demand deposit accounts, i.e. of current and savings accounts. Source: ECB Statistics 2010.

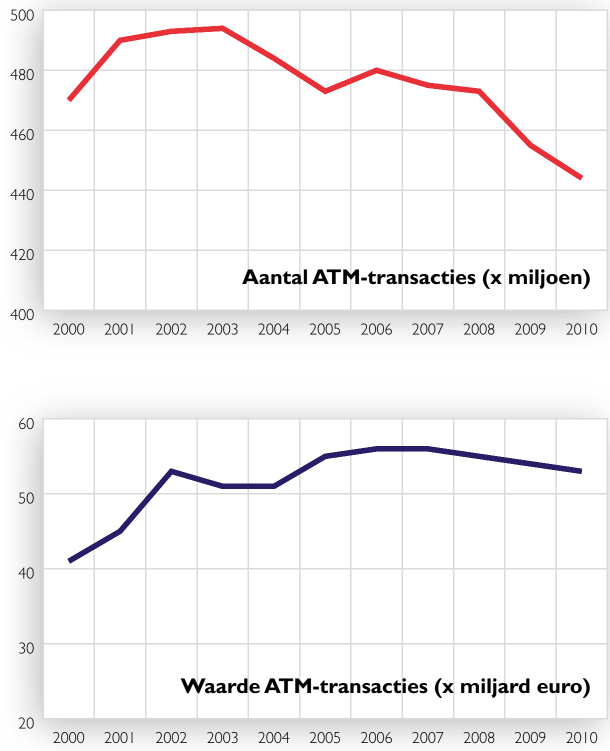
5 ECB Statistics 11/2010.

annual average rise of 11%[6] since the euro was introduced in 2002.
To get an idea of the growth rate in the Netherlands alone, the use of ATMs provide a good point of reference. Figure 2 shows a reasonably consistent trend over the past ten years, with the public drawing cash funds averaging EUR 50 billion annually from 2002 (the year the euro was introduced) onwards. More recently, the number of ATM withdrawals actually shows a declining trend, indicating that, on average, larger sums are being withdrawn per ATM transaction than was previously the case.

2.5 How often is cash used?

Thanks in part to these ATM withdrawals, the amount of cash (gross) circulating in the Netherlands is therefore increasing by approximately EUR 50 billion each year. However, the question is how much that total is simultaneously decreasing as a result of the use of cash to make payments. As with reckoning how many banknotes are circulating in the Netherlands, any attempt to establish the total number of cash transactions can only ever yield a rough estimate. Whereas the number of electronic transactions is precisely registered (usually automatically), there is no analogous registration of the volume of cash payments. Accordingly, information about the volume of cash payments is necessarily based on partial observations (such as made by the collective retail establishments, hereinafter: 'RE') and supplemented with assumptions

Figure 2 Number of ATM transactions and value of ATM transactions over the period 2000-2010



SOURCE: MAATSCHAPPELIJK OVERLEG BETALINGSVERKEER (MOB)* 'BEREIKBAARHEIDSMONITOR 2010'*

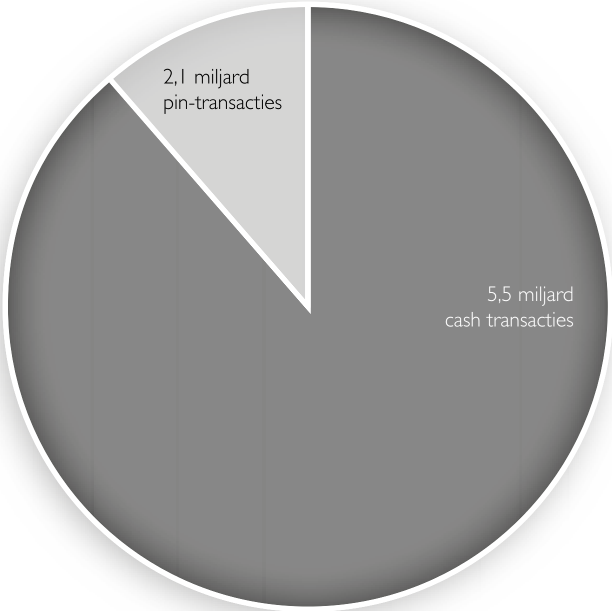
that may or may not be supported by specific research findings.

The most recent estimate of the number of cash transactions in the Netherlands, as based on research conducted by DNB[7] itself, posits a yearly total of 7.6 billion payment transactions, of which 5.5 billion (or 72%) are cash transactions. Of that total of cash transactions,

6 ECB en World Payments Report 2011.

7 DNB: 'Contant geld geteld'*, published 2009.

Figure 3 Number of payment transactions



SOURCE: DNB

4.9 billion are payments by consumers to businesses (C2B) and 600 million by one consumer to another (C2C)[8]. According to the most recent figures published by Currence[9], approximately 2.1 billion PIN payments were made at Dutch REs in 2010, representing 28% of the total volume of payment transactions.
This percentage matches DNB figures for 2009 and largely conforms to findings from previous studies conducted at the European level[10], showing the average consumer in Europe making 598 payments in 2008, of which 463 were in cash (78%) and 135 electronic (22%). At 72%, the Netherlands is below the global average of 90% of all payments being made in cash. Compared to figures from less than a decade ago, the number of PIN transactions has risen substantially. According to the DNB 2005 March quarterly report, Dutch consumers made approximately 7 billion payments in coins and notes in 2002, compared to 1.2 billion by bank card[11]. The increase in the volume of PIN payments at REs has been driven by a number of objectives and initiatives delineated by Currence and the banking sector, targeting 2.75 billion transactions total in 2014[12]. In fixing this target, Currence has assumed the share of cash payments to retailers in 2010 to be approximately 2.85 billion. Based on DNB figures for 2009, cash payments to retailers therefore account for only half (51.8%) of the total estimated number of cash payments in the Netherlands (i.e. 5.5 billion). Clearly, then, there is no question of the volume of PIN transactions overtaking cash transactions in this country.

In 2009, the average value of a cash transaction was EUR 13.15, representing a decrease of EUR 0.45 (-/-3%) relative

8 The analyses in the Cash Report 2011 are based on figures from this study.

9 Currence is a Dutch organisation established by several leading Dutch commercial banks with the objective of 'facilitating market forces and transparency while preserving the quality and safety of the Dutch payments system'.

10 Future of Cash and Payments, Retail Banking Research, 2010.

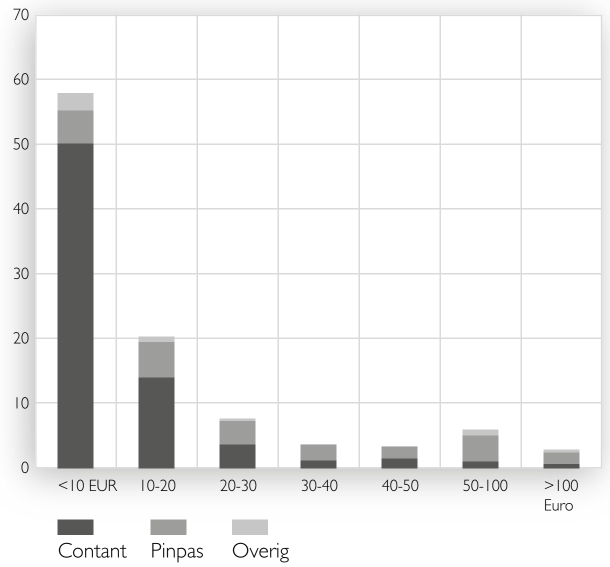
11 Quarterly report 'Naar een cashless society', DNB, p. 68.

12 Currence press release of 14 January 2011: Opnieuw PIN records in 2010; 'Trend: komende jaren meer pinnen dan contant'.

to 2008[13]. The average value of a PIN transaction was EUR 38.30 in 2009, being a EUR 3.90 (-/-3,9%) decrease compared to 2008. In other words, there is a clear trend of decreasing PIN transaction values, at a rate faster than the decrease in cash transaction values. This trend is being carried by various public promotional campaigns, such as that to stimulate PIN card use for small transactions ('Klein bedrag, PINnen mag'). In addition, the Dutch retail trade association Detailhandel Nederland recently reached agreement with banks on PIN card use for small amounts, with business owners receiving substantial discounts when they

13 A relatively high number of cash payments are made in the hospitality, specialty foods and recreation sectors. In the Netherlands, small payments can also be settled by Chipknip card, used mostly at vending machines and in office canteens.

