

Fighting poverty, profitably

Transforming the economics of payments to build sustainable, inclusive financial systems

Netherlands

BILL & MELINDA
GATES foundation



SPECIAL REPORT ANNEX:
Country-specific data on payments
systems and financial inclusion

About the Gates Foundation's Financial Services for the Poor program

Poor people do not live in a static state of poverty. Every year, many millions transition out of poverty by successfully adopting new farming technologies, investing in new business opportunities, or finding new jobs. At the same time, large numbers of people fall back into poverty due to health problems, financial setbacks, and other shocks. However, it is costly to serve poor people with financial services, in part because most of their transactions are conducted in cash. Storing, transporting, and processing cash is expensive for banks, insurance companies, utility companies, and other institutions, and they pass on those costs to customers.

The Gates Foundation's Financial Services for the Poor program aims to play a catalytic role in broadening the reach of digital payment systems, particularly in poor and rural areas, and expanding the range of services available on these systems. Until the infrastructure and customer base are well established, this might involve a combination of mobile money services that are accessible via cell phones and brick-and-mortar stores, where subscribers can convert cash they earn into digital money (and vice-versa).

Our approach has three mutually reinforcing objectives:

- Reducing the amount of time and money that poor people must spend to conduct financial transactions
- Increasing poor people's capacity to weather financial shocks and capture income-generating opportunities
- Generating economy-wide efficiencies by digitally connecting large numbers of poor people to one another, to other consumers, to financial services providers, to government services, and to businesses.

We are not focused on a particular product or distribution channel, but rather on innovative ways to expand access and encourage markets. At the same time, we are aware that interventions in this and other areas too often involve technologies that are made available to the intended users, but are not adopted. To address this demand-side challenge, we are supporting research and product design experiments to identify design features, price incentives, and marketing messages that will encourage poor people to adopt and actively use digital financial services. We are also supporting policymakers as they work to develop policies and regulations that facilitate these developments.

We believe that the combined effect of interventions to expand and encourage markets will accelerate the rate at which poor people transition out of poverty and decrease the rate at which they fall back into poverty. Our strategy also recognizes that countries are at different stages in developing an inclusive digital financial system, and that we must tailor our interventions accordingly.

About this document

Our goal: create a holistic view of payment system economics. The Gates Foundation’s Financial Services for the Poor program conducted this research because we believe that there is a gap in the fact base and understanding of how payment systems can extend digital services to low income consumers in developing markets. This is a complex topic, with fragmented information and a high degree of country-by-country variability. A complete view across the entire global payment system has been missing, limiting how system providers, policy makers, and regulators (groups we refer to collectively as *financial inclusion stakeholders*) evaluate decisions and take actions. With a holistic view of the system, we believe that interventions can have higher impact, and stakeholders can better understand and address the ripple effects that changes to one part of the system can have. In this report, we focus on the economics of payment systems to understand how they can be transformed to serve poor people in a way that is profitable and sustainable in aggregate.

Factors to keep in mind as you consider this report. The data available to evaluate individual payment systems is limited. Even in highly advanced economies, complete and comparable information is difficult to obtain. In the developing world, much of this data simply does not exist. Given that there are limited examples showing how providers make money from providing financial services to the poor at scale, we looked at payment systems in both the developed and developing worlds, and tried to learn how to apply lessons from both to reach the poor. In this report, we present a complete set of analyses and estimates based on the strongest collection of data that we could assemble. Readers should understand this base of data as a “best efforts” attempt to provide a full picture of payment system costs and revenues, rather than a definitive source. We have focused on evaluating formal payment flows that have available data and benchmarks. We recognize that there are large payment flows over informal channels, such as unlicensed money transmitters, that are outside the scope of our analysis.

What we analyzed. As part of our work, we conducted a thorough assessment of the payment systems in six significant economies – Nigeria, Kenya, India, China, the U.S., and the Netherlands – to understand their elements, changes over time, and the economics for providers. McKinsey & Company’s Global Payments Map – a structured and consistent dataset on payment systems – provided a critical pillar. We also interviewed more than 100 industry experts across the countries profiled.

Structure of this pack. This pack summarizes our findings across the countries we analyzed. For each country, we provide an overview of the payment system and the level of financial inclusion, followed by specific country analyses pertaining to the four main elements of the payment system: accounts, cash in-cash out (CICO), transactions, and adjacencies.

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The payment system in the Netherlands

Characteristics

- **For basic payments services, banks focus on cost reduction rather than generating fee revenue.** After WWII the Dutch government provided “free” basic bank accounts via the post office network. Starting then, to remain competitive, banks kept their basic services free and focused efforts on lowering costs
- **Banks cooperate to reduce costs, facilitated by a consolidated banking sector and appropriate regulatory supervision.** Banks have formed a series of common vehicles to manage payments as utilities, most recently in cooperation with merchants. Consolidated banking facilitates cooperation, as does a regulator willing to allow banks to collaborate, while prohibiting collusion
- **This bank-led utility model has remained structurally stable and innovative, even through substantial market changes.** The past 20 years have seen large market shifts including the formation of Interpay, a successful court case against the banks, the Euro transition and expiration of cheques, the formation of Equens, and the Single European Payments Area (SEPA); through all this, the model has remained structurally intact; it has also expanded to include merchants, and has continued to innovate (e.g. iDEAL for online payments)
- **The next 5 years hold new challenges; innovation and flexibility will be required** -- New structural challenges include the transition to SEPA and dissolution of national payment schemes, the expansion of Equens' ownership beyond Dutch banks, and a potentially extended period of low interest rates.

Implications for financial inclusion

- **Netherlands' relatively small and rich population is highly banked across all income levels;** financial barriers or distance from banking services are unlikely to be drivers for financial exclusion (currently at about 1.5 percent)
- **The most important mechanisms of cost reduction include** removing cheques and reducing paper-initiated credit transfers, and engaging merchants to diminish the role of cash
- **Additional scale benefits will be realized as Dutch clearing migrates to Equens' SEPA-compliant systems** that currently operate across multiple European countries
- **“Free” consumer banking has been supported by interest on savings and overdrafts;** continued low interest rates could lead to a more visible fee for banking services



Payments in the Netherlands by the numbers

Usage & Inclusion	Instrument usage	Strong payments electronification based on DDA (debit) payment instruments across all types of usage <ul style="list-style-type: none"> Less than ½ C2B transactions are cash, 54% of non-cash C2B transactions are debit card 68% of all consumer-related transactions (C2B,C2C, B2C) are made by credit transfer
	Financial inclusion	Best in class <ul style="list-style-type: none"> One of the richest countries in Europe, with social safety net and benefits well developed 99% of adult population is banked; 98% of bottom 40% by income (#6 in the world); 98% debit card usage is #1 in the world
Payment system	Network infrastructure	Centralized bank-owned clearer/processor <ul style="list-style-type: none"> All DDA-related clearing occurs through Equens, which is owned by the banks All C2B payment systems operated by Currence, a subsidiary of Equens
	Regulation	Centralized utility model led by the banks and actively governed by highly capable regulator <ul style="list-style-type: none"> DNB (Central bank of the Netherlands) takes an active role in balancing the potential monopoly power of the centralized payments entity, and a highly consolidated banking sector (top 3 banks hold 92% of retail bank accounts)
Environment	Banking system reach	High-reach due to relative population density e.g. all consumers live less than 5 km from a bank branch <ul style="list-style-type: none"> Branches – 23 branches per 100K adults ATMS – 12 ATMs per 100K adults POS – 189 per 100K adults Online banking penetration – 79 percent
	Mobile & telecoms	Established <ul style="list-style-type: none"> 100% population covered by mobile signal 1.15 SIM cards / adult
	Other market infrastructure	High <ul style="list-style-type: none"> Strong core infrastructure foundation across all elements, e.g., electricity, transport, delivery
	Economic environment	Upper income <ul style="list-style-type: none"> Nominal GDP: \$50,247 / capita. GINI coefficient of 31 in 2007
	Demographics & geography	Highly urban, middle-age population <ul style="list-style-type: none"> 83% of population living in urban areas; 17% in rural areas

