

strategy&

Future market design of the Dutch cash cycle

Summary of the report

February 2023



Disclaimer

This presentation summarises the findings of the report '[Toekomstige inrichting van de chartale keten](#)', written under the responsibility of Jeroen Crijns (partner). PricewaterhouseCoopers Advisory N.V. has issued the report to you. This presentation is offered for information purposes only and no rights can be derived from it.

Scope of the research

We have carried out the work as agreed in the engagement letter. This report describes how to safeguard a future-proof cash infrastructure, and hence the public functions of cash. To this end, various detailed market design options for the cash chain and the ways of financing these, with their advantages and disadvantages, are drawn up. It is not part of the scope of our engagement to express a preference for one of these options. Nor is it within the scope to determine the size of the cash infrastructure needed to safeguard the public functions of cash. The scope of the work agreed upon in the engagement letter has not changed.

We have completed our analytical work on 15 February 2023. Consequently, this report does not include the impact of events after that date or the impact of information made available at a later date.

Our information is based on interviews, desk research, and management information. We refer to chapter 1 of [the report](#) for a further explanation of the research methodology and appendix D for an overview of the parties interviewed during the research.

Assumptions underlying our work

We have based our work on the information made available to us. We have assumed that this information is correct, complete and not misleading. We have not audited the information, nor have we performed a review aimed at establishing the completeness and accuracy of the information in accordance with international audit or review standards.

Access to the report

Our report has been prepared specifically for De Nederlandsche Bank N.V. and the Ministry of Finance with whom we have agreed the purpose and scope of our work and to whom we have explained the nature and scope of our work and its limitations. Therefore, we accept no responsibility, duty of care or liability – whether in contract, tort (including negligence) or otherwise – for the use of the report by parties other than the client.

As agreed upon in our engagement letter, De Nederlandsche Bank N.V. and the Ministry of Finance, as clients, have the right to publish the report.

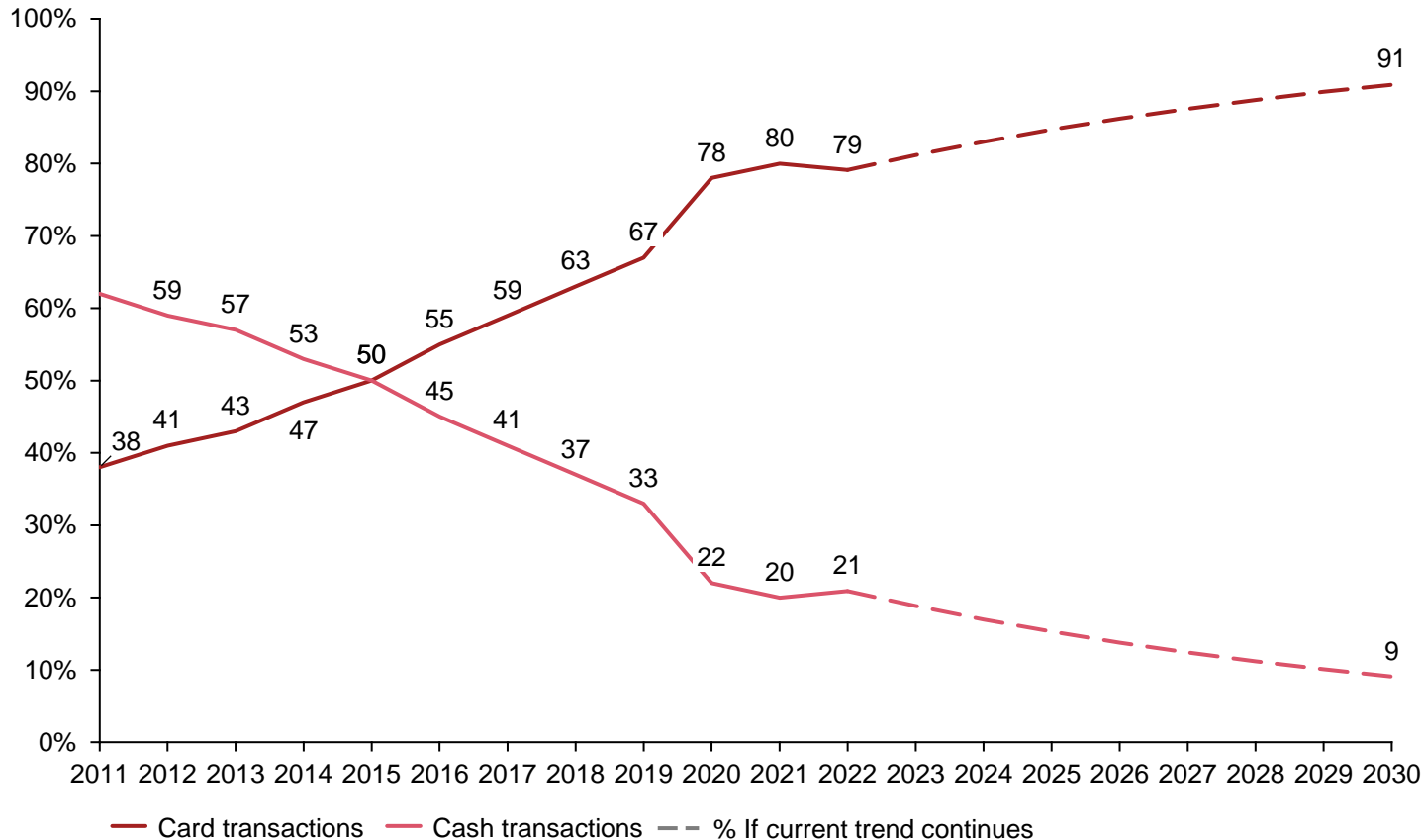
Other comments on the report

The report and any dispute out of or in connection with the (contents of) the report are solely governed by Dutch law.

In past years, the use of cash for point-of-sale transactions in the Netherlands has seen a sharp decline

Decline in use of cash

Declining use of cash for point-of-sale transactions in the Netherlands
(% of total number of point-of-sale transactions)



(Changing) preferences for payment methods

The use of cash has declined sharply in recent years, driven by such factors as the digitisation of services and shifts in consumer and retailer preferences¹

73% of consumers prefer to use debit cards for point-of-sale ('PoS') transactions (2016: 53%)

73% of consumers over the age of 65 use debit cards for point-of-sale transactions (2016: 44%)

61% of peer-to-peer payments are settled electronically (2016: nil, the year 'Tikkie'² was introduced)

86% of point-of-sale payments is contactless (2016: 55%)