Figure 4 Distribution of retail payments by value and means of payment

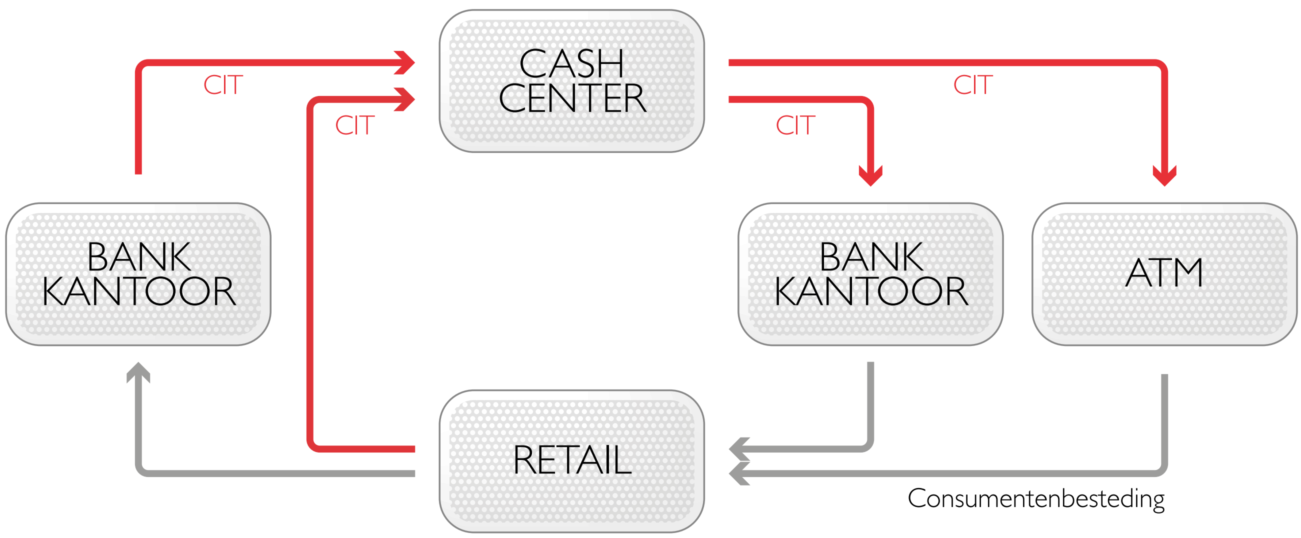


SOURCE: DNB/CURRENCE, 2007

Figure 5 Average value of transactions using a PIN card versus cash over the period 2006-2010

SOURCE: DNB/CURRENCE

Figure 6 Cash-cycle



At the end of 2010, the Dutch cash domain comprised

- 18 Cash Centres (cash-counting centres) and approximately:
- 2,900 bank offices, of which around 1,600 with automated teller services
- 8,040 ATMs, of which 1,200 'lobby machines' (indoors)
- 1,100 coin machines
- 2,250 night safes / deposit machines
- 250,000 retail establishments
- 340,000 POS terminals
- 4 secure transport agents (CIT: Cash in Transit, with G4S Cash Solutions and Brinks leading the sector)

SOURCE: G4S CASH SOLUTIONS

replace cash with PIN transactions[14]. Viewed together, these various developments paint a rather sketchy picture. Though there is a clear rise in the total volume of PIN transactions – coming partly at the expense of cash payments at REs – the estimated volume of cash transactions is not showing any real signs of decline. This indicates that the total volume of payment transactions is continuing to grow in this country. The obvious question is why cash continues to be by far the most common form of payment despite the success of paying by PIN card. This question will be considered in greater depth in Section 3.

14 'Akkoord banken over pinnen van laagwaardige betalingen'*, 12 January 2011 and 'Pinnen gaat het winnen van contant'* by Currence Managing Director Piet Mallekoote, at publication of 2009 annual figures.

2.6 The cash-cycle

Cash changes hands constantly and has a lifecycle that starts with production and distribution and eventually ends with destruction. In the Netherlands, DNB issues banknotes through the de facto sale of these notes to commercial banks[15]. Most notes come into public circulation via cash-dispensing machines (ATMs) and retail counters.

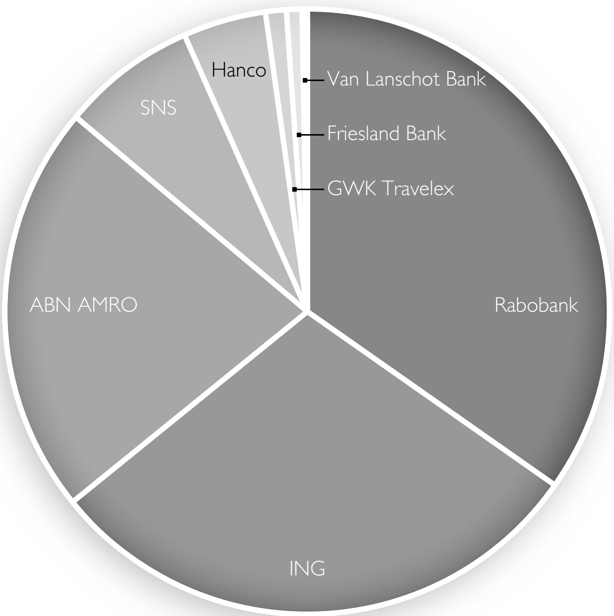
Consumers in their turn lay out currency at shops and other retail establishments. Shop owners deposit incoming notes at their bank or hand them over to their secure transport agent. The notes are then counted at the cash-counting centre of the secure transport agent or commercial bank and thereafter returned to circulation or deposited at DNB[16]. Figure 6 presents a graphic representation of the cash-cycle.

European studies have further failed to find any demonstrable link between the volume of money in circulation and/or the volume withdrawn from ATMs and the actual use of that money for retail

15 Commercial banks order these notes from DNB based on public demand.

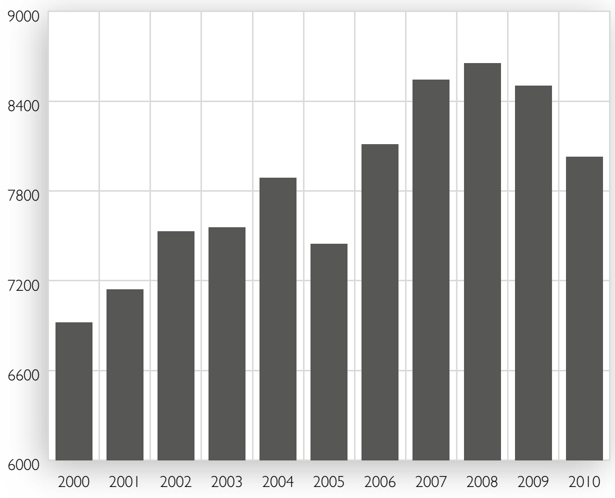
16 This is no longer possible under CDO3. Only notes that are 'unfit' can still be deposited at DNB.

Figure 7 Dutch ATM distribution Park 2010



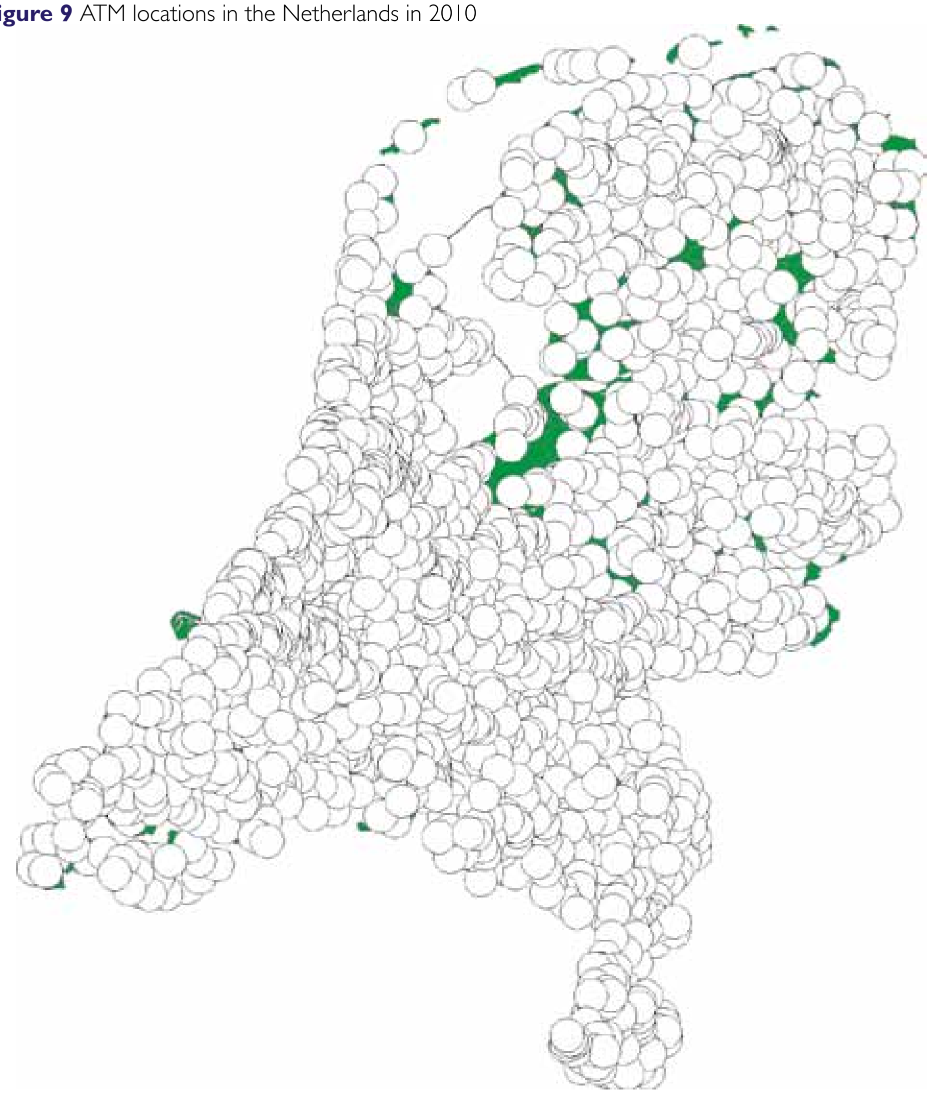
SOURCE: G4S CASH SOLUTIONS

Figure 8 Number of ATM's period 2000-2010



SOURCE: MOB BEREIKBAARHEIDSMONITOR*/G4S CASH SOLUTIONS

Figure 9 ATM locations in the Netherlands in 2010



SOURCE: MOB, 'BEREIKBAARHEIDSONDERZOEK 2010' *

purchases by consumers[17]. This suggests that this withdrawn cash is being set aside, spent on non-retail transactions and/or spent outside the Netherlands.