SOURCE: Findex Global Database, CIA Fact Book; World Bank; Eurostat



Digital channels account for over 98% of transaction value in the Netherlands, while cheques have been eliminated

■ Paper ■ Digital



- The payment system is highly digital with 98% of value and 50% of volume conducted digitally
- Cheques have been discontinued in the Netherlands
- Debit cards are highly used even for small value transactions, and account for 21% of total payment volume.
- Credit cards are not widely used, with consumers favoring debit cards instead

¹ Does not include trade payment credit transfers made via RTGS, since most such payments are between FIs. Corresponding volume is very small (less than 10 Million)

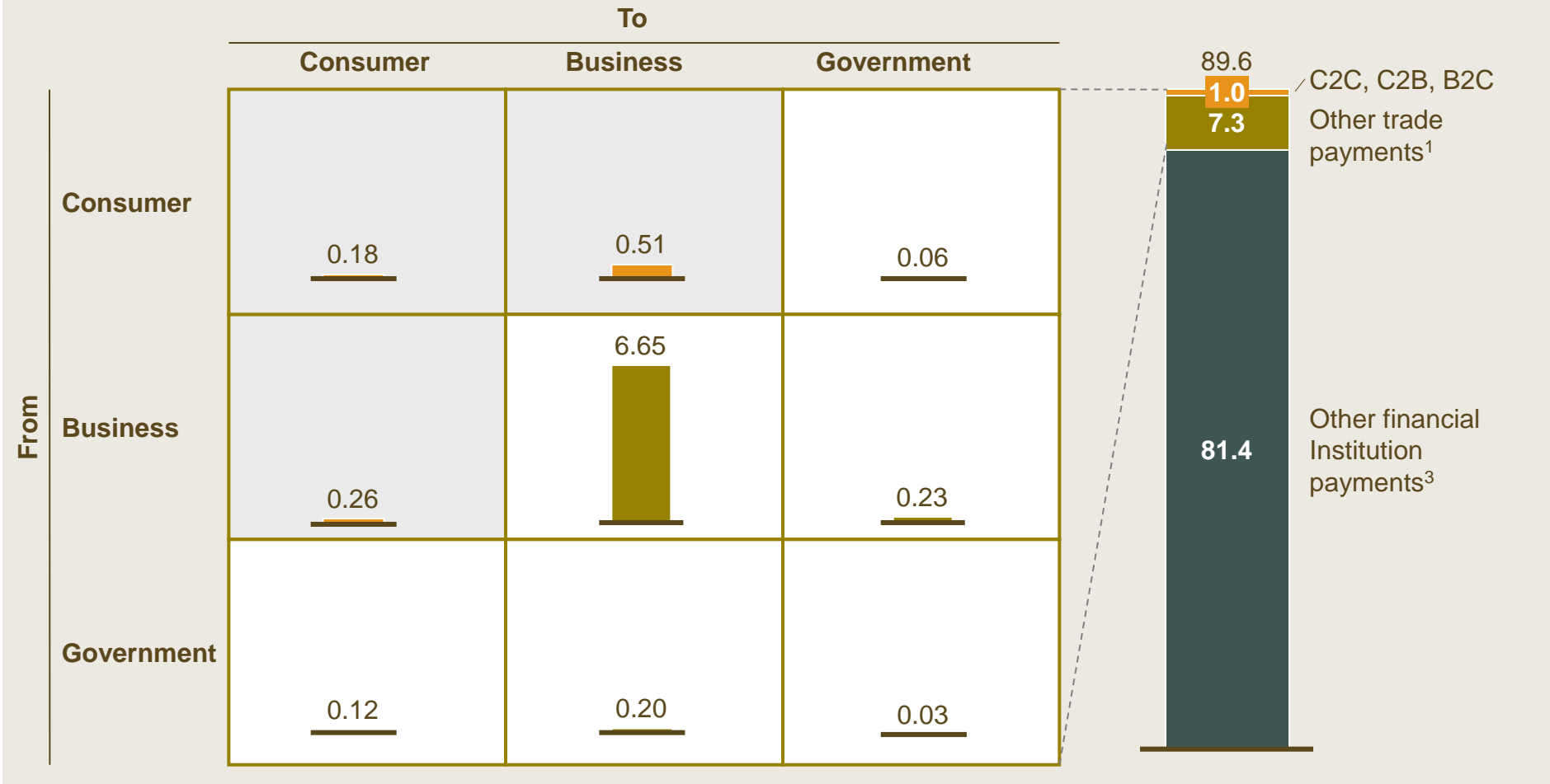
SOURCE: McKinsey Global Payments Map



The transactions most strongly impacting Dutch consumers account for about \$1 trillion of payment flow

Area of focus

Trade payments in the Netherlands by transaction parties, 2011 US\$ Trillion **Total trade payments by value, 2011** US\$ Trillion