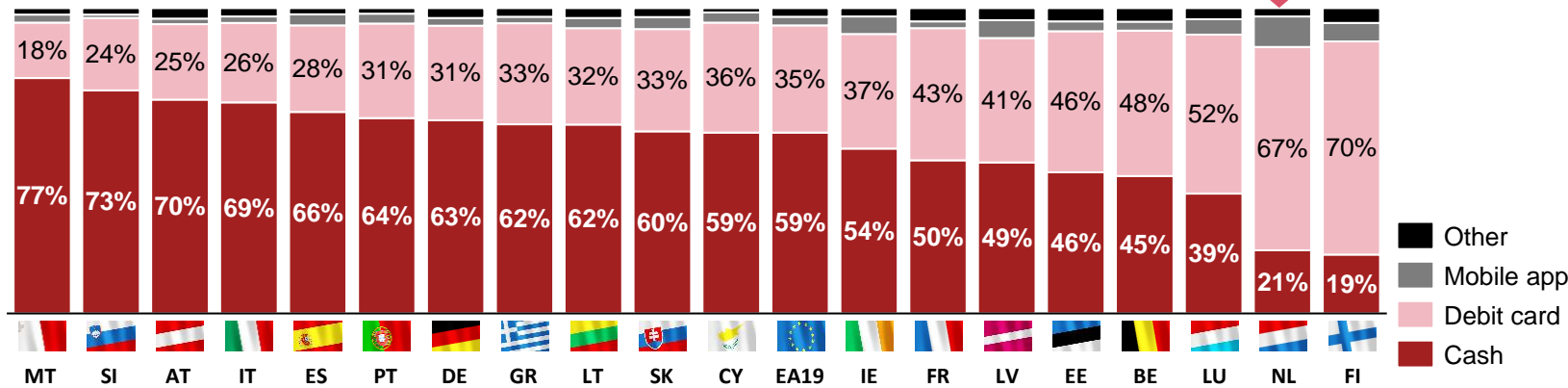
If the trend of the past 10 years were to continue, in 2030 only 9% of point-of-sale transactions would involve cash

1) [Betalen aan de kassa 2021](#), DNB and Betaalvereniging Nederland, 2022; [Factsheet Betalingsverkeer 2021 en 2022](#), Betaalvereniging Nederland. 2) Dutch payment app for peer-to-peer payments and payment requests

The Netherlands is one of the frontrunners in Europe in terms of the use of, and preference for, non-cash payments

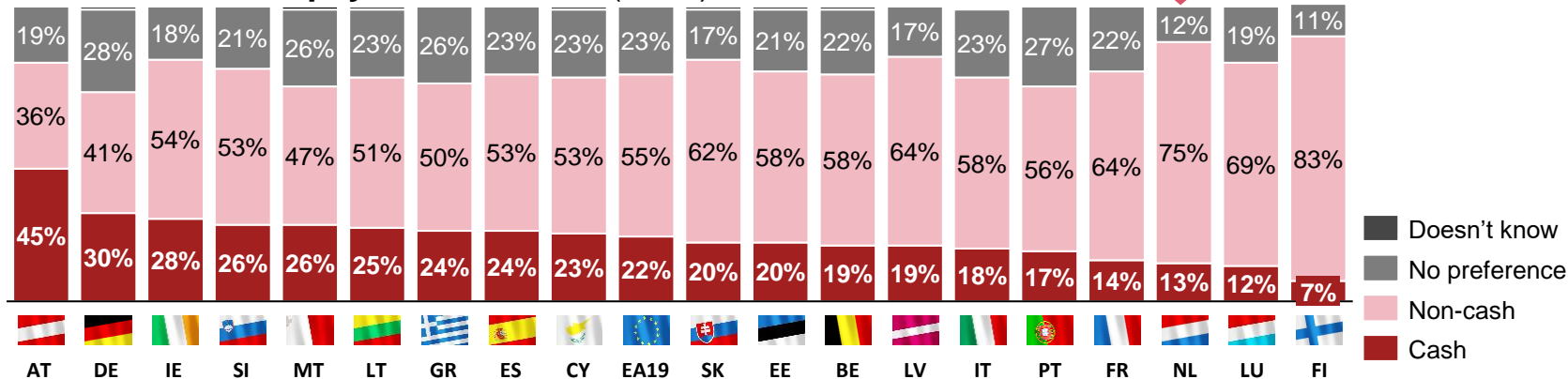
Use of and preference for cash in Europe

Share of different payment methods at PoS establishments¹ (2022)



- With only 21% of PoS payments being settled with cash, **the Netherlands** is one of the **frontrunners in Europe** in terms of use of **electronic payment methods**
- **Only Finland** saw fewer cash payments (19%). Other Scandinavian (non-euro) countries like Sweden, Norway and Denmark also have low usage levels of cash but were not included in the ECB study

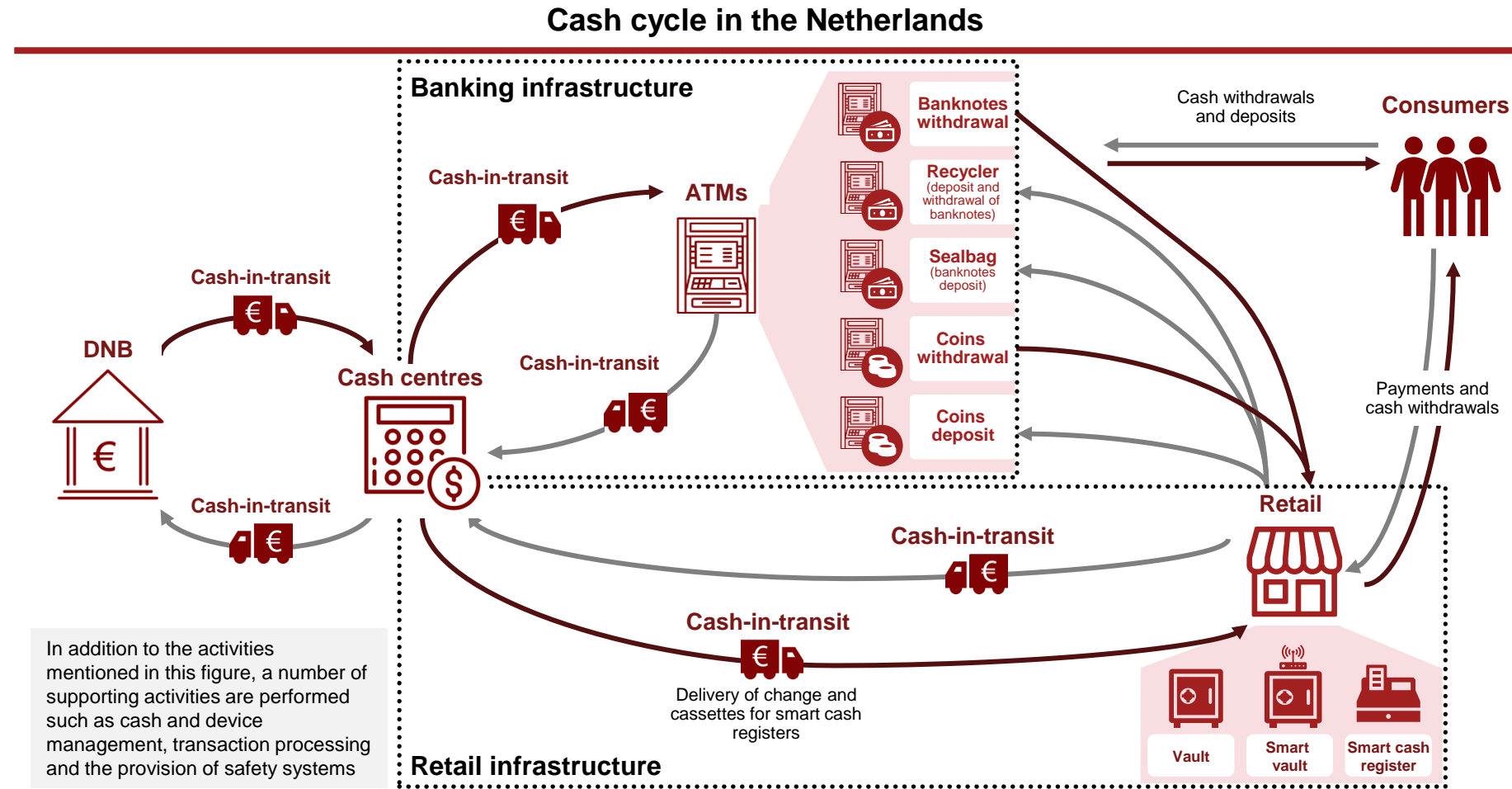
Preference for PoS payment method¹ (2022)