17 Retail Banking Research 2010.

The Netherlands' network of automatic tellers is largely comprised of traditional cash-dispensing machines (ATMs). However, recent years have seen the addition of other types of machines designed for recycling purposes (depositing and dispensing) or to replace the traditional teller services at bank offices (automated teller service, or ATS). The density of ATM points in the Netherlands is fairly high, resulting in an overall good accessibility of cash. Almost everyone in the Netherlands (97%) has a cash facility within a three-kilometre radius of their home (see fig. 9). Ninety-eight per cent of cash withdrawals are made at ATMs, and the remaining 2% mainly at bank tellers or over the counter (OTC) at REs.

2.7 Discussion forums

The discussion on the Dutch payments system is conducted in various discussion forums and groups of diverse makeup. One important body is the Maatschappelijk Overleg Betalingsverkeer (MOB)*, established in 2002 and chaired by DNB, with representatives from providers (banks), users (consumers and businesses) and public bodies. Aimed at promoting the efficient structuring of financial transactions in the Dutch retail sector, their efforts have centred on exchanging information about practical sticking points, political issues and building support for the implementation of policies designed to enhance efficiency[18]. Under the retail trade association of the Gezamenlijke Toonbankinstellingen, the national sector-based organisations of Detailhandel Nederland (retail trade) and Koninklijke Horeca Nederland* (hospitality) and

the petrol station sector have pooled their efforts in the area of payment transactions in order to realise a safe, reliable, efficient and inexpensive retail payments system in the Netherlands.
At European level, the cash sector is represented by the European Security Transport Association, or ESTA. ESTA works to advance the interests of its members, who include providers of secure logistics, cash handling services or equipment.

18 ECB Bluebook 2007;
http://www.dnb.nl/betalingsverkeer/mob

2.8 Laws and regulations

The Dutch payments system is subject to a body of laws and regulations. The most important laws and supplementary regulations are summarised below.

Bank Act 1998

The current Bank Act (Bankwet 1998) has been in force since 26 March 1998. The Act mandates DNB with responsibility for regulating payment transactions, with a twofold role of both supervisor and provider of payment services. Section 2 further prescribes that DNB act in accordance with the principle of an open market economy with free competition, keyed to a purposive allocation of resources.

Section 3 includes provisions for the management of currency circulation (in respect of banknotes) and maintenance of a robust payments system. Section 4 includes provisions charging DNB to

regulate financial institutions and maintain a robust payments system. Section 6 provides that DNB is authorised to issue banknotes.

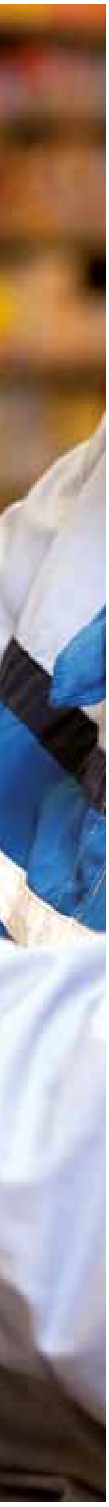
Coinage Act 2002

The current Coinage Act (Muntwet 2002) has been in force since 29 November 2001 and was prompted by the introduction of the physical euro. This Act includes provisions granting the Dutch government sole rights for ordering the minting of and for the issue of euro coins in the Netherlands, as well as describing which criteria euro coins must meet in order to qualify as legal tender. In supplement to the Bank and Coinage Acts, the New Civil Code determines that non-cash payment instruments are legal equivalent of cash.

PSD, SEPA and SECA

With its many – mainly national – systems and products, the European payments market is still highly fragmented.
The establishment of the Single Euro Payments Area (SEPA) made a major step towards the creation of a more integrated European payments market. Specifically, SEPA seeks to create a single 'payments area' in Europe, enabling euro transactions and bank cards to be used in the same way throughout the area, regardless of whether the payment is national or cross-border. The Payment Services Directive (PSD), put forward by the European Commission and more or less embedded in the national laws of the European Union Member States since 1 November 2009, provides the legal framework for all electronic payments within the EU. Where cash is concerned, however, there are still considerable differences from one country to another, with efforts to optimise the cash-cycle concentrated at national level. The EC has issued calls and suggestions for working within SEPA to improve coordination of the pan-European cash infrastructure under the umbrella of a Single Euro Cash Area (SECA). Its proposal contains provisions for the coordination of the cash domain within the eurozone. Alongside the laws and regulations that apply to payment transactions in general is specific legislation pertaining to the cash sector. One proposal currently on the table seeks the regulation of professional cross-border road carriage of euro cash between eurozone states[19].

19 ECB Bluebook 2007;
http://www.dnb.nl/betalingsverkeer/mob



3 Cash and the consumer

In modern economies, the lion's share of economic activity consists of transactions between buyers and vendors effected through payment. These payment transactions cost money. The physical requirements of money – including the production, storage and distribution of banknotes and coins – are labour-intensive and generate costs. Electronic payments lack a physical component, but come with a different set of costs, such as for elaborate data communication and IT networks and requisite peripherals.

'The leading motto in business is always "Cash is King". In times of crisis, however, that's equally true for the public at large.'

Arie Piet,
CEO Joh. Enschedé

The need to dispose over inexpensive and efficient means of making payments is rooted in two factors. Firstly, low transaction costs stimulate trade in goods and services. Efficient means of payment can therefore grease the wheels of the economy. Secondly, the provision of payment services is an economic activity in and of itself and requires the use of monetary resources. When payment methods are efficient, the benefit to the public is both immediate and substantial.

In most sectors, product prices are calculated on the basis of production costs; in the market for payment services and financial transactions, however, consumers are rarely called on to pay the costs of a given transaction. Though there are costs associated with holding a current account and having a bank card, there are usually no charges for withdrawing cash in the Netherlands, nor do consumers pay their bank for each transaction made using their bank card. This makes it unlikely that any consumer would be led in his choice of payment method by the real transaction cost of one method versus another[20]. It should be noted that this situation is characteristic of the Netherlands, as well as deeply rooted in the country's culture. The average Dutch person is neither accustomed nor willing to pay for paying. Not surprisingly, the freedom that banks have to take steps such as taxing the use of ATMs lacks any degree of public support – not least because charging for cash withdrawals would lead to an increase in the amount of money withdrawn per transaction and, in turn, an adverse impact on security.

20 From: Card and cash payments – the social perspective in Sweden, Bergman, Guibourg, Segendorf, 2008.

'I think we'll continue to see travellers avoid using their PIN cards for a long time to come.'

Marina de Jongh,
Manager Competence Center Ticketing,
NS Reizigers

3.1 The consumer decides

In spite of the fact that payments are of paramount importance in all economic activities and it is the consumer who decides the means of payment, relatively little thought has been given to the behaviour and considerations of that very consumer. Given that consumers receive little explicit direction from either banks or vendors, it is to be expected that they base their decision chiefly on considerations of a non-financial nature. According to DNB, the following factors contribute to the choice of payment instrument: geographic location[21], age, level of education, income, social background and employment status. Additionally, that choice is influenced by the transaction value, perceived safety of the location and type of purchase. As already noted, in most instances consumers continue to opt for cash. This is tied to several unique attributes of cash.

21 Figures published by Maestro show that residents of the Netherlands use PIN cards for in-country payments more than residents of any other European country, excepting Sweden (a tie). As soon as they cross the border, however, they immediately revert to cash: no less than 83% of Dutch wintertime holidaymakers take cash with them to the slopes, while only 51% take their PIN card. Maestro transaction figures from December 2010 and January 2011 show that nearly half of all Dutch PIN transactions in Austria were ATM cash withdrawals.

3.2 Cash is anonymous

Electronic payment transactions leave digital trails. Such trails facilitate the verification of data and are therefore useful for the purposes of taxation, tracing activities within the informal economy and tracing criminal monies. The fact that cash is not traceable means it will never lose its appeal.