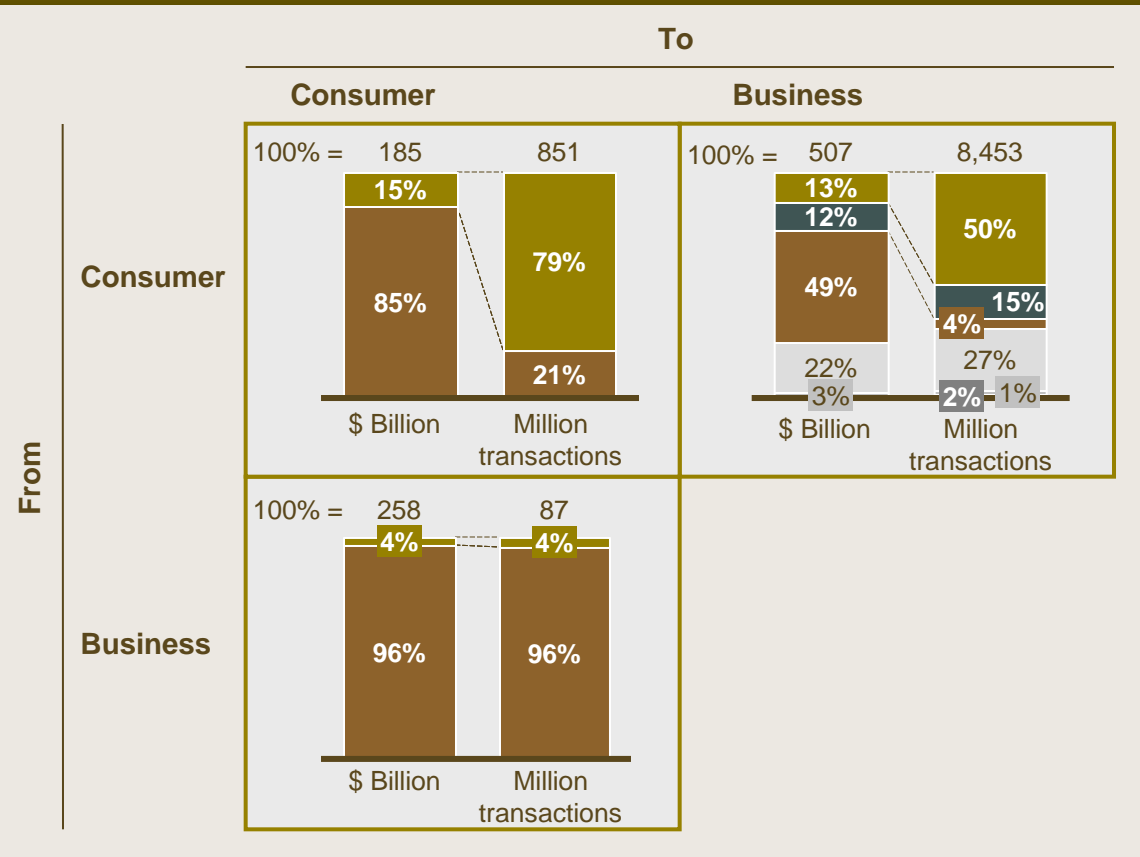
1 Includes all transfers made via RTGS. Some small fraction of these may be 'Other trade payments', between businesses

SOURCE: McKinsey Payments Map Release Q1-2012, ECB, Retail Banking Research, DNB, ECB



Credit transfers dominate payments in the Netherlands, with debit use also high, and cash transaction volumes significant

Dutch trade payments by transaction parties, 2010
Value in US\$ Billions, Transactions in Millions



\$ = High value (>20% use)
= High volume (>20% use)

Major instruments used by transaction type			
	C2C	C2B	B2C
Cash	#	#	
Cheque			
Direct debit			
Credit transfer	\$	\$	\$#
Debit card		\$#	
Credit card			
Prepaid card			

SOURCE: McKinsey Payments Map Release Q1-2012, ECB, Retail Banking Research, DNB



Financial inclusion in the Netherlands

Overall financial inclusion performance: very high

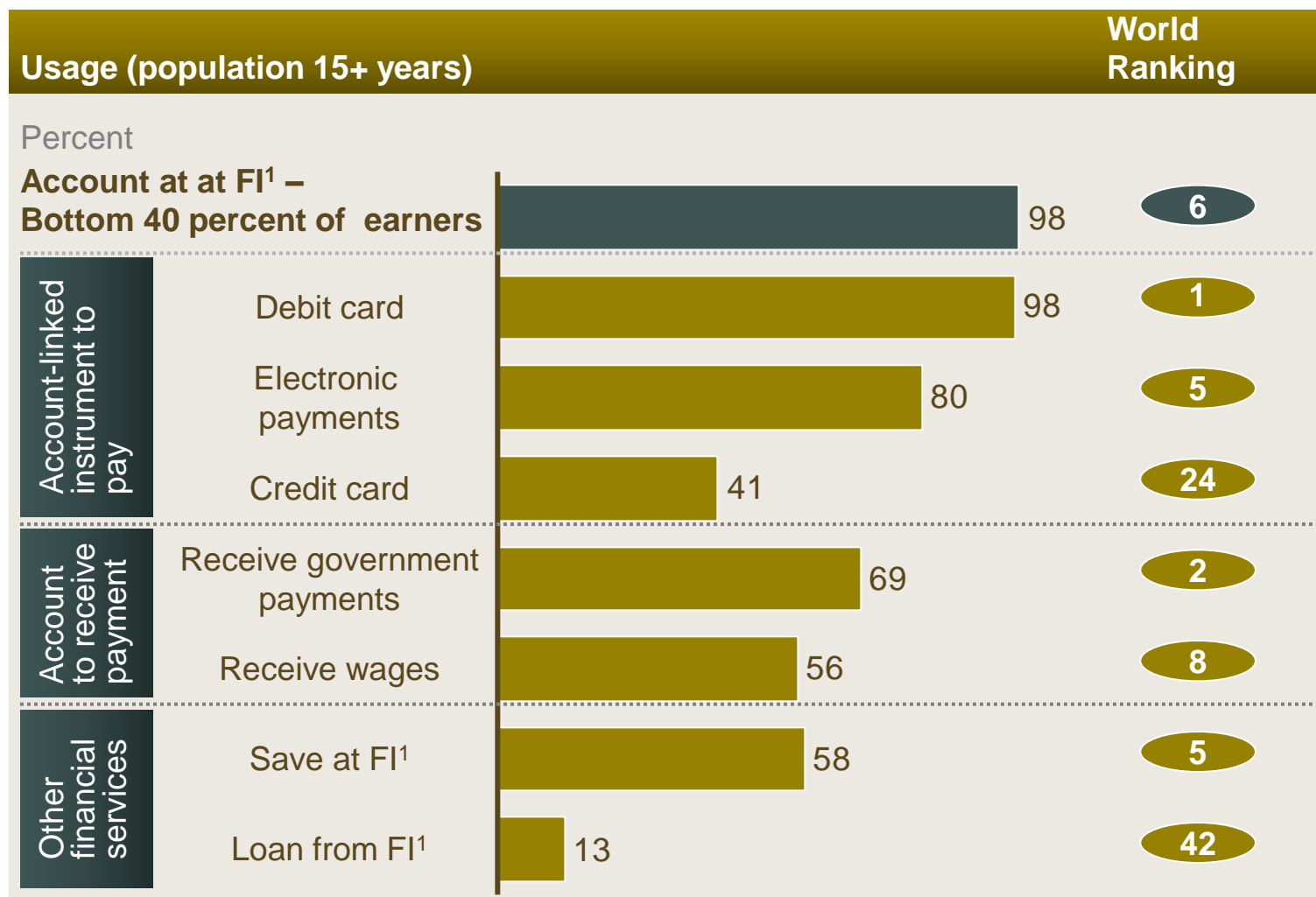
- **Percent with an account at a formal financial institution**
 - Overall -- 98.7% (Rank No. 6)
 - Bottom 40% -- 98.2% (Rank No. 5)
 - Women -- 98.4% have formal financial accounts (Rank No. 7)
- **Payment services access**
 - Debit card access -- 98% (Rank No. 1)
 - Credit card access -- 41% (Rank No. 22)
 - Wages received in formal account -- 56% (Rank No. 8)
- **Distribution access (per 100,000 people)**
 - Bank branches -- 23 (Rank No. 36, Rank No. 11 by land area)
 - ATMs -- 58 (Rank No. 39, Rank No. 8 by land area)
 - POS terminals -- 2,285 (Rank No. 9)
 - Online access -- 92% (Rank No. 1)
 - Mobile penetration -- 115% (i.e., 1.15 SIM cards/adult) (Rank No. 47)
- **Additional comments:**
 - Relatively low ATM and bank branch densities are less indicative due to high population density, which ranks 4th in countries over 10 million population (for comparison -- U.S. ranks 58)
 - In ATMs/km², the Dutch rank No. 9 globally