- **Differences compared to other countries are large.** Luxembourg, which follows Finland and the Netherlands, has a 39% share of cash
- **When it comes to consumer preferences** (as opposed to actual settlements) **differences** between European countries are **smaller**. Consumers consistently **prefer electronic payments**. In more than half of the countries, 20% or less of consumers would prefer to pay cash

An infrastructure consisting of multiple links enables cash to circulate in the economy

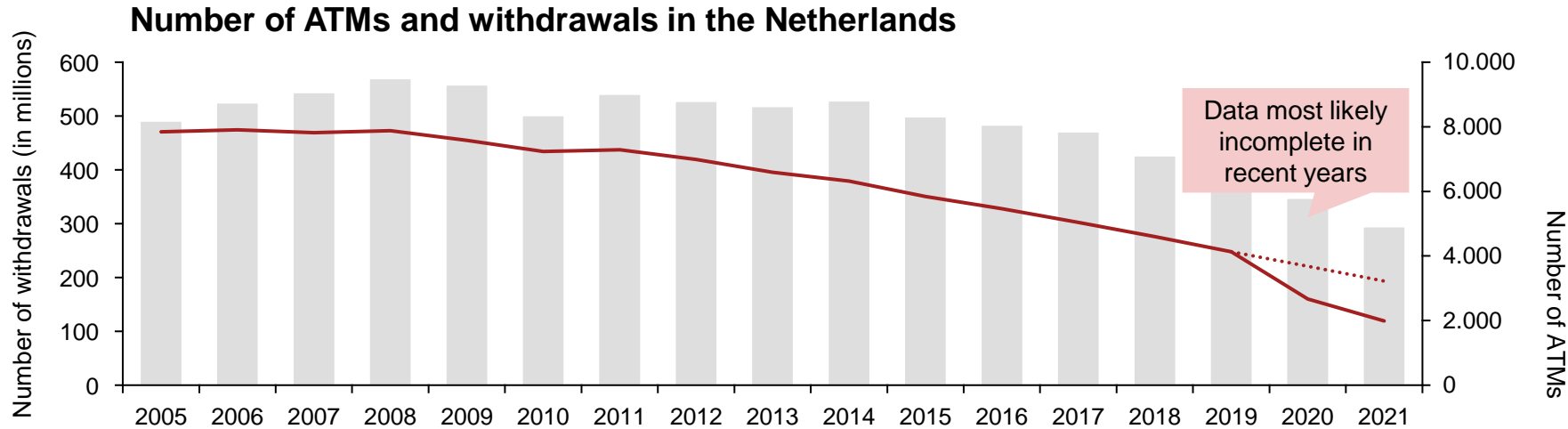
Cash cycle infrastructure in the Netherlands



- The cash cycle is enabled by a **banking and retail infrastructure**
- The following services fall under the **basic infrastructure: withdrawal and deposit services at ATMs** (banking infrastructure) and **cash-in-transit** (retail infrastructure, for retailers to deposit money and order change)
- **Geldmaat** manages the **banking infrastructure**. In addition, several IADs¹ offer banknotes withdrawal services through their ATMs
- Brink's provides **cash-in-transit** services to Geldmaat. In addition, several smaller CiT² players are active in the market
- Brink's also offers **(smart) deposit solutions** and CiT to retailers

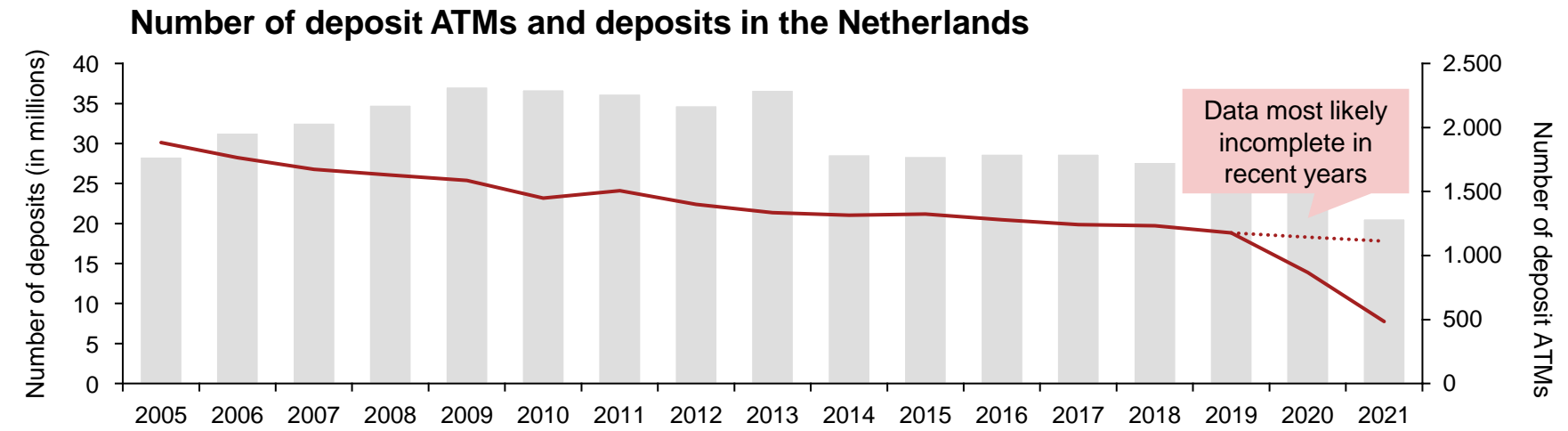
With the decline in usage, the number of ATMs for withdrawals and deposits has also decreased sharply

Number and usage of ATMs in the Netherlands



- The number of **cash withdrawals** in the Netherlands has been **declining for years**. Over the past five years, the number of withdrawals has declined by ~10% per year, from ~330 million in 2016 to 120–190 million in 2021