The value of the informal economy in Europe is estimated at EUR 2.1 trillion, ranging from 8% of the GNP[22] in countries such as Switzerland and Austria to more than 30% in certain Central and Eastern Europe countries. At more than EUR 60 billion[23], the informal economy in the Netherlands represents an estimated 10% of the GNP. European studies have found a one-to-one correspondence between the scale of an informal economy and the amount of cash in that country. This correlation would make it fairly unrealistic to assume that an informal economy on the Dutch scale could be fully digitised within just a few years.

The scale of informal economies varies from sector to sector. The retail & wholesale, transport & communication and hotels & restaurant sectors are at the higher end and represent a combined

22 GNP: Gross National Product.

23 Friedrich Schneider, Johannes Kepler University Linz, in 'The Shadow Economy in Europe, 2010'.

25%[24]. Incidentally, in the formal economy, too, the anonymity of cash is perceived as a benefit by many consumers. This suggests that many people consider full transparency of their payment behaviour to be an important privacy issue.

3.3 Cash is certainty

Not only is cash anonymous, it is also easy to set aside and impervious to system malfunctions and power failures. DNB classifies the different denominations of euro banknotes according to the manner of their use by the public. Banknotes in the denominations of EUR 500, EUR 100 and, to a lesser extent, EUR 50, have been shown to be commonly set aside as savings. In times of uncertainty regarding the stability of the financial system (witness the demise of IceSave and DSB and Fortis bank runs), cash savings have become the preferred 'secure backup' among a growing group of consumers.

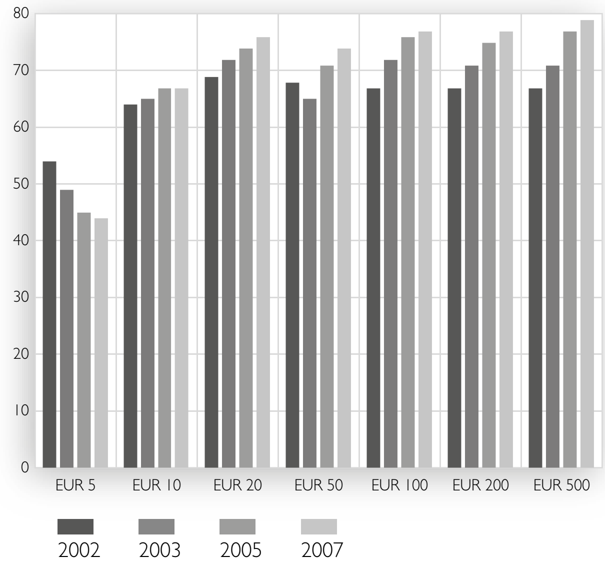
3.4. Cash is direct

One of the major advantages of paying in cash is that there is no need to rely on third parties. In C2C transactions, cash payment results in direct settlement. Cash is accepted virtually everywhere and offers a fast and easy way to pay at the POS[25] in nearly every situation, from the fruit stall at the market to second-hand Web shops. Moreover, cash payments are easy to reverse: Not satisfied? Money back. The impossibility of or technical impediments to reimbursing PIN payments has been one of the arguments for retailers to continue keeping cash in their shops.

3.5 Cash is tangible

Cash is more than a convenient means of payment: for many consumers, the experience of touching and looking at cash has an emotional and even aesthetic component (see fig. 10). In the eyes of many, the introduction of the euro to replace the guilder represented a backwards step for the country. Over the years, however, there has been growing aesthetic appreciation for euro notes (with the exception of the EUR 5 note).

Figure 10 Aesthetic appreciation for euro banknotes



SOURCE: DNB 2007 QUARTERLY REPORT

24 Friedrich Schneider, Johannes Kepler University Linz, in 'The Shadow Economy in Europe, 2010'.

25 POS: Point of Sale

An attribute of more elementary importance is that cash makes it easier to budget and, for a large group of consumers, supports a responsible attitude to money. For people who have difficulty managing an electronic budget, cash effectively gets the message across that 'gone is gone'. That this group is larger than once thought is attested by the sizeable investments that the central government is now making in educating consumers about these aspects (such as through CentiQ) and the expansion of initiatives at organisations like the NIBUD (National Institute for Family Finance Information).

Tilburg University Professor of Personal Financial Planning Henriette Prast notes in this connection that payment technology should be regarded as 'non-neutral' and that the method of payment (optional or imposed) has a major impact on consumer perceptions and spending behaviour. The large share of the population that has ended up in financial difficulty due to 'digital financial illiteracy' is a source of concern for bodies from the NIBUD on up to the Ministry of Finance.

An survey conducted by the NIBUD at the Gemeentelijke Kredietbank Den Haag* has revealed that a growing number of people no longer have an understanding of their own financial situation. They are unable to grasp the consequences of their own expenditures because they do not know how much is coming in and going out. Those expenditures typically include a combination of automatic deductions and credit card and PIN card payments.

Cash, in short, is a 'safe haven' for many – often economically weaker – segments of the population, laying down the foundation for how they function economically and socially. This was also the conclusion of a previous study by DNB titled 'Hoe consumenten betaalmiddelen beleven: een publieksmeting'*[26].

3.6 Cash is (un)safe

Naturally there are also certain drawbacks when consumers use cash. In terms of relative weight alone, cash is patently less practical to carry in larger amounts. A particular concern, however, is safety. The counterfeiting of banknotes, though more difficult now than in the past, is still a problem. Moreover, cash is relatively easy to estrange (pickpockets on the street, robbers at ATMs, burglary at home). Added up, these things could make consumers feel that using cash is less safe than making card payments or online electronic payments. However, recent surveys show the situation is not quite so cut and dry.

26 DNB, Quarterly report, March 2005.

> *'Safety is an essential precondition for any payments system and certainly a major issue for the retail trade.'*
>
> Willem de Vocht,
> Payments Systems Secretary,
> Detailhandel Nederland

According to the report 'De veiligheid van toonbankbetaalmiddelen – een onderzoek naar de beleving en het gedrag van de Nederlandse consument'*, carried out on behalf of DNB in June 2009, Dutch consumers are largely positive about the safety of the Dutch payments system as a whole. Neither frequent media reports about robberies nor the rising number of cases of fraud through 'skimming'[27] or other means have made any real dent in the general sense of safety. At the same time, the individual's perception of safety appears to be strongly determined by the perceived likelihood of being the victim in an incident, as well as by the perceived severity of its consequences. Other major factors are a person's individual characteristics, residential environment and previous experiences. The report's author furthermore makes a case for coordinating all information issued by parties involved in payment transactions in order to raise consumer awareness about steps they themselves can take to minimise risks

27 The theft of bank card information by e.g. copying the card's magnetic strip and transcribing the security code (PIN). Methods include the manipulation of ATMs or in-store POS terminals.

in their monetary transactions (without simultaneously engendering a sense of insecurity).

A further noteworthy finding to arise from this study is the fact that consumers regard receiving cash in hand (such as at an ATM) and carrying it with them as relatively unsafe, but its use as exceedingly safe. The former is probably attributable to the perception that ATMs make an attractive target for robbers.

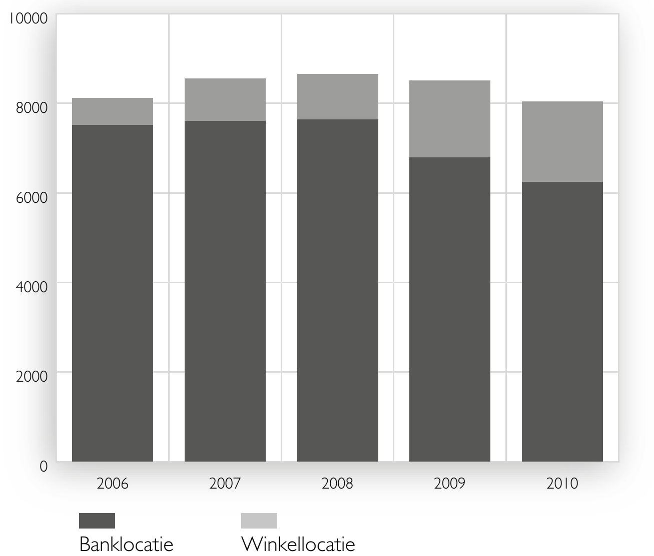
Yet looking at the total number of robberies perpetrated in the Netherlands, the proportion occurring at ATMs is extremely low, and even on a decline[28]. As a means of counteracting this sense of insecurity among consumers, the period between 2006 and 2010 saw a total of around 1,200 mainly on-premise machines at bank offices replaced by lobby machines, so called because they are placed in the lobbies of shops, supermarkets, hospitals etc. (see fig. 11).

In the case of shop owners, the risk of being burgled only disappears once cash in all forms is removed from the premises (obviously the stock is still at risk). The physical (and perceived) safety of shop staff and any customers is therefore inversely proportionate to the amount of cash present in the shop, particularly as robberies targeting shop owners tend to centre solely on cash. Clearly, the only way to wholly expunge the risk of robberies targeting cash is a 0% cash policy; merely keeping less cash is not enough.