Key takeaways

- **Comprehensive reach and coverage** of the financial system provides services to all consumers in a utility-based configuration, allowing the banks to minimize cost of provision, and generate revenue from retail bank accounts
- **The banking system is robust and trusted, providing services at reasonable prices;** this is suggested by very low opt-out rates, and high rates of inclusion among low-income populations
- **Very high rates of online access will result in further cost reductions** as more consumers set up bill payments and pay online merchants directly and digitally
- **Dutch have the highest national access to debit cards in the world,** driven by universal banking access, fewer payment instruments, and other cooperation-based drivers, e.g., a covenant agreement between merchants and banks, and a common marketing drive by banks towards debit card use

SOURCE: Findex Global Database

Inclusion rates are among the highest in the world except among borrowing products



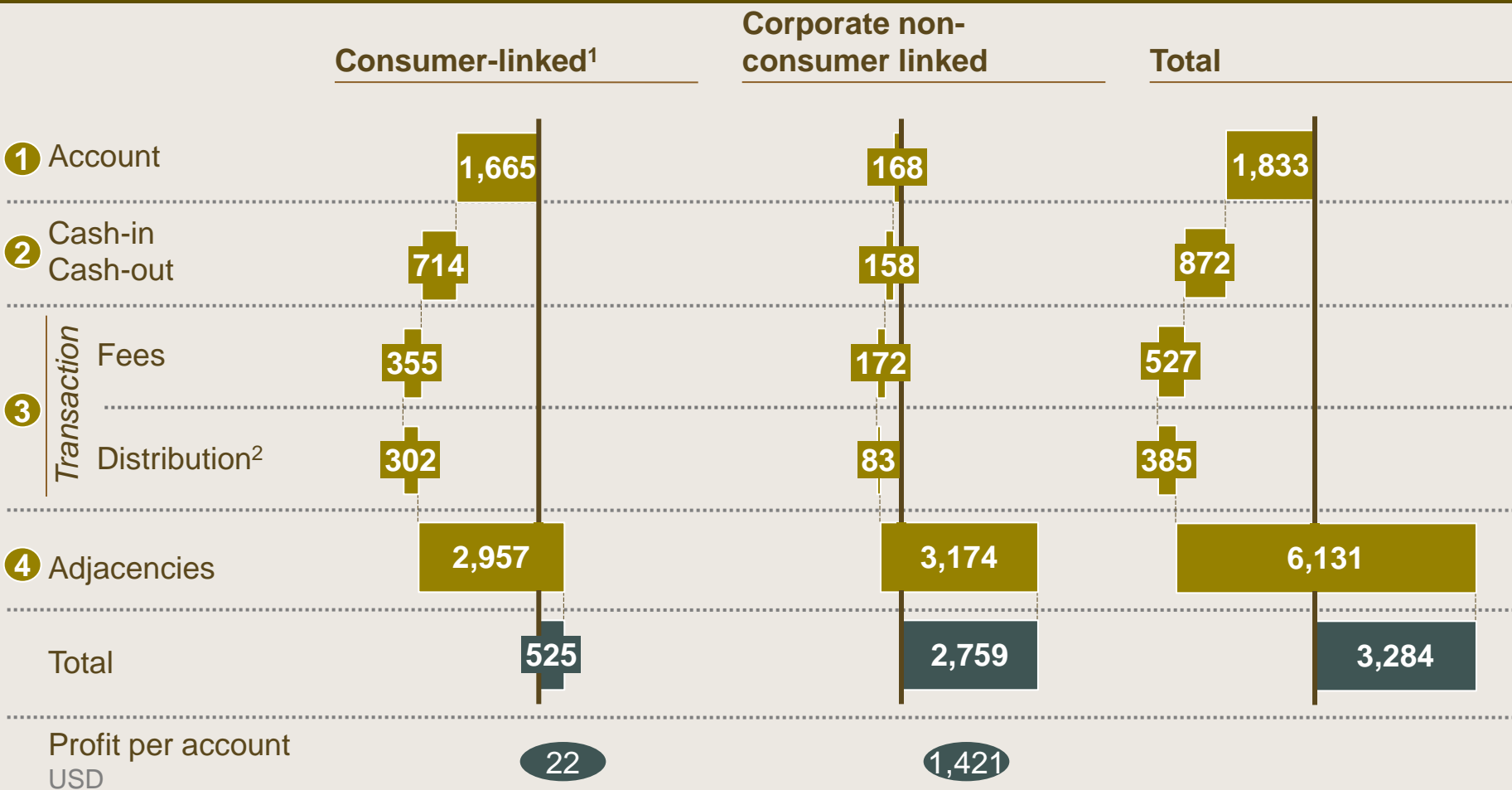
1 FI: Financial Institution

SOURCE: European Financial Inclusion Network, Findex Global Database



Overall, the Dutch payments system is profitable, making most of its money through interest on current accounts

Payments system profit USD Millions



1 Includes all costs and revenues associated with services provided to businesses in C2B and B2C transactions

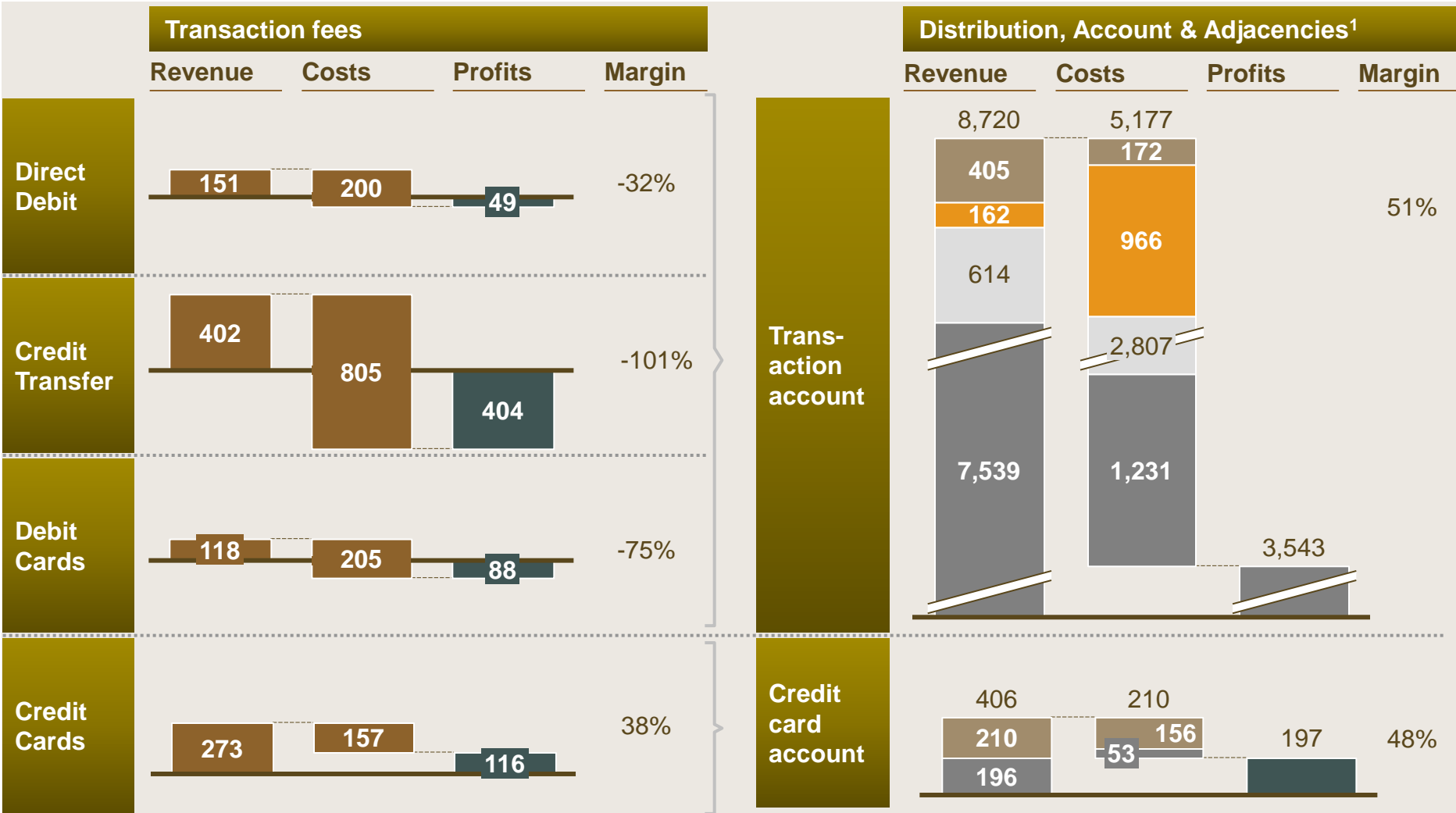
2 Revenues include debit and credit card maintenance fees and terminal costs; costs include card maintenance and acquiring fees and terminal costs