- The **number of ATMs** initially increased from ~8,200 to 9,500 between 2005 and 2009, but then decreased to ~4,900 in 2021



- The number of **deposits** has **fallen** by an average of ~10% per year over the past five years. The number of ATMs initially increased to 2,297 in 2010 and then decreased to 1,289 in 2021

- Assuming a constant number of ATMs, a further **decrease** in the number of **transactions would threaten the financial viability** of the ATM network

From a societal perspective, it is desirable that a minimum level of cash services is maintained

Societally desired level of cash services

Cash has several functions that determine its importance as a means of payment¹

	It ensures individual freedom and autonomy
	It is a legal tender
	It ensures privacy
	It is inclusive
	It helps to keep track of expenses
	It is fast
	It is secure
	It is a store of value

 For this project, DNB and MinFin have formulated requirements that the basic cash infrastructure should satisfy²

- Consumers and companies should have **access** to the following **services**:

	Consumers	Companies
 Banknotes withdrawal	✓	✓
 Banknotes deposits (recycler)	✓	✓
 Coins withdrawal	✓	✓
 Coins deposits	✓	✓
 Banknotes deposits (sealbag)		✓
 Cash-in-transit		✓

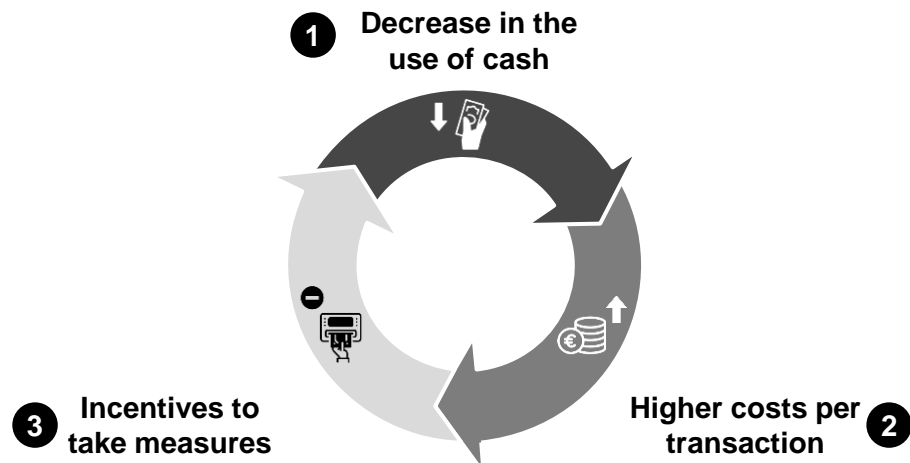
- The **quality** of these services satisfies the **standards**. These standards are **determined periodically** and **monitored**
- Prices** are **proportional**³ and do not discourage users from using cash
- Point-of-sale establishments that are local monopolies accept cash
- Legitimate use of cash is not discouraged** by measures taken by banks to comply with laws and regulations, including the Dutch Anti-Money Laundering and Anti-Terrorist Financing Act (Wwft)
- The basic infrastructure is a **partial fallback option** for debit card payments⁴

1) Functions of cash as described by the ECB in *The role of cash*, ECB, 2022; 2) See Appendix A, TICKET RfP for the full list; 3) What proportionality entails has not been specified further; 4) This requirement will be phased out as electronic fallback options are implemented (art. 2, Dutch Cash Covenant)

The market no longer provides the cash infrastructure in its societally desired scope

Need for a new market design model (including funding)

Need for government intervention in the cash cycle



- 1 The **use of cash is declining**, driven by such factors as the digitisation of services and shifting consumer preferences
- 2 Operating the cash infrastructure requires sufficient scale due to **high fixed costs**. With the declining number of transactions, **costs per transaction are rising**
- 3 To absorb the increasing transaction costs, the players in the value chain **take measures** that can **further discourage**¹ the **use of cash**, for example:
 - Reduced service levels for cash services (cost savings)
 - Price increases for consumers and PoS establishments for cash services
 - PoS establishments no longer accepting cash as a payment method

1) Parties may also have incentives to limit the use of cash due to the rising costs of adhering to laws and regulations, such as those related to the Dutch Anti-Money Laundering and Anti-Terrorist Financing Act

Missing market

- As a consequence of this dynamic, the **market no longer provides** sufficient **societally desirable cash services** – there is a ‘missing market’ in market failure terminology
- **Cash infrastructure costs** are **largely determined by requirements** set on accessibility, reliability and safety, among others. The higher the requirements, the higher the costs, thus leading to higher prices for end users (consumers and retailers)
- **End users** increasingly **choose not to use cash** as they are not willing or able to pay the (higher) prices
- **Setting increased requirements** for the cash infrastructure could **lead to even higher prices** and discourage the use of cash even further. Therefore, by itself, setting requirements is not a solution to the missing market problem
- Therefore, to ensure that the **societally desirable cash services** are provided, the government should also arrange a sustainable **funding model** that prevents the **requirements from leading to (significantly) higher prices**

The Dutch Cash Covenant was a first step to retain the cash infrastructure in its current form, but it is not future-proof

Need for a new model (including funding)



Summary of the main agreements in the Dutch Cash Covenant¹

The aim of the covenant is to ensure that **cash continues to function properly** as a means of payment. It contains **temporary agreements between 22 organisations** with an interest in cash. In summary, they:

- Acknowledge that an efficient, accessible and secure payment system, including cash, is of **public interest**
- Agree to **retain the current cash infrastructure**, e.g. numbers of ATMs and CiT services, and will adhere to quality standards
- Agree **not to implement any price increases or volume restrictions** for services at ATMs (banks and Geldmaat) until July 2023
- Are committed to develop new forms of payment and **alternative fallback options** for debit card payments

The current model is not future-proof

The current model is based on **temporary covenant agreements** to maintain the cash infrastructure. This is not future-proof for the following reasons:

- The agreements are the result of a negotiation process. **Reviewing** them is complex as it requires a certain degree of **uniformity**. The review is important because the **size of the basic infrastructure** to a large extent determines its **costs**
- The agreements are **voluntary**, which means that there is no obligation to provide the infrastructure. There is **no party with formal supervisory or sanctioning powers**
- In addition, there are **specific bottlenecks** in certain **parts of the cash cycle**:



Only the **three largest banks offer cash services** through Geldmaat and **largely fund** them. This causes **level playing field concerns** and strengthens **incentives to discourage the use of cash**



The strong dependence on Brink's for **CiT services** creates **continuity risks** and potential market power (**dominant position**) concerns that need monitoring



A nationwide network of ATMs is of **public interest**. However, as the **financial viability** of an ATM depends strongly on **the number of transactions** that take place, the market would not operate ATMs in **low traffic locations**



For **PoS establishments**, **accepting cash is labour-intensive** and comes with **security risks**. The number of ATMs has fallen from ~9,500 to ~4,900 over the past 10 years, making it increasingly **difficult for consumers to withdraw money**