Fig. 12 below presents the total number of robberies in the Netherlands by year. Following an increase in 2009 (possibly owing to the financial crisis), this total went down by more than 11% in 2010. The most noticeable decrease was at financial institutions (-/-41.7%), followed by hospitality (-/-21.8%).

On the whole, the highest number of robberies were perpetrated in the retail trade sector, with petrol stations and supermarkets topping the list, but

Figure 11 Locations of ATMs over the period 2006-2010



SOURCE: G4S CASH SOLUTIONS AND BANK WEBSITES

28 Robberies in the Netherlands 2009, www.hetCCV.nl 2010.

Figure 12 Number of robberies in the Netherlands by sector over the period 2008-2010

	2008	2009	2010	
financial institutions	44	36	21	-41,7%
hospitality	387	490	383	-21,8%
retail trade	880	991	868	-12,4%
homes	662	841	767	-8,8%
transportation	295	351	375	6,8%
other	127	189	158	-16,4%
total	**2.395**	**2.898**	**2.572**	**-11,2%**

SOURCE: KORPS LANDELIJKE POLITIEDIENSTEN (KLPD)

jewellers as the only segment to show a rising trend.

Transportation is the only sector to show an overall rise. This is due to a 9.9% increase in the number of robberies on food order deliverers (pizza delivery and the like) and a 14% rise in attacks on private carriage of valuables. Professional secure transport services, by contrast, show a marked decrease of 31%, to a total of 29 incidents for the year.

The question now is whether cash would be considered as great a risk if all retailers were to make optimum use of the options that various market parties offer to secure the cash-cycle and if the police were able to achieve a more successful forensics policy. Germany presents a prime example of how effective this can be, where figures for robberies are considerably lower than in the Netherlands.

A related question is whether the safety – or risk – of cash should even be approached as a standalone issue. Shop owners who are duped by a fraudulent card payment or other form of fraudulent funds transfer are equally the victims of an unsafe situation. Viewed in this light, the unsafe nature of cash is a relative quality determined by the safety offered by electronic means of payment. It would seem that because electronic transfers and how they are performed are so dependent on consumer trust, the media have failed to give due coverage to the risks entailed.

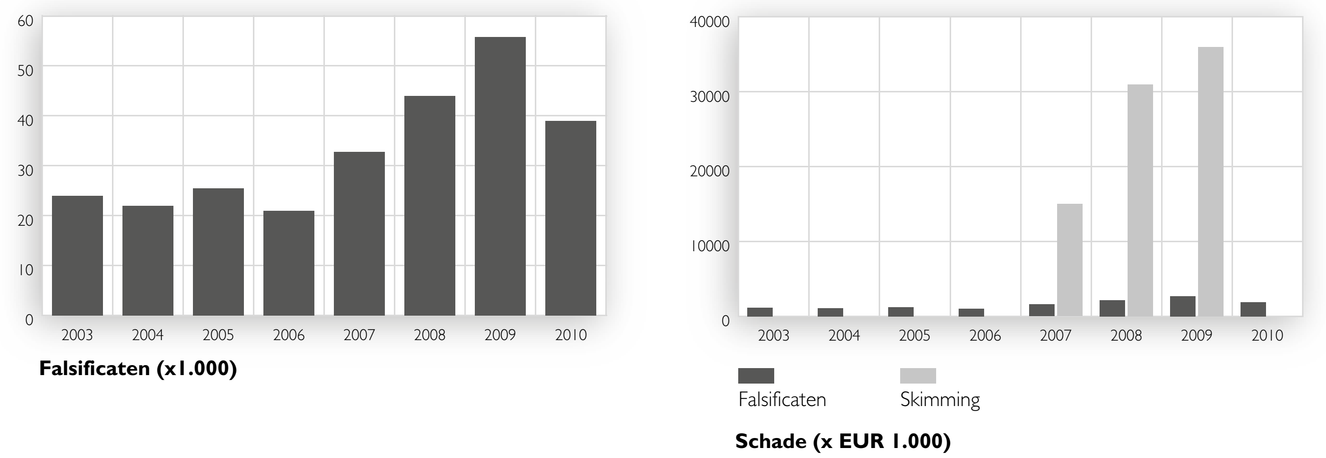
Skimming

Equally remarkable is that consumers feel the use of PIN cards and credit cards alike to be less safe than the use of cash. This may be attributable to the growth of fraud targeting electronic payments. In 2009, banks reported damages due to skimming at ATMs totalling EUR 36 million, based on approximately 61,000 perpetrations. Bank card fraud tends to take place within organised – and international – criminal networks and, until now, banks have always indemnified victims of this type of fraud. The same does not apply to those who find themselves in possession of counterfeit money.

‘The Netherlands lacks transparency regarding the costs of its payments system.’

Ben Schellekens,
Policy Advisor for Payments Systems and Pensions, Consumentenbond

Figure 13 Counterfeits



SOURCE: DNB AND NVB

Counterfeit money

The existence of counterfeit money is a problem for consumers, businesspeople and banks. It can leave consumers and/or businesses at an immediate loss, and also generates a lot of unnecessary administration. Thankfully, banknotes are well-protected against counterfeiting, and the number of counterfeit notes in circulation is low. According to a press release from the European Central Bank, a total of 751,000 counterfeit bills were identified over the past year – a 13% drop compared to the year before. Figures from DNB show that a total of 39,600 counterfeit notes were intercepted and registered in the Netherlands. By far the most counterfeited note is the EUR 50 bill (71%), followed by EUR 20 (21%). Fake EUR 5 and EUR 500 notes are almost never encountered. The 2009 total reached 54,900 counterfeit euro notes, resulting in a total drop of no less than 27.9% in the number of counterfeit notes in the Netherlands (see fig. 13). The reported losses due to counterfeiting in 2010 amounted to around EUR 2 million. The losses caused by electronic payment fraud are therefore considerably higher when compared to counterfeiting losses, and are also significantly on the rise. From this we can conclude that the focus of criminals is switching from classic counterfeiting to more sophisticated forms of deception.

Figure 14 Number of counterfeit euro notes in the Netherlands in 2010, by denomination

€5	€10	€20	€50	€100	€200	€500
0	396	8296	27940	2376	592	0
0%	1%	21%	71%	6%	1%	0%

SOURCE: DNB STATISTICS 2010

3.7 Cash is expensive

Over the years, various interested parties have attempted to create an overview of the costs of payment transactions. Given the diversity of results, this would appear to be a tough nut to crack. There seems to be little to no uniformity in the use of data, methodology, assumptions made, cost allocation methods etc. What is more, such attempts are (almost without exception) one-off exercises. In short, there is a significant need for an objective, clear-cut definition and delineation of the costs of payment transactions, and for a longitudinal study that is carried out consistently to monitor the level of these costs.

It remains a fact that the use of cash requires an extensive infrastructure that both entails substantial costs and involves multiple intermediary parties. The DNB's costs consist mainly of the production and collection of banknotes (e.g. printing and storage costs). Banks purchase the notes they need from DNB, and coins are obtained from the Royal Dutch Mint. The storage costs for money include rental of the storage space, insurance, security, machines, staff and IT systems. Logistics and secure transport professionals move and distribute the money; this also generates cost items such as staff, logistics and security. From a healthy business perspective, it is therefore completely understandable that commercial banks favour electronic payments over cash – at least at first glance, for electronic banking systems come with costs, too.

> *'Cash transaction costs are difficult to establish with any consistency and are strongly dependent on the allocation keys used.'*
>
> Jan Binnekamp,
> Head of Cash Policy, DNB

One task of the banks is the processing of cash that has been deposited or withdrawn. These transactions generate costs in the form of rent for the premises and salaries for staff. These costs are relatively fixed, regardless of the number of deposits and withdrawals. ATMs also have high fixed costs, but there are also substantial variable costs – in particular those for filling the machines and the processing fees that the banks pay each another. Banks also have costs related to lost interest, administration and cash transport between branches and storehouses.

However, as mentioned in Section 3, cash payments differ from other payments in that there is no intermediary involved in the transaction. The transaction is complete the instant the notes and coins have been handed over. A payment by card, on the other hand, is not complete once the purchaser has handed the card to the salesperson. Whenever a card is inserted into a terminal, information is sent from the card to the terminal, and then on to the seller's bank. This is the start of a complex process in which information and payments are sent in multiple stages and which involves various intermediary parties. This information transfer ultimately culminates in the transfer of money (or information about it) from the purchaser's account to that of the seller. The payment is not final until the banks have processed the information in both accounts[29].

Payments by card therefore require infrastructure in the form of terminals and systems that are able to send information about the payment. This kind of infrastructure generates high fixed costs, and the continual modifications to this infrastructure required by legislation

> ***'The costs of the cycle can only be managed effectively if they are also managed from outside the cycle.'***
>
> Henk van den Broek,
> (Former) CEO of DetailResult
> Chairman of the Payment Transactions Steering Group, Detailhandel Nederland

(e.g. with relation to the SEPA and the PSD) raise these costs even higher. Because the costs of additional payments are minimal, banks profit enormously from as large a volume of transactions as possible in order to recoup these costs.