SOURCE: McKinsey Global Payments Map (2010)

Most transaction types lose money stand-alone, but adjacencies are highly profitable

USD Millions; Percent, 2011

- Transaction - fees
- Transaction - distribution
- CICO
- Account
- Adjacencies



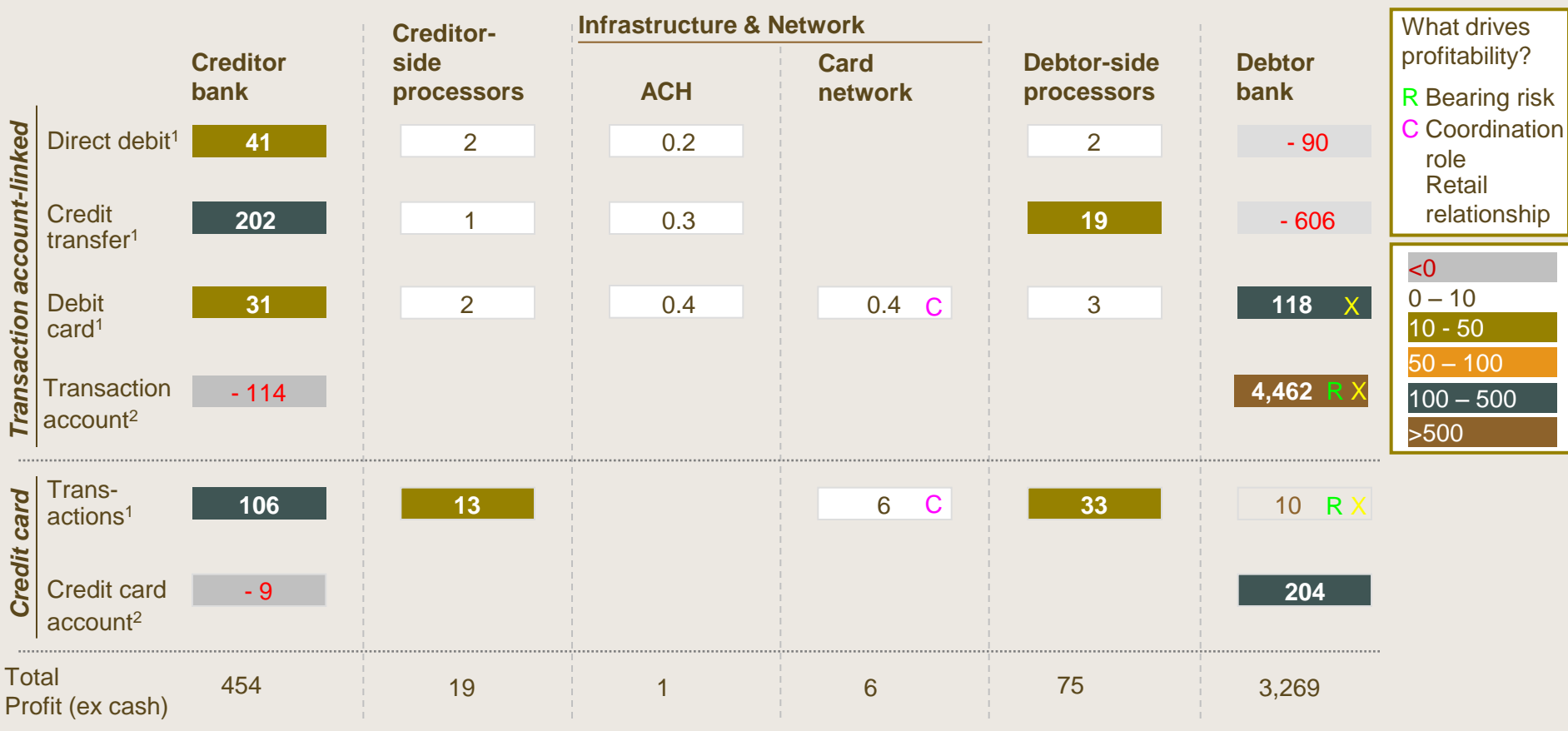
¹ Distribution – includes maintenance & acquiring for debit cards; Account – transaction account maintenance; Adjacencies – (i) for transaction account this is current account & overdraft NII as well as loan losses for overdraft accounts, (ii) for credit card account, this is revenues from NII and costs associated with loan losses