There is currently less need for intervention in the cash-in-transit services market

Cash-in-transit market

Less need for intervention in cash-in-transit

- In the market for cash-in-transit services there appears to be **less need for intervention** – the issue of a service that is not provided by the market does not seem to exist
- A potential bottleneck in CiT is Brink's strong position in the market. With a 90–95% market share, Brink's has an **important position** in the CiT market, where it also offers innovative deposit solutions
- Brink's position entails **potential risks**, both for the **continuity of services** and due to **market power** concerns (both at present and in the future)
- Despite Brink's market share, there are several reasons why it is **not certain that it has a dominant position** that requires intervention:
 - Given the nature of the problem – a missing market – Brink's cannot simply charge prices that are (far) above cost. Customers of CiT services are **not willing to pay high prices**
 - There appears to be **interest** from **foreign players** to enter and grow in the Dutch market (for example Ziemann has recently entered the Dutch market). In several European countries with lower or similar cash usage compared to the Netherlands, **various large** (international) **players** are active (see table on the right)
 - Geldmaat represents a **significant part of the demand** for CiT services, and therefore has **bargaining power** vis-à-vis Brink's. It can threaten to switch to another party and, if necessary, facilitate that party's entry into the Dutch market

CiT players in other European countries

Country		Players
	The Netherlands	Brink's
	Belgium	Brink's, Loomis
	Germany	Multiple players, a.o. Ziemann
	France	Brink's, Loomis
	Denmark	Loomis, Nokas
	Finland	Loomis, Nokas
	Norway	Loomis, Nokas
	Sweden	Loomis

Three things must be arranged in the future market design to address the ‘missing market’ problem

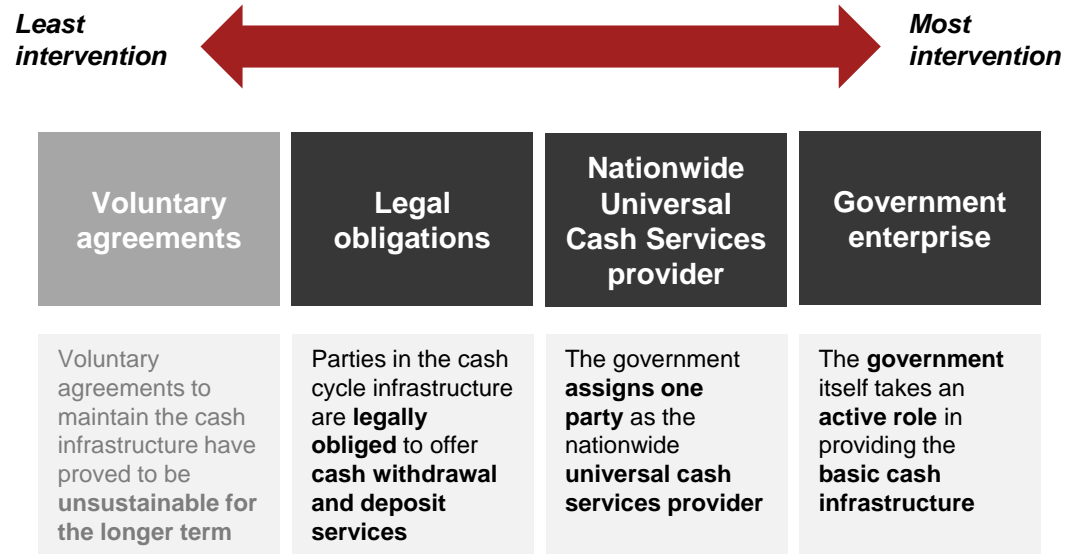
Three things that need to be arranged

1. Setting requirements

- The **government** needs to specify what needs to be provided by market parties (i.e. **requirements for the basic infrastructure**)
- The requirements for the basic infrastructure have a **major impact on the costs** of the cash cycle. Therefore, it is important that these requirements reflect **the needs of society**
- The requirements need to be **reviewed periodically** to ensure that they keep meeting these needs and that the **costs incurred by the society are acceptable**

2. Assigning a party to provide the infrastructure

- Given the nature of the problem, a **missing market**, the government should make a party responsible for providing the basic infrastructure that is currently not (sufficiently) provided by the market¹
- To this end, several **options** exist:



3. Organising funding

The new funding model needs to ensure that:

1. Parties are **willing to provide** the service (i.e. it is **not structurally loss-making** to do so)
2. Incentives to **unnecessarily discourage** cash usage are **limited**

Cost-based prices for end users are rising and would further **discourage the use** of cash. Therefore, the government needs to set **prices** it considers **affordable**. The **remaining costs** should be shared among a **larger group**

Options to fund by a larger group

Bank (payment) account holders

Electronic PoS transactions

Public funding

Regardless – and on top of – the specific market design, it is important that requirements are set for cash services

Setting requirements

The need for requirements



Basic infrastructure requirements

- The government should specify the basic infrastructure requirements to ensure they **align with societal needs** and to **provide clarity** to parties in the cash cycle
- As the requirements for the basic infrastructure **determine the costs that society will bear**, it is important that the requirements are **periodically revised** (this could be done by means of a social cost-benefit analysis)



Price caps and the fallback fee

- Due to **high fixed costs** and **falling volumes**, **cost-based prices** for ATM services would continue to rise and result in a further decline in usage. To break this cycle and ensure services are affordable, the **government** should set **price caps**
- The fallback fee has not been revised for years. To ensure **that all banks contribute proportionally** to the financing of the cash infrastructure, the government should impose (and regularly review) a **fallback fee that covers costs** on card schemes. As there are **conflicting interests** among cash cycle parties, card schemes need an independent party to set this fee



Cash-in-transit continuity

- Due to **high fixed costs** and **efficiency improvements**, the market for CiT is **highly concentrated** with Brink's in a critical position. It is advisable to legally formalise the 'living will' agreements with Brink's and introduce them with **other CiT players** once they attain a certain market share threshold
- Brink's **market power seems limited** given the international playing field and the context of a missing market. **Imposing obligations on market parties** in the future market design could **change** this and make it necessary to monitor and **regulate prices**



Safety requirements for ATMs

- The government should set **safety requirements** for ATMs (both Geldmaat and IADs) given the **risk and impact of ATM robberies** and to ensure a **level playing field**
- Given the **cost-cutting pressure** that declining volumes bring, it is unlikely that operators of ATMs will take **sufficient measures** on their own

There are several ways in which the Dutch government can intervene to ensure that services are provided

Ways to intervene as the government

Government intervention options

Most private (least intervention)

Free market and lighter instruments

Free market
No agreements, social or financial instruments


Social steering
The provision of information by the government with the aim of influencing the behaviour of companies
publishing sustainability indicators



Financial steering
Giving financial incentives to encourage desired behaviour
subsidies

Voluntary agreements (self-regulation)
Voluntary agreements, either through a covenant, or for example through certifications or recognition schemes
Cash Covenant