In 2005, the McKinsey consulting firm carried out study on behalf of the Dutch Banking Association and DNB to investigate the costs of payment transactions. In the year under examination, the banks suffered losses of EUR 2,664 million for the processing of payment transactions and the provision of drawing accounts. Of these losses, cash was responsible for EUR 779 million[30]. The total costs for the setup and maintenance of current electronic payment infrastructure for all banks combined is difficult to ascertain at present, given that all banks use different cost-allocation indicators and also release little to no information about them. However, ING Global Head of Payments & Cash Management Mark Buitenhek has stated that, although the additional costs of a EUR 100 million increase in electronic payments would be negligible, a rise of around EUR 500 million would certainly necessitate additional costs and investments in the infrastructure.

Early conclusions are therefore that it is difficult at present to establish whether cash payments 'on the whole' are more expensive, the same or cheaper than electronic ones.
The results from the McKinsey study suggest that banks would benefit from an increase in card payments over payments by cash. Calculations by the Stichting Bevordering Efficiënt Betalen* (SBEB), a joint initiative of the Dutch banks and the Gezamenlijke Toonbankinstellingen, point in the same direction. According to the SBEB, every 1,000 million cash transactions lost in favour of PIN transactions results

29 From: Card and cash payments – the social perspective in Sweden, Bergman, Guibourg, Segendorf, 2008.

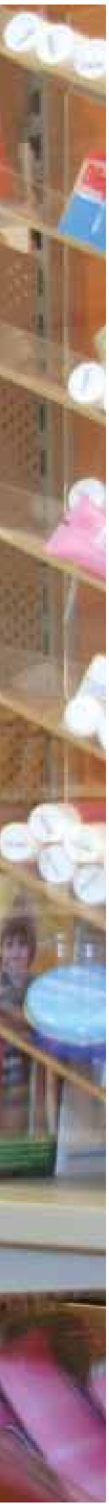
30 Betalingsverkeer in Nederland, McKinsey, 2006, p. 4.

in a saving of EUR 100 million for banks and retailers.

Even assuming that a movement from cash to electronic payments would be a positive one for banks, it does not mean that society as a whole would benefit from the development. To determine whether this is the case, we need an overview of the costs for society of both bank cards and cash – a complex exercise that has never before been performed centrally in the Netherlands. Here, too, the question arises of which costs should and should not be allocated to which payments. In addition to the processing costs for the retail sector, security for retail premises and various types of card/other terminals, the SBEB also associates the medical and other care-related costs for robbery victims directly with the use of cash. On the other hand, the losses for society due to electronic payment fraud are very high, with conservative estimates in the tens of millions of euros.

A Swedish study conducted in 2002 showed that the total variable costs of cash payments are lower than those of cards for small amounts (with the turning point at EUR 7.75 in 2002). There are therefore indications that the use of cash offers definite advantages from the point of view of society, as 50% of all payments are Low Value Payments (up to EUR 10). Currently, only 20% of such transactions are made by PIN card, but this will change soon if the banks have their say. For example, a new agreement was recently signed with Detailhandel Nederland regarding PIN card use for small amounts. Offering customised packages to businesses is also intended to accelerate the process, although it is still unclear to what extent.


Homeopathie



4 The stakeholders and their position in the cash-cycle

4.1. Banks and credit card companies

DNB works to ensure secure and reliable payment transactions for both cashless payments and those made in notes and coins. DNB also considers itself responsible for the quality, continuity and availability of cash. In principle, DNB is responsible for bringing usable cash into circulation. The production and circulation of coinage falls under the responsibility of the Ministry of Finance; the DNB is responsible for issuing and circulating euro banknotes, in conjunction with the European Central Bank and the central banks of the other EU countries. Essentially, this task has been charged to the banks under the Cash Distribution Agreements* (CDOs)[31]. The core purpose of both of these agreements is for the commercial banks to take on an increasing proportion of DNB's responsibilities, including the recirculation of banknotes. This means that the banks increasingly reintroduce the banknotes they receive from their customers into circulation, instead of depositing them with DNB. In doing so, they check the notes for authenticity and cleanliness according to ECB regulations. This recirculation of banknotes limits the number of transfers, transports and processing steps required, and shortens the cash distribution cycle[32]. As a result of the forementioned CDOs, the role of DNB in the cash-cycle has diminished over time, and is expected to diminish further in future by means of a third CDO (yet to be finalised). DNB has a limited overview of circulation of banknotes in the Netherlands. In order to fulfil its role as central bank and supervisory authority in the face of this diminishing responsibility, DNB receives periodic figures from the national cash processing centres regarding the volumes of counted notes. ATM withdrawal volumes are also recorded for use by DNB.

In the Netherlands, the three major banks (Rabobank, ING Bank and ABN AMRO Bank) take care of around 90% of cash payment transactions in the Netherlands. These same banks (individual differences aside) are also still in troubled waters as a result of the global financial crisis. Cutbacks and a return to core activities are high on the agenda, fuelling the course that had already been set earlier, i.e. thinning out the branch network and reducing operational costs, including those for 'cash payments' as a

31 CDO 1 signed in 2005, CDO 2 in 2010. CDO 3 is currently being prepared.

32 DNB, Quarterly report March 2010, p. 22.

product. The banks are also increasingly working in consort to ensure this change. Although the commercial banks each have their own considerations when it comes to dealing with cash, most banks believe that cash is expensive, and that it is worthwhile to discourage cash payments.

Together with the major retail institutions, the banking sector is strongly urging the transition from cash to electronic payment by such means as increasing the

'A reduction in cash will not come about by charging higher fees but by offering better substitutes.'

Mark Buitenhek,
Global Head of Payments & Cash Management, ING

number of payment terminals, offering new services and technologies (such as mobile telephone payments using near-field communication and payment by fingerprint), as well as provision of consumer information[33]. The banks assume that consumers are open to this change, and that they see it as positive.

In general, the approach has swerved from trying to reduce electronic payments (using PIN fees) to discouraging cash by passing on the costs for processing cash payments. The latter occurs both directly (the costs for depositing cash have risen sharply in recent times) and indirectly (the number of branches accepting cash deposits is dropping, deposit requirements are becoming stricter, 'anonymous deposits' are not facilitated). All of this partly ignores the fact that businesses usually do not decide for themselves whether they receive payments in cash.

The movement to reduce the use of cash is also meeting with some opposition. For example, in a publication on payment transactions in the Netherlands, the Consumentenbond* identified a clear 'pressure' on consumers to pay more and more efficiently, while payment costs continue to rise annually at a rate higher than that of inflation. The Consumentenbond also sees a threat to the accessibility of banking services for disadvantaged and other groups in society: families (possibly on welfare) without an Internet connection, the elderly, and people with physical or mental disabilities. Temporary and other disruptions to the electronic payment network are also a thorn in the side of the Consumentenbond. In addition to the banks, international credit card companies are also a particularly significant interest group when it comes to cash. Major operators such as Visa and MasterCard continually strive to expand their networks, transaction volumes and turnover. Companies promote the use of their payment products instead of payments by cash (among other things).

33 Such as the 'Klein bedrag? PINnen mag' campaign, or websites such as www.slimmepinpakketten.nl, www.slimpinverkeer.nl

Important elements in the dynamic between cards and cash are the annual card fees and costs for a credit card transaction versus the fees charged for withdrawing cash from an ATM by credit card. The bilateral interchange fee used in the Netherlands for debit card transactions is expected to rise, as the use of debit cards will attract significantly more Multilateral Interchange Fees (MIFs) as a result of the anticipated increase in international competition between debit/credit card processors[34].

4.2 The retail sector

Retailers are also working to reduce their payment transaction costs, which arise both from the use of cash and from electronic payment methods. Retailers' cash payment costs are generated by the staff at the register required to process the payments, as well as the required back-office capacity for cash administration such as counting, sorting coins and notes, depositing money at the bank and ordering change. Retailers also pay fees to banks and professional secure transport companies for the transport and depositing of their takings. For electronic payments, retailers not only pay fees to the bank, but also invest money in terminals and staff. The replacement of the magnetic strip by the EMV chip in the Netherlands means that parties have had to invest in infrastructure once again. Similar to payments by cash, staff costs are dependent on the time it takes to complete a transaction using a card.

34 'Visiedocument betalingsverkeer 2010', NMA.

More than costs, however, the big issue is really security, at least for a large proportion of retailers. It therefore makes sense to subdivide retailers into several categories, in order to produce a more detailed overview of the situation.

1. Retail chains, including supermarkets

As mentioned previously, PIN-only cash registers are on the rise in Dutch supermarkets and other retail chains. These retailers can therefore be counted among those pushing for the transition from cash to electronic payments. Here, cost is not the main motivating factor.