SOURCE: McKinsey Global Payments Map

Profits are limited for all but banks, who profit significantly



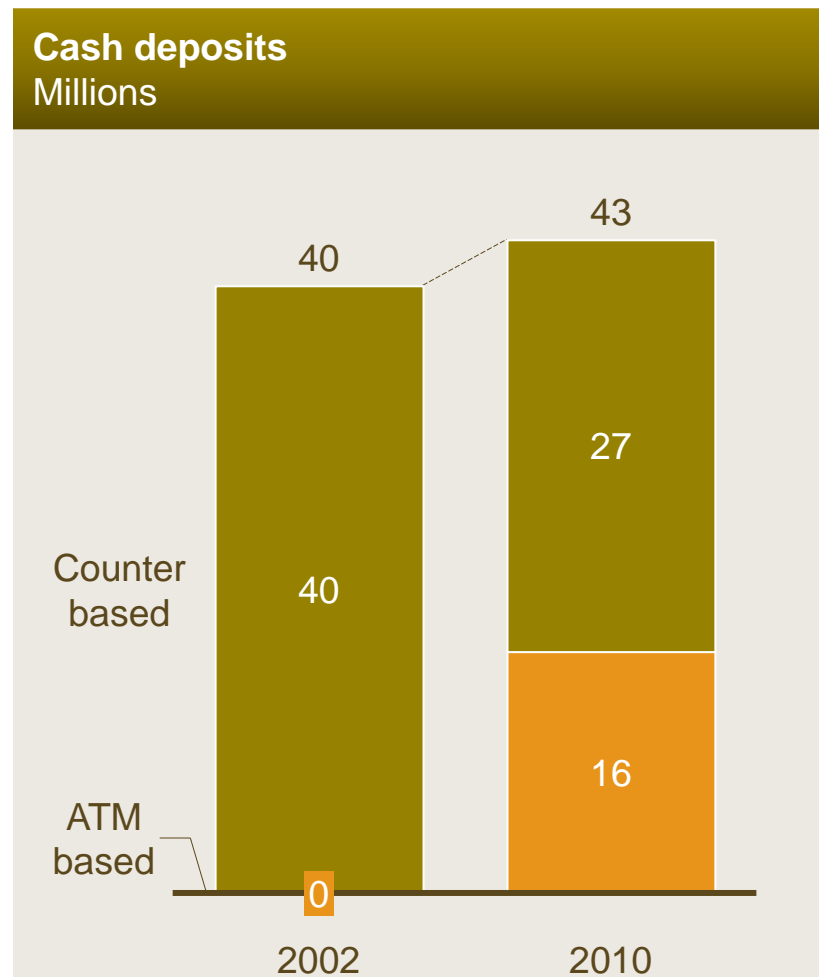
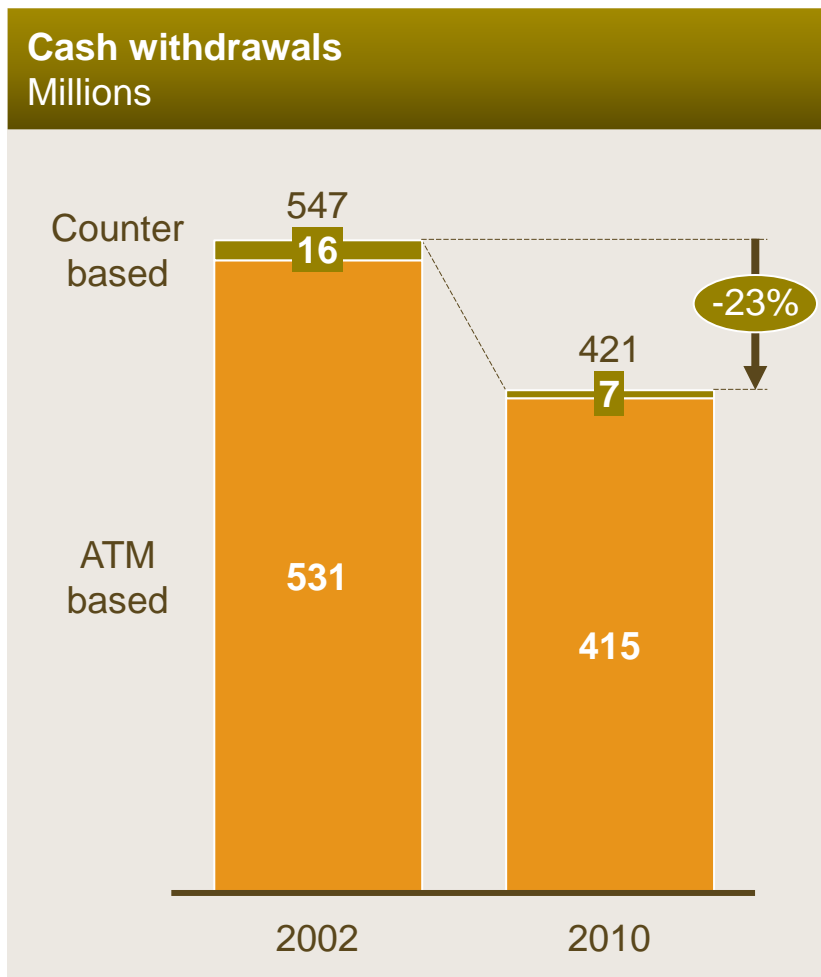
Profit from transactions, distribution, account and adjacencies³, 2010 USD Millions



1 Profits linked directly to transactions – includes direct transaction fees and costs float (small) & incidental fees (small); 2 Profits from distribution, account, and adjacencies: (i) distribution – includes maintenance & acquiring, (ii) account – account maintenance (only for transaction account), (iii) adjacencies – (a) for transaction account this is current account & overdraft NII & overdraft loan losses, (b) for credit card account, this is revenues from NII and costs associated with loan losses; 3 Note that net margin from previous slide is give by the sum of creditor bank and debtor bank profits. Other players' profits rely on revenues from fees/contracts paid by either creditor or debtor bank (numbers may not add exactly due to rounding)

SOURCE: McKinsey Global Payments Map; Expert Interviews

Cash withdrawals have been decreasing and deposits are made increasingly at the ATM rather than at bank branches