Regulation

Introducing obligations
Introducing obligations for companies in a certain market to meet requirements. This can take multiple forms, for example:
- Rules that promote innovation or leave room for implementation (e.g. technical standards)
- Legal requirements
- Policy rules framing the scope for interpretation of legal provisions
safety requirements, Drank- en Horecawet (law for alcohol and hospitality)

Basic health insurance  *Cash services*

Universal service or concession
The government grants a concession or assigns a party as a Universal Service Provider. The main difference between the two is the way of formalising requirements (legal: USP, contractual: concession)
 

Most public (most intervention)

Government execution

Public limited company
Private company with the Minister of Finance as a shareholder 

Independent governing body (with legal status)
Public or private body that carries out activities under light ministerial accountability
 

Independent governing body (without legal status)
Body without own legal status

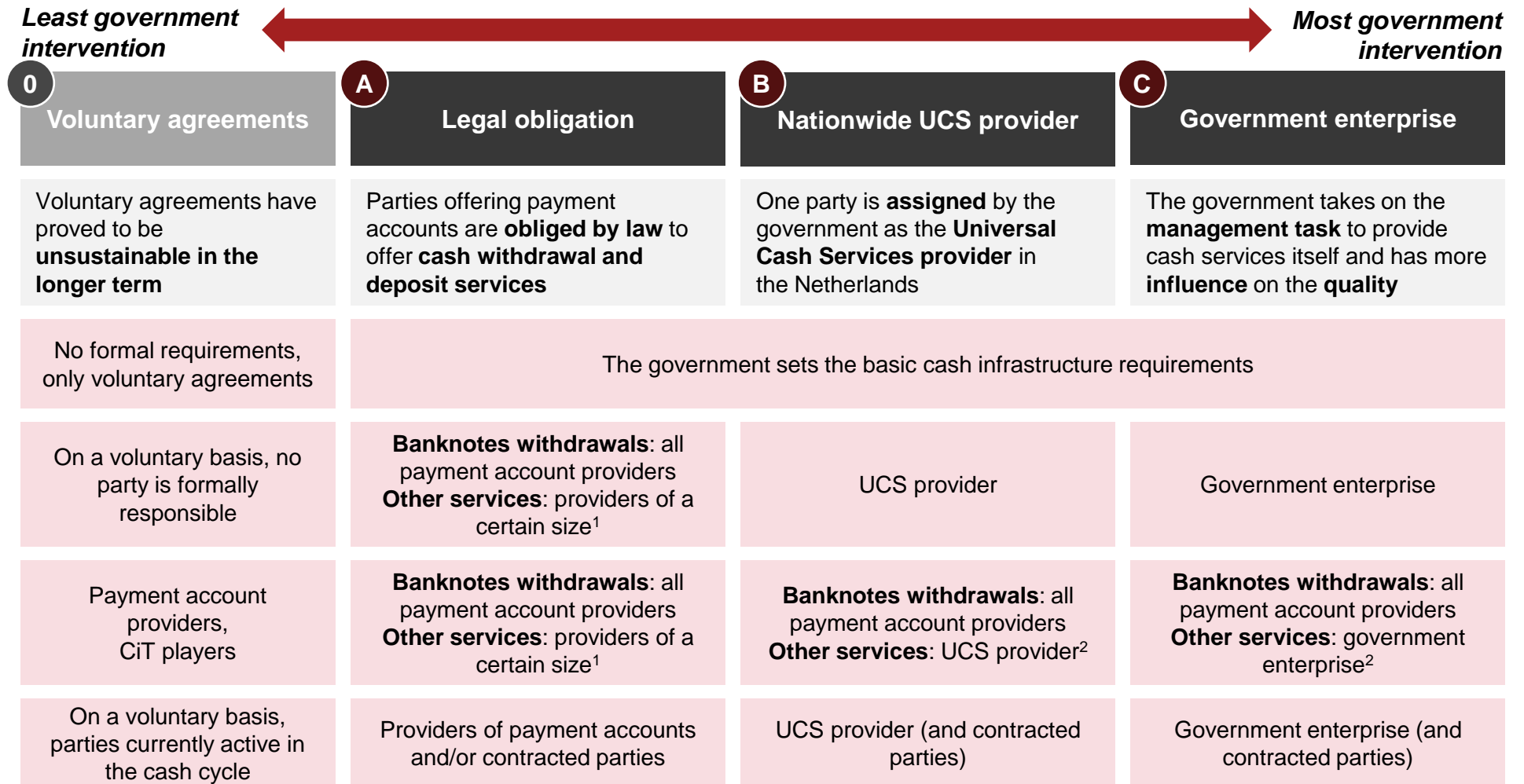

Agency
Internally independent part of a ministry


Service as part of a ministry
Official ministerial service


- The government can **intervene** in a market in **different ways**
- **The middle options:** introducing obligations, a universal service or concession, a public limited company or an independent governing body (with legal status) are **most appropriate**
- **Lighter forms of intervention do not guarantee** that the cash infrastructure will be provided
- **Heavier forms of intervention** are not appropriate because of the characteristics of cash services and the fact that the **market currently (partially) provides them**

The proposed market design models differ with regard to the party (or parties) assigned to provide cash services

Market design options



1) The obligation could cover the four largest banks or, as in Sweden, be based on a threshold of the total funds deposited on these bank accounts; 2) Obligations to adhere to the Dutch Anti-Money Laundering and Anti-Terrorist Financing Act remain with the banks

Within each market design model, the funding model should provide incentives to the responsible party to be efficient

Funding within each market design model

	A Legal obligation				B Nationwide UCS provider				C Government enterprise			
Rationale	<ul style="list-style-type: none"> In addition to providing services, banks are responsible to pass on the costs. This gives them incentives to operate efficiently to be attractive to consumers Banks will most likely pass on the costs as part of the fixed fee that customers pay for their bank account By placing the obligation on and organising funding through banks, it is not necessary to assign other parties to provide activities in the cash cycle (e.g. UCS provider) 				<ul style="list-style-type: none"> As the UCS provider charges banks for banknote withdrawals, banks can manage the UCS provider to be efficient Coin, deposit and CiT services are partially funded through electronic transactions, this will also lead to lower prices on commercial cash deposit and withdrawal transactions This also promotes cash acceptance as the difference in costs between accepting cash and card transactions declines 				<ul style="list-style-type: none"> Through public funding, the government contributes to the provision of a service of public interest, through either direct subsidies or fiscal benefits Because the government is responsible for the costs of the services it provides, it has an incentive to set basic infrastructure requirements that are socially efficient and to review them periodically 			
Funding per service	Transaction pricing	Fixed fee bank account	Fee on electronic transactions	Contribution from general funds	Transaction pricing	Fixed fee bank account	Fee on electronic transactions	Contribution from general funds	Transaction pricing	Fixed fee bank account	Fee on electronic transactions	Contribution from general funds
Banknotes withdrawal		✓		*		✓		*		✓		
Coins and deposit services	✓ =	✓		*	✓ ↓		✓	*	✓ =			✓
Cash-in-transit	✓ =			*	✓ ↓		✓	*	✓ =			