Given the large number of robberies that take place in the sector per year, security is the more important issue. Even at Blokker (with 1,500 stores in the Netherlands), less cash is more a matter of security than one of costs. CFO of the group Ad van der Horst believes that it is not so much the cost of handling cash that is high, but the concurrent organisation of multiple payment systems: Chipknip, EFT, cash, vouchers and so on.

Without exception, retail chains make use of professional providers of cash solutions for the transport and delivery of cash. They generally also have sufficient financial capacity to invest in technological, organisational and other security measures, such as closed cash register systems or only a few registers that accept cash. These PIN-only registers are rapidly becoming more prevalent in Dutch supermarkets. However, a trial of a fully cash-free supermarket in Almere has been terminated, as it had a demonstrably negative effect on turnover. It would seem that there is still a substantial group of customers who are unable or unwilling to pay by PIN card.

According to the Dutch Food Retail Association, this group still represents one-third of the total cash flow, and half the total number of transactions. Following a survey conducted by a large group of supermarket owners, Distrifood magazine concluded that the respondents still envisage considerable resistance against fully cashless stores, particularly among the elderly. The fact that refunds can only be processed using cash also plays an important part. Business owners therefore do not expect supermarkets to be rid of cash in the near future.

2. SMEs, including hospitality

The Netherlands has around 220,000 retail SMEs and roughly 300,000 terminals. Electronic payments are perceived by many smaller retailers as relatively expensive (on average 4 to 6 euro cents per transaction, subject to possible discounts/fixed fees), because they do not have a sufficient volume and/or margin to recoup the fixed costs. At the same time, not having a terminal means an instant loss of income, and so most small stores do have a PIN terminal.

Small businesses are usually unable to influence consumers' payment habits. The rule is: if customers want to pay cash, they pay cash. The biggest concern is usually keeping the store afloat. According to Els

Prins, Secretary for Copyright, Payment Transactions and Criminality at VNO/NCW SME Nederland, there are therefore few small businesses that complain about cash payments.

Particularly in large cities, however, security is certainly a major issue for some SME owners, given that they are regularly faced with robberies that have a large personal impact on the owner and/or retail employees. Smaller specialist stores generally still make little use of professional providers of solutions for the transport and delivery of cash (around 17% do, however). They count the money, take it to the bank and deposit it themselves. The time they spend doing so is usually not calculated as an 'expense', nor even perceived as such. Incidentally, this is only the case if the deposit location is close by, and the deposit itself can be made safely and inexpensively.

According to Knowledge & Innovation manager of HNL Eus Peters, in the Dutch hospitality sector (around 43,000 businesses, 20,000 of which are affiliated with Horeca Nederland) there are currently around 25,000 payment terminals in use (although the number is rising rapidly). This low figure can be attributed to the fact that the sector started using terminals at a relatively late stage, and affordable mobile terminals were not available for some time. Hospitality is therefore a sector in which cash still has the upper hand. HNL encourages electronic payments among its members for reasons of security, not of cost. Hospitality establishments are already third on the list of most popular robbery locations, after shops and homes. The less cash there is to be found in other retail establishments, the more criminals will target hospitality – a situation that the HNL wishes to prevent.

> ***'If you really want to stay in touch with retailers, you can't run away from cash.'***
>
> Ad van der Horst,
> CFO of Blokker Holding, Steering Group member
> Payment transactions for Detailhandel Nederland

On the other hand, the sector is characterised by a large number of Low Value Payments with a small margin. Electronic transactions are therefore hardly attractive to hospitality businesses, not least because tips are also much more easily given when paying cash. This therefore represents a definite dilemma.

3. Other retail establishments

The behaviour of this group of retailers varies in how they deal with cash. At many points of sale at stations (Servex), 80% of the payments are still made in cash, with a fast-growing turnover. These are mostly transactions of up to EUR 10 (Low Value Payments). Rapid turnover is of critical importance to these businesses. Electronic payments are therefore only encouraged because they require fewer steps than a cash payment (i.e. not for financial or security reasons). However, if the new EMV pass means – possibly considerably – longer transaction times, the emphasis may shift back to cash payments. The Dutch Railways* is making significant investments in electronic payments; partly by installing PIN-only ticket machines, and partly through the introduction of touch-free payments (the OV chipcard).

'As long as there are still customers who say they want to pay cash, it will not disappear.'

Eus Peters,
Knowledge & Innovation Manager
Horeca Nederland

The parking sector is also showing automation across the board, both on-street (ticket machines) and off-street (pay machines in parking garages). Lower maintenance costs and reduced annoyance are important motivating factors here. However, surveys by market operator P1 have shown that consumers still like being able to pay using any payment method they choose. For this reason, experiments are underway using differentiated rates (e.g. cash payments being 20% more expensive). At petrol stations (a traditional target for robberies), security levels are already at maximum. Around 45% of payments are in cash, with shop articles being mostly paid for using cash. Market leader Shell claims to focus on loyalty and not on payment methods, and therefore has no policy to actively promote electronic payments.

4.3 Public sector

In general, it can be said that the public sector would benefit from as many electronic payments as possible. This way, cash flows are more controllable, which is useful when deducting tax, combating black money, and tracing criminal funds. From this point of view, cashless transactions contribute to a stable financial system, one of the Ministry of Finance's core responsibilities.

On the other hand, cash constitutes a source of income for the government. This phenomenon (referred to as 'seigniorage') arises because the cost of making a euro banknote and putting it into circulation is lower than the nominal/denominational value of the note. In addition, commercial banks need to maintain a practically interest-free credit at the central banks amounting to the number of banknotes in circulation[35]. The returns on investment thus obtained also form part of the seigniorage. No statements are ever made regarding the actual amount of the seigniorage, but we can assume that it is considerable. By way of comparison: the most common Canadian dollar banknote, the 20 dollar bill, generates 95 cents per year (after all costs) according to the Canadian central bank. In euro countries, the returns are from nearly 14 billion euro banknotes in circulation with a value of around EUR 800 billion. The total seigniorage is estimated at 0.4% of the combined GNP of the member states, putting it at nearly half the EU budget of EUR 140 billion[36].

35 Rösl, 2002.
36 Begg et al., 2008.

As mentioned previously, the government also fulfils a certain duty of care towards citizens who are not (or only partially) able to manage their own finances. Investments in the CentiQ platform (the Money-Wise Guide), which is aimed at young people but also offers an online household booklet for families, suggest that consumer education is another reason why the government does not support the full or partial abolition of cash.

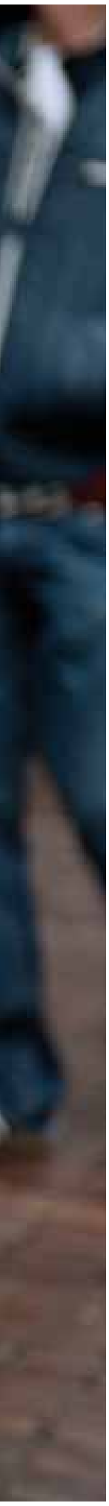
Because the use of cash is generally directly associated with security issues such as robberies and burglaries, the Ministry of Public Safety and Justice can also be considered an important stakeholder when it comes to cash – not least because the Minister of Public Safety and Justice is heavily involved in the general investigation and prosecution policy of the Public Prosecution Service, and therefore also in the capacity allocations for tracking down the perpetrators of robberies and other financial crimes. From a political standpoint, the current government seems to attach more value to repression and stricter (i.e. longer) punishment of robbers. As mentioned earlier, the situation in Germany (among other countries) shows that increasing the likelihood of capturing robbers does indeed make for a more secure cash-cycle.

4.4 Cash sector

In the cash-cycle, numerous tasks are outsourced to specialised market operators. This involves the development and construction of special software and hardware, the secure and efficient transport of notes and coinage, the development and stocking of ATMs, emptying of night safes etc. An entire industry of service providers has arisen around cash, which is aimed at running the cycle as safely and efficiently as possible. These parties are realising more and more that if the cash-cycle as a whole is to operate as efficiently and safely as possible, an integrated form of cycle management is what needs to be achieved. In addition to providing new opportunities, many technological, organisational and other innovations also require a constructive dialogue among operators in the cash-cycle, and among banks and retailers in particular. This kind of dialogue is an important precondition for transforming marginal optimisation in the individual stages in the cycle into full optimisation of the cycle as a whole.

Against this backdrop, over the next few years the cash industry is expected to show rapid development, with current service providers growing more and more into providers of cycle management and comprehensive solutions. Before this can occur, however, many barriers need to be removed, including obstacles in the form of legislation.

> *'Research has shown that consumers want to be able to pay using any payment method.'*
>
> Friso Hylkema,
> General Manager, PI



5 The future of cash

Will cash ultimately disappear completely, or will cash always remain a small (or even respectable) domain?

5.1 The cashless society

Mobile PIN transactions, touch-free payments, payment by mobile phone... electronic POSs and opportunities for consumers to pay are becoming increasingly available, and the trend is set to continue over the next few years. According to figures from Currence, improvements to electronic infrastructure in recent years have made a genuine contribution to a clear and considerable rise in the number of electronic payments made. New electronic payment options in the retail sector both cannibalise the existing methods, as well as reduce the number of cash payments. The latter development means that there are people who believe that a cashless society is only a matter of time.