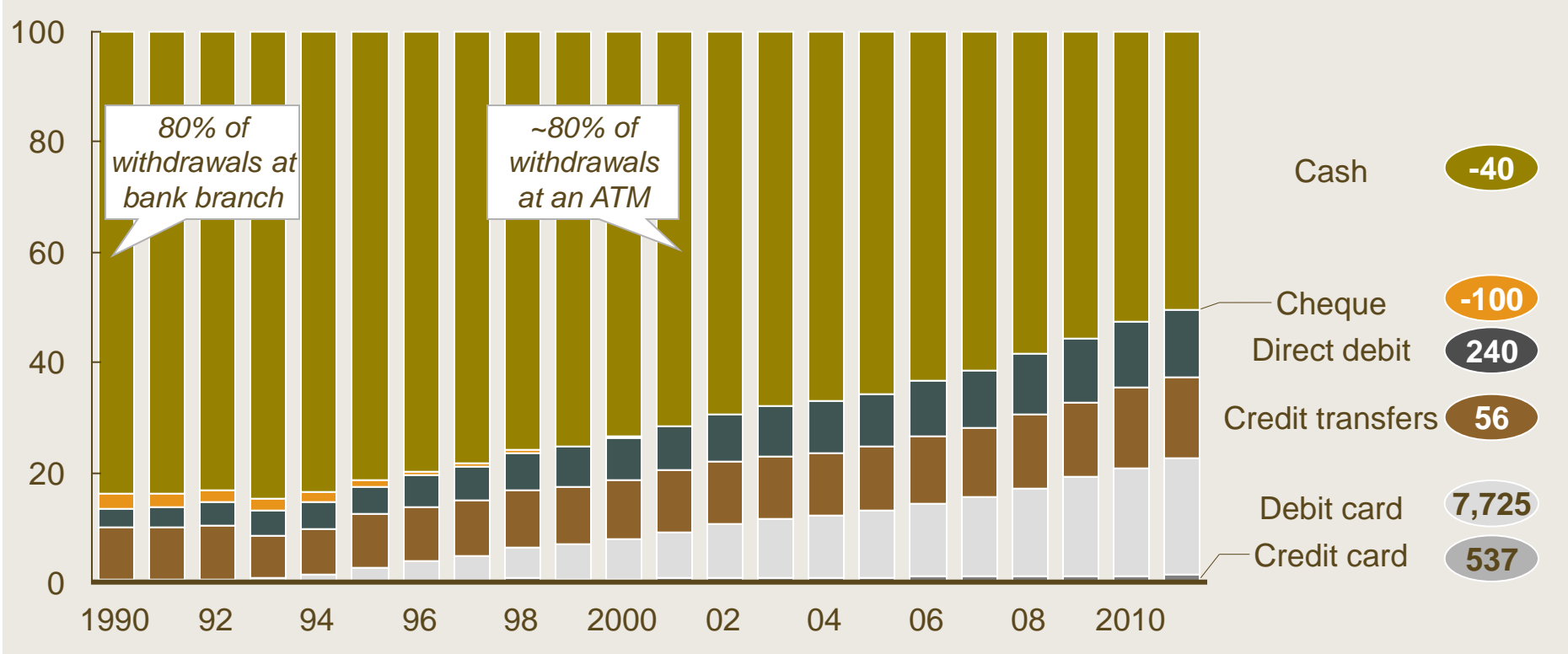
SOURCE: McKinsey Global Payments Map

Since the 1990s, payments have become increasingly electronic, with debit card use growing particularly rapidly



Breakdown of transaction volume by major payment instrument^{1,2}
Percent

20-year change
Percent



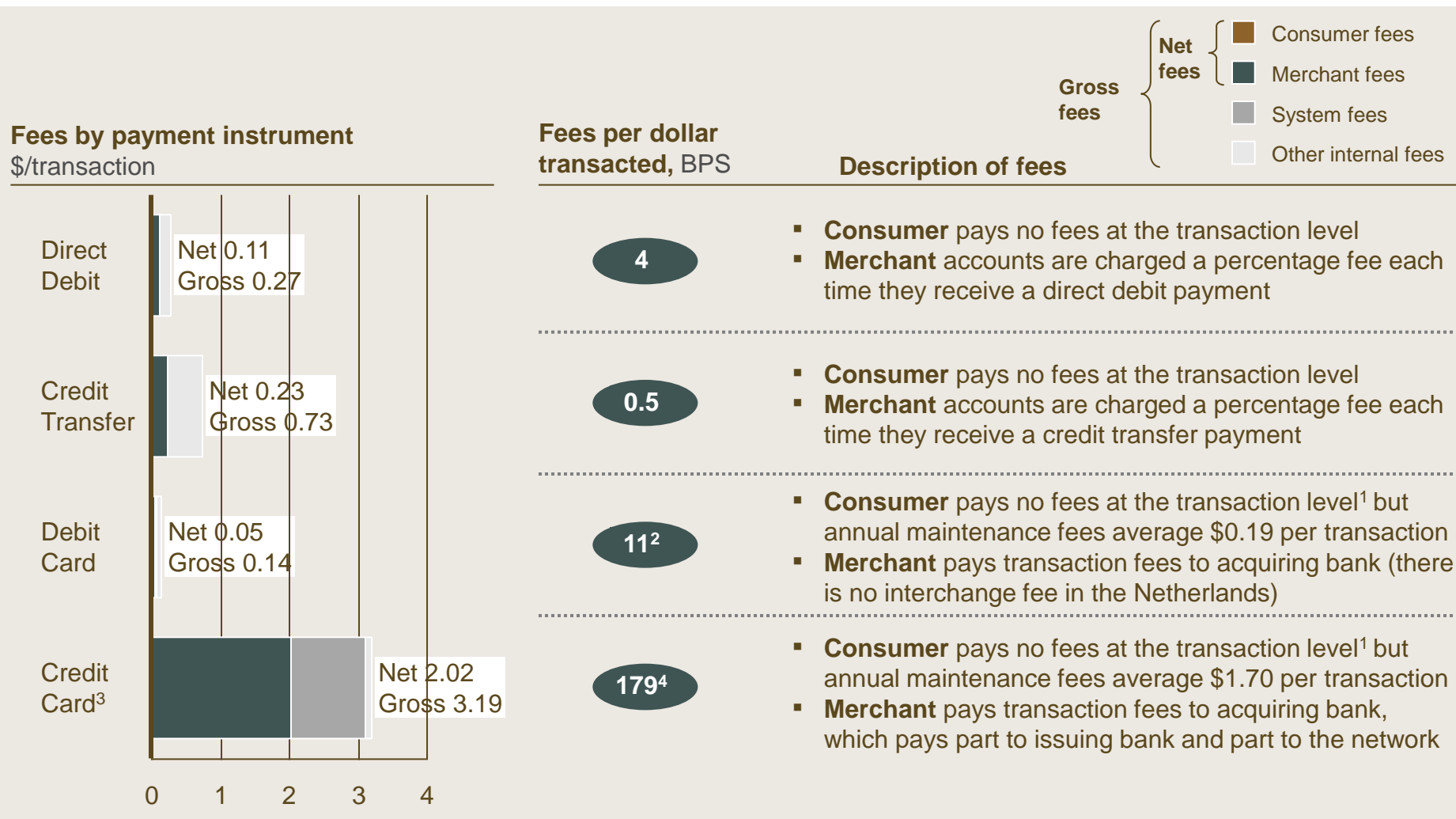
1 Average number of all transactions (government, business and consumer) per year varies no more than +/- 6% over the period (2011 volume was 11.2 Billion)

2 Transaction volume CAGRs 1990-2010: Cash -2% (<-5% for 2007-10); Debit card +25%; Credit card +9%; Credit transfer +3%; Direct debit +7%

SOURCE: McKinsey Payments Map Release Q1-2012, RBR, ECB



Consumers do not pay to transact and merchant fees are significant only for credit card payments



1 Consumers pay only annual fees and no transactional fees (i.e., they pay an annual maintenance fee on their card but they don't pay for each additional transaction); 2 48 bps per transaction including annual maintenance fee; 3 General purpose consumer credit card; 329 bps per transaction including annual maintenance fee

SOURCE: McKinsey Global Payments Map; Expert Interviews

Convenient instruments, which are free to users and inexpensive to businesses, are most used – cash, debit cards, and credit transfers



C2B TRANSACTIONS, 2011











	Consumer					Merchant					Sample use cases	
	Re-quires Bank Acct	Direct Fees (USD)	Indirect Fees (USD)	Benefits	Mer-chant Accept. (%)	Actual Use (Vol, %)	Con-sumer Access (%)	Re-quires Bank Acct	Direct Fess (USD)	Indirect Fees (USD)		Benefits
Cash		-	▪ -	▪ Accessible ▪ Ubiquitous	100	50	100		0.01	▪ 0.01	▪ Ubiquitous ▪ Immediate	▪ All ▪ Especially small value
Cheque	✓	-	▪ -	▪ -	0	0	0	✓	-	▪ -	▪ -	▪ -
No longer accepted												
Credit transfer/ Direct debit	✓	-	▪ -	▪ Convenient for large txs ▪ Esp. online	~0 Offline but high online	19	99	✓	0.35	▪ 0.01	▪ Convenient for large txs	▪ P2P ▪ Bill payments ▪ Larger values
Debit Card	✓	-	▪ \$0.19 <i>(avg per trx, from ~\$5+ annual fee)</i>	▪ Convenient to carry	82	27	98	✓	0.05	▪ 0.19	▪ Direct credit ▪ Minimizes cash	▪ General online and offline merchant
Credit Card	✓	-	▪ \$1.60 <i>(avg per trx, from annual fee)</i>	▪ Float and liquidity benefit	40	1	41	✓	2.02	▪ \$0.10 <i>(avg per trx, from annual fee)</i>	▪ Direct credit ▪ Minimizes cash	▪ Higher value merchant payments
Prepaid			▪ Card purchase	▪ Accessible	4	2	n.a.	✓	0	▪ 0	▪ Direct credit ▪ Minimizes cash	▪ Transport, small value
Other ¹		N/A	▪ N/A	▪ N/A	0	1	0		N/A	▪ N/A	▪ N/A	▪ N/A