Expected price developments

Approx. equal to current situation

Rises compared to current situation

Falls compared to current situation

*) Within models A and B the possibility exists to (in the future) partly fund the services through general funds

In model A, it is necessary to define which banks should fall under the legal obligation to provide cash services

Market design model: **A** legal obligation

Detailing of the market design option



- In this model, **payment account providers**¹ are **legally obliged** to **offer cash services** to consumers and point-of-sale establishments. As for which providers fall under this obligation, the following would be appropriate:

Service	Service provider	Implementation
Banknotes withdrawal	All payment account providers	No changes needed (via card scheme infrastructure)
Coins and deposits	Providers exceeding a certain size threshold	E.g. via contract with Geldmaat (interfacing is needed)

- All payment account providers** offer banknotes withdrawals and **contribute to the funding** of the cash infrastructure through a **fallback fee that covers the costs**. This ensures **maximum access to cash** withdrawals for residents and a **level playing field**
- Due to the **required investment** (for interfacing) and **practical feasibility**, it is advisable to only oblige payment account providers of a **certain minimum size** to offer coins and deposit services. These could be the 8 banks that already provide **corporate cash deposit services**, or banks that meet a threshold in terms of **number of accounts** or **total deposits** on these accounts (as used in Sweden)²
- Banks are **free** to decide on **how they fulfil their obligations**. In practice, they will probably depend on Geldmaat's services

Detailing of the funding model



- The obliged parties will provide cash services to end users against **maximum prices** per transaction. The capped prices will likely be **lower than the actual costs per transaction**
- Banks will need funding for the difference between the costs per transaction and the capped price. The most obvious way would be to fund it through the **fixed fee for payment accounts** (approx. €8 per year per payment account)
- Given the **public nature** of cash, it is possible to partially fund the difference through general funds in the future. This could be introduced once **cash usage falls below a certain level** or when the **difference between costs per transaction and the regulated price** exceeds a certain threshold

General overview of the transition



- A **legal obligation** for payment account providers is at the core of this model. A preparatory phase, in which various parties will be consulted, will be followed by the legislative procedure (which takes approximately 2 years)
- During the preparatory phase, a **state aid assessment** will be carried out. In this model state aid law will likely only be applicable if subsidies from general funds are provided. In that case, there are several ways to prove that the model is compatible with state aid law

1) Realistically this is the only party on which the obligation could be imposed. Banks offer withdrawal and deposit services and play a crucial role in ordering money from DNB and transferring deposited funds to bank accounts; 2) 10 banks would fall under the obligation if the Swedish threshold were to be used

Model B requires an appointment procedure for the UCS provider and the introduction of a new funding option

Market design model: **B** UCS provider

Detailing of the market design option



- The **government assigns** a company as a **Universal Cash Service provider** (UCS provider). With a universal service, the government considers it is of **public interest that citizens** have access to the service against affordable prices. The requirements that the universal service should meet will be **legislated**
- A UCS provider can be **assigned directly** or **through a tender**. The **first appointment** of the UCS provider will have to be made **voluntarily** with the company at hand.¹ Therefore, it is important to arrange the **funding** for the service **in a sustainable manner**
- **Geldmaat** is the most obvious UCS provider because it has a **nationwide network of ATMs** (including contracts with the locations)
- The UCS provider is under **no obligation** to provide the **full universal cash service by itself**. Parts of the service can be carried out by third parties (e.g. cash-in-transit for ATMs), but the UCS provider will **remain responsible** for meeting the basic level of service
- If Geldmaat were to become the UCS provider, it would need to **provide access** to its coin and deposit services to clients of other banks (other than its three shareholders). Rules were drawn up for this when Geldmaat was founded. The competition authority can enforce this based on competition law
- In this model, the UCS provider will offer **coin and deposit services directly to its end users**, **banknote withdrawals** will be offered by the **banks**

Detailing of the funding model



- The government imposes **maximum prices** per transaction for end users. For banknote withdrawals banks charge these to end users, for coin and deposit services the UCS provider can charge them directly. Banks pay a **cost-based fallback fee** for banknote withdrawals to the UCS provider
- Banks and the UCS provider will need funding for the difference between cost-based prices and the price caps. Banks will probably include this in their **fixed fee for payment accounts** (approx. €7 per year per account²), the UCS provider can be funded via a **levy on electronic payments** (max 2 cents per transaction³, to be paid by acquirers who will pass these costs on to the PoS establishments). As a result, prices for PoS establishments can be further reduced, which contributes to the **acceptance** of cash
- This model can also be financed by **general funds** in the longer term

General overview of the transition



- An important part of the transition is the introduction of a law that gives the government **the authority to appoint** a company for the **universal service**
- In the preparatory phase, a state aid assessment will take place. **State aid law** will probably **not be applicable** as long as the levy on electronic payments goes directly to the UCS provider (i.e. is not collected by the government first) and no subsidy from general funds is provided. If needed, **several options** exist to prove that state aid in this case is compatible

1) After that, the continuity of the service is guaranteed because the UCS provider can only return the UCS when a suitable alternative provider has been found.

2) For banknote withdrawals only; 3) In case no fees are charged per transaction

Model C requires defining the form of the public enterprise and the activities that it carries out

Market design model: public enterprise

Detailing of the market design option



- In this model, the government is (partially) responsible for **providing cash services itself** in order to safeguard the public interest. This form of intervention may be justified because interests are **difficult to contract** to a private party¹, for example Geldmaat's management activities². This model gives the government **more control** over the provision and quality of services
- In order to preserve the desirable effects of market forces as much as possible (e.g. incentives to innovate), it is desirable to limit the government activities to the **management activities** of Geldmaat
- There are several ways in which the government could actively participate in the provision of cash services. As these services are currently partially provided by the market, **lighter/more private forms** of government intervention are more appropriate (e.g. **public limited company or an independent governing body**). More far-reaching forms are usually only considered if the lighter forms would not achieve the desired outcomes
- A public limited company gives the government the **rights of a shareholder**, meaning **requirements** will have to be set in a different way (e.g. through a **concession or legislation**). Public limited companies can receive subsidies, but the guiding principle is that they should be able to **generate returns**. It could happen that depending on the **basic infrastructure requirements** and **maximum prices**, the need for subsidy arises to such an extent that a public limited company is **no longer appropriate**
- In that case, as with ProRail, an **indep. governing body** can be an option

Detailing of the funding model



- **Banks** (banknote withdrawals) and the **public enterprise** (other services) will offer cash services to end users at **maximum prices** set by the government. These capped prices are **unlikely to cover the costs** per transaction
- Funding will be needed for the **difference between cost-based prices** and the **maximum prices**. Banks will likely fund banknote withdrawals through the **fixed fee for payment accounts** (approximately €7 per year per account). The government will fill the gap using **general funds** (max. €50 million per year)
- In the future, for example if the cost per transaction becomes too high, the government could consider **subsidising part of the costs** and thereby **contributing** to the provision of a **service of public interest**