In 2005, DNB commissioned a study into a possible future cashless society (and its desirability) – a society without coins or banknotes. The results of the study suggest a possible savings of hundreds of millions of euros on national payment transaction costs if all banks and retail outlets were to join forces to further promote electronic payments. Joint initiatives, such as the Payment Transactions Covenant*, could lead to a further drop in the social costs, which may even benefit consumers. Complete abolition of cash would also without a doubt improve safety in our society. However, by no means the least important prerequisite is that consumers are able to realise the advantages of cash (discussed in Section 3) using electronic alternatives – a reality that remains doubtful.

After all, a cashless society would have no more physical currency, making everybody fully dependent on electronic payment methods. However, electronic systems are susceptible to disruptions, and despite continued improvements, data and other security (in the short or long term) could be compromised. In the absence of cash, people may need to resort to solutions such as gold bars, a development that would not benefit the economy. There is therefore not a single system, not even an electronic one, that can do without a backup. In the case of electronic payments this means cash, a fact recently highlighted by the lead-up to

> *'In a cashless society with the current electronic solutions, you couldn't even send your children to buy bread.'*
>
> Miriam Osten,
> Manager Stichting Bevorderen Efficient Betalen (SBEB), Secretaris Task Force Cashloze Supermarkten (CBL)

and consequences of the financial crisis. This therefore raises the question of whether a major drop in cash payments, with an impact on the robustness and security of the infrastructure, would even be desirable.

Although the various cash stakeholders differ in their vision of the future of cash in the Netherlands, they do all agree that it does not seem plausible that cash will ever disappear completely. The result would therefore be more of a 'less-cash society' than a 'cashless society'.

> *'The most significant barrier to a cashless society is one that is never discussed: the black and grey economies.'*
>
> Annemarie Jorritsma,
> Chairperson of the Association of Netherlands Municipalities, Mayor of Almere

5.2 Scenarios for the future

The question therefore pertains more to the rate at which use of cash will decrease, and where the new balance between cash and non-cash will settle.

Given the major differences at present between individual countries[37] in use of cash, it is clear that the shift towards a new balance will vary from country to country. As described in this report, the Netherlands has seen a clear drop in the number of cash transactions in a number of sectors. However, at the same time figures from organisations such as DNB indicate that the quantity of cash in the Netherlands has never been so great. Recent research by DNB also shows that, contrary to popular belief, a high (positive) correlation has been demonstrated between Internet and cash usage, and a recent American study has shown that it is precisely the younger generation (generation 'Y') in the United States who have started paying more with cash (+20%)[38]. In addition to the influence of social/demographic factors, these studies also emphasise that care should be taken when making forecasts using linear extrapolations from trends begun in previous years.

It will therefore be more important to Dutch society not so much to predict, but rather to imagine what the market for payments might look like in ten years' time, and what needs to be done in the various scenarios in order to be prepared.

Given the crucial importance of our payment system and the role of cash, it would seem worthwhile to flesh out a few scenarios using the technique of scenario analysis. Scenario analysis is

37 For example, relating to the consequences of the financial crisis, the existing stage of development and density of the infrastructure for various payment methods, payment behaviour, the influence of credit card companies etc.

38 Aite Group: 'The Less-Cash Society: Forecasting cash usage in the United States', December 2010.

increasingly regarded by companies[39] as a valuable instrument in addition to conventional risk management, which is based too much on past experiences and linear risks. For although it is true that risks are often perceptible, they are not always taken seriously, as in the American mortgage crisis[40].

The future of cash could involve scenarios in which the cash stakeholders need to prepare for a continued linear decline in the use of cash, or even one in which cash usage drops at a faster rate[41] (until a new balance is reached).

A second condition for successful scenario analysis is imagination; it was due to a lack of imagination that nobody foresaw the consequences for aviation of the recent volcanic eruption in Iceland. A scenario in which the use of cash stagnates at least at present levels, or even increases, will therefore also need to be considered.

Officially, the Netherlands has no system owner who has final responsibility for safe and efficient payments. However, given that cash rotates within a cycle, scenario analysis can only be effective if there is participation from all links in the chain.

'At present, the costs of cash for retail chains are comparable to those of electronic payments.'

Henk van den Broek,
(Former) CEO of DetailResult
Chairman of the Payment Transactions Steering Group, Detailhandel Nederland

Collaboration within the cycle is therefore essential in order to reach a shared vision and strategy for making the use of cash as safe and cost-effective as possible, and in so doing to fulfil the obvious needs of consumers.

39 Shell was one of the first organisations to adopt scenario analysis.
40 Lecture: 'Volcanoes, Black Swans and Financial Crises', cited in Banking Review, September 2010.
41 As stated in Retail Banking Research 2010, 'moderate' versus 'accelerated' scenarios.

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List of interviewed stakeholders

1. Jan Binnekamp, Head of Cash Policy, DNB
2. Maarten Brouwer, General Manager, Royal Dutch Mint
3. Mark Buitenhek, Global Head of Payments & Cash Management, ING and Chairman of the SEPA Steering Group Netherlands
4. Ineke Bussemaker, Head of Payment Services and Savings, Rabobank
5. Henk van den Broek, (former) CEO of DetailResult, Chairman of Payments Steering Group, Detailhandel Nederland
6. Frank Burrekers, Manager of Health, Environment, Safety & Security, Shell-Retail
7. Ad van der Horst, CFO of Blokker Holding, member of Payments Steering Group, Detailhandel Nederland
8. Jan Huurdeman, Commercial Manager of Servex, hospitality and retail concepts
9. Friso Hylkema, P1 General Manager
10. Marina de Jongh, Manager of Competence Center Ticketing, NS Reizigers
11. Annemarie Jorritsma, Chairperson of the Association of Netherlands Municipalities (VNG), Mayor of Almere
12. Tjibbe Joustra, (former) Chairman of the Association of Private Security Organisations (VPB), Chairman of the Dutch Safety Board
13. Klaas Knot, Manager and Vice Treasurer-General of Ministry of Finance, Professor of 'Money and Banking' at the University of Groningen, Chairman of the CentiQ Steering Group
14. Piet Mallekoote, General Manager of Currence
15. Miriam Osten, Manager Stichting Bevorderen Efficient Betalen (SBEB), Secretaris Task Force Cashloze Supermarkten (CBL)
16. Eus Peters, Knowledge & Innovation Manager, Horeca Nederland
17. Arie Piet, CEO, Koninklijke Joh. Enschedé
18. Henriette Prast, Advisor to the Board of the National Institute for Family Finance Information (NIBUD), Professor of Personal Financial Planning, Tilburg University
19. Els Prins, Secretary for Copyright, Payments and Criminality, MKB Nederland
20. Ben Schellekens, Payments and Pensions Policy Advisor for the Consumentenbond
21. Arnout Schikhof, Head of Process Development, DNB
22. Jos van der Stap, National Robberies Coordinator, Korps Landelijke Politiediensten (KLPD)
23. Fred Teeven, State Secretary of Public Safety and Justice
24. Coen Voormeulen, Division Director for Cash and Payment Systems, DNB
25. Willem de Vocht, Secretary for Payments Detailhandel Nederland

Organisations

1. De Nederlandsche Bank (the Dutch Central Bank – DNB)

2. Maatschappelijk Overleg Betalingsverkeer (National Forum on the Payment System – MOB)

3. Korps Landelijke Politiediensten (National Police Services Agency – KLPD)

4. Gemeentelijke Kredietbank Den Haag (Municipal Credit Bank of The Hague)

5. Stichting Bevordering Efficiënt Betalen (Efficient Payments Foundation – SBEB)

6. Consumentenbond (Dutch Consumers' Association)

7. Centraal Bureau Levensmiddelenhandel (Dutch Food Retail Association)

8. De Koninklijke Nederlandse Munt (The Royal Dutch Mint)

9. Koninklijke Horeca Nederland (Royal Dutch Hospitality Association – HNL)

10. NS Reizigers (Dutch Railway Passengers – NS)

11. Vereniging van Nederlandse Gemeenten (Association of Netherlands Municipalities – VNG)

12. Platform Detailhandel Nederland (Dutch Retail Platform)

13. Nederlandse Mededingingsautoriteit (Netherlands Competition Authority – NMa)

14. Nederlandse Vereniging van Banken (Royal Dutch Banking Association)

15. MKB Nederland (Confederation of Netherlands Industry and Employers VNO-NCW, SME Netherlands – MKB)

16. Task Force Cashloze Supermarkten (Task Force Cashless Supermarkets – CBL)

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About G4S

G4S Cash Solutions provides and develops new security concepts that allow market operators such as retailers and banks to work with cash worry-free. The business is part of G4S, a company whose 625,000 employees in over 120 countries make it a world leader in Security Solutions. G4S is listed on the London Stock Exchange, with a secondary listing in Copenhagen. For more information, please visit www.g4s.nl

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G4S Cash Solutions
April 2011

PO Box 2045, 3500 GA Utrecht, The Netherlands

www.g4s.nl