General overview of the transition



- If the government decides that other instruments (e.g. legislation, financial instruments) are **not sufficient to safeguard the public interest**, it will take an active role in providing the service through a public enterprise. The chosen **form of the public enterprise** will also determine what the transition will look like
- It is likely that the subsidy from **general resources** will **constitute state aid**. There are various ways to prove **compatibility with state aid law**, for example through a **Service of General Economic Interest (SGEI) scheme**

1) This can be the case if interests are difficult to contract and/or monitor. 2) This includes among others the decision on where to place ATMs and the management of contracted parties

The current model and the potential future models are evaluated against a set of key and supporting criteria

Evaluation criteria

The scores for each of the models (including the current model) can be found in the appendix

	Criterion	Explanation
Key criteria	Public interest of cash (safe, accessible, reliable, usable)	Safeguarding the public functions of cash and guaranteeing the basic cash infrastructure services as documented in the cash covenant: <ul style="list-style-type: none"> • Safe: a safe infrastructure, both for consumers and PoS establishments (for example safe locations and ATMs, continuity of CiT services for PoS establishments) • Accessible: among others, a nationwide network with sufficient ATMs for consumers and PoS establishments, accessible without additional data, knowledge or equipment • Reliable: available ATMs (with limited downtime) • Usable: widely accepted by PoS establishments and government agencies
	Future-proof	Guaranteeing an affordable basic cash infrastructure, even if the use of cash decreases further. This includes for example the extent to which the model guarantees the continuity of CiT services, the robustness of the model should a critical link in the cash cycle cease to provide services, and the feasibility of the funding model with structurally low levels of cash usage
	Incentives for good service provision (cost efficiency, quality)	The extent to which the model creates incentives for parties in the cash cycle to operate efficiently and to provide high-quality services. This includes for example ATMs that are located in safe places, innovative services provided by CiT players that match retailers' needs
Supporting criteria	Sustainability/CSR	The extent to which the model contributes to sustainability and corporate social responsibility, including setting up the cash cycle as sustainably as possible, reducing CO ₂ emissions, and the room for a more sustainable transition in the longer term
	Continuity of competition in related markets	The possibility to retain competition in cash-related markets, for example the markets for new ATMs, security and maintenance services for ATMs, and services for and offered by IADs
	Feasibility of the transition (costs, complexity)	The complexity and costs required to realise the model. This includes expected costs, time, complexity and implementation risks for the transition to the desired market design model, for example the complexity of introducing obligations or the amount of necessary subsidies
	Compatibility with laws and regulations	Compatibility with existing laws and regulations, and any rules that make it difficult to introduce the market design model. This also includes how easy it is to demonstrate compatibility or how easy it is to introduce or change certain regulations

All models safeguard the public functions of cash and have their own distinguishing features, which will ultimately drive the final decision

Distinguishing features of the models

A

Legal obligation

- This model is the **easiest one to implement**, with relatively small adjustments in terms of legislation and how services are offered
- Banks have **strong incentives** to be **efficient** when offering the services as they are responsible for the costs and passing them through (affecting their competitiveness in the market)
- The disadvantage of this model is that **many parties fall under the obligation**. This means that **making adjustments to the requirements** could be more **difficult**

B

Nationwide UCS provider

- This model has **multiple funding options**, which makes it **future-proof** and provides more opportunities to **lower prices for point-of-sale establishments**. Formulating a 'universal cash service' makes the step towards **subsidising through general funds easier** (as a 'service of general economic interest')
- **Introducing** the option of funding through electronic transactions is more **complex**, among others due to the **administrative burden** placed on **acquirers**
- The **decrease in the cost difference** between card and cash payments **promotes** the **acceptance** of cash at point-of-sale establishments because it makes **cash transactions equally or more attractive relative to non-cash options**

C

Government enterprise

- This model gives the government the **greatest influence on quality** of services provided and **more flexibility** to **adjust requirements** over time (for example, in the event of shifting preferences that influence what is defined as the societally desirable basic infrastructure)
- Although this comes at the **expense** of the **benefits** that **private companies** bring (e.g. incentives to innovate), this model gives the government a strong **incentive** to set the basic infrastructure requirements in a way that is **societally efficient** and to **review** the requirements **periodically**

- All three models safeguard the **public functions of cash** by providing a cash infrastructure that meets the requirements, and are **future-proof**
- In each model, **affordable basic cash services are realised** and parties have **incentives** to be **efficient** and provide **quality services**
- Each model has specific characteristics and provides funding model options. The choice will depend on the **weighting** of the specific **evaluation criteria**
- A distinctive feature of models B and C is that **coin and deposit services** can be **offered** by the UCD provider/government **directly**

The three new models score well on key criteria and are therefore each suitable as a future model

Evaluation of market design models

Criterion		0	A	B	C
		Voluntary agreements	Legal obligations	Universal Cash Services Provider	Government enterprise
Key criteria	Public interest of cash (safe, accessible, reliable, usable)	●	●	●	●
	Future-proof	○	●	●	●
	Incentives for good service (cost efficiency, quality)	As this model does not safeguard the public functions of cash and is not future-proof, it is not suitable going forward		●	●
Supporting criteria	Sustainability/CSR	●	●	●	●
	Continuity of competition in related markets	●	●	●	●
	Ease of the transition (costs, complexity)	<i>n.a.</i>	●	●	●
	Compatibility with laws and regulations	●	●	●	●

There are different options to ensure that cash services in the Netherlands are offered in a future-proof manner

Conclusion

- The market no longer provides the **cash infrastructure** in its societally desired shape ('missing market'). Therefore, it is of importance that:
 1. The governments sets the requirements the cash infrastructure should meet
 2. A party is (or multiple parties are) assigned to provide the infrastructure
 3. Funding is organised to ensure that the market can provide the services
- There are **three potential market design models** that safeguard the public functions of cash. They can be funded publicly or privately.
 - A. Introducing legal obligations
 - B. Assigning a Universal Cash Services provider
 - C. Providing the cash infrastructure through a government enterprise
- The funding model is based on the principle that the party responsible for providing the service is also responsible for (passing through) the costs. This gives the party **incentives to operate efficiently**. For banknotes withdrawal services the most obvious form of funding is through the fixed contribution per payment account. For the other services, which are mainly used by PoS establishments, the form of funding varies per market design model
- In addition, a **number of components need to be arranged and revised periodically** within each **model**. **Basic infrastructure requirements**, agreements regarding the **continuity of cash-in-transit services** and **safety requirements for ATMs** should be legislated. In addition, **price caps** for cash services for end users should be introduced, as well as a **fallback fee** that **covers the costs** per transaction
- All models **safeguard the public functions of cash** and are **future-proof**. Within each model affordable basic services are offered and parties in the cash cycle have incentives to provide quality services efficiently
- The three models have various **distinctive features**, including the funding options. The choice will therefore depend on the **weighing** of the different advantages and disadvantages of each model

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Thank you

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