1 Includes mobile (not used) and retailer cards (46 Million transactions; less than 1 %)

SOURCE: World bank Findex (2011), McKinsey global payments map 2010 data, expert interviews



The system is utility, with Currence owning payments products and Equens clearing and settling nearly all transactions¹

	Defining feature of NL's utility system	Credit transfer	Direct debit	Debit cards ¹	Credit cards	Other
 <p>Currence</p>	<ul style="list-style-type: none"> Currence owns Dutch uniform payments products and licenses and certifies all users (banks and suppliers). It aims to create a competitive and transparent payment system while ensuring continued innovation, security and efficiency by separating scheme and product from banks and from infrastructure 	<p>Pre-printed forms</p>  <p>Online payments</p> 		 <p>(now defunct)</p>	-	<p>Stored-value</p> 
   <p>Banks</p>	<ul style="list-style-type: none"> Several large banks dominate (e.g., ABN Amro, ING, Rabobank), competing in payments product delivery but collaborating on infrastructure and all offering Currence products. Occasionally, banks will innovate outside of Currence (e.g., iDEAL was begun by 3 banks and then handed over to Currence to run as a scheme) 	✓	✓	✓	✓	✓
<p>Payments service providers</p>	<ul style="list-style-type: none"> Non-banks service providers of all sorts, including processors, are also licensed through Currence by product and by role E.g., <ul style="list-style-type: none"> iDEAL has 28 Collecting Payment Service Provider Certificate Holders in the Netherland Chipknip has licensed providers as Terminal Supplier (13), Data Communications Provider (26), PSP (2), Card Supplier (7) 	✓	✓	✓	✓	✓
 <p>Equens</p>	<ul style="list-style-type: none"> Equens is a large-scale “thick” network providing transaction processing as well as clearing and settlement; it also provides other payment-related services (e.g., card supplier). Equens began in the Netherlands but is now pan-European 	✓	✓	✓		✓
<p>International card payment networks</p>	<ul style="list-style-type: none"> International card payment networks (MasterCard, VISA, AMEX) brand credit cards and clear and settle all credit card purchases. 	-	-	-	✓	-

¹ As part of the transition to the Single European Payments Area (SEPA), the processing market has opened beyond Equens to all competitors and Currence products are being phased out as the Netherlands switches to Europe-wide schemes. The transition is mid-way, with PIN having been replaced by SEPA-wide schemes Maestro and V PAY as of 1/1/2012 and other products being phased out

SOURCE: Expert Interviews; Company websites

Equens plays a central role in processing and clearing for all instruments except credit cards



Focus on next page

	Consumer gateway	Payer intermediary	Clearing & Settlement	Payee intermediary
Cheque	Completely phased out in the Netherlands			
Direct debit	<ul style="list-style-type: none"> Used mainly for bill payments A physical signature is still required; form usually printed from online or received in post Occurs as periodic retail debits with low repeat cost 	<ul style="list-style-type: none"> An account holder can authorize a company to direct debit payments without notifying the bank Banks are 'DD friendly' e.g. often allowing DD to clear even if overdraft 	<ul style="list-style-type: none"> Equens processes all retail (non-real time) transactions ACH clears and settles every 30 minutes Settlement accounts are held at DNB and settlement occurs via Target 2 	<ul style="list-style-type: none"> The bank provides a redress option on direct debits limited in time (5 days for one-time and 8 weeks for repeat DDs)
Credit transfers	<ul style="list-style-type: none"> Transfers can be established online, by phone (through call center), or in branch <ul style="list-style-type: none"> Online <ul style="list-style-type: none"> Consumer initiated - via PC banking or consumers can pay online merchants directly from their DDA via iDEAL Business initiated – often via batch payments (~98%) Branch - bills often include pre-filled forms that can be used at a branch or via mail for the transfer (~20% of transfers) 		<ul style="list-style-type: none"> Equens processes all retail (non-real time) transactions ACH clears and settles every 30 minutes Settlement accounts are held at DNB and settlement occurs via Target 2 	<ul style="list-style-type: none"> Most processing for cashless transactions is done in house at the bank Some processing is done at Equens which also provides processing services
Debit card	<ul style="list-style-type: none"> All cards are Chip/PIN (EMV-compliant) and are nearly universally accepted (at >90% of POS) 	<ul style="list-style-type: none"> Equens is a 'thick ACH', providing most processing; the remainder is done in-house 	<ul style="list-style-type: none"> Domestic debit card payment networks (e.g. PIN) and prepaid networks (e.g. Chipknip) are operated by Currence, owned by the Dutch banks, and cleared by Equens Equens also operates the ATM network 	<ul style="list-style-type: none"> Banks do all debit card acquiring; regulator stopped Equens from acquiring ~10 years ago Equens does most processing
Prepaid card	<ul style="list-style-type: none"> Low usage; Main brand ChipKnip repositioned in 2007 to focus on parking, vending and catering payments 			
Credit card	<ul style="list-style-type: none"> Acceptance is limited (e.g. many supermarkets do not accept) Transition to EMV is complete (all cards and >90% of POS devices) 	<ul style="list-style-type: none"> Non-bank third parties do all processing 	<ul style="list-style-type: none"> International credit card networks (Visa, MasterCard, AMEX) clear and settle Equens acts as ATM processor on issuing & acquiring sides 	<ul style="list-style-type: none"> Separate acquirer for credit: merchants must have a relationship with a specialized private player
Mobile	Not significant in this market as a separate payment instrument (<i>mobile is used as a channel</i>)			

SOURCE: BIS CPSS Red Book and Blue Book, World bank documents; Expert Interviews; McKinsey Global Payments Map



Clearing is heavily concentrated in Equens and final settlement occurs through the Target 2 RTGS, ensuring scale

		Large Value Transfer System		Automated Clearing House		Card Payment Network		Bilateral	Unilateral
		Public	Private	Public	Private	Public	Private		
Network Design	Network	Target 2	N/A	N/A	Equens	N/A	International (e.g. Visa) Domestic (e.g. Pin)	Despite the consolidated banking sector, bilateral clearing is rare	
	Time to settle	Instant			Intraday / next day		1-2 days		
	Net/Gross	Gross			Net		Net		
Clearing & Settlement by instrument	Direct debit	S	← Every 30 minutes		C				Due to the highly concentrated banking sector, many transactions are completed 'on-us' (e.g., 37% of credit transfers by volume)
		S						C	
	Credit transfers	S	← Every 30 minutes		C	Small value retail transactions			
		S C		Large value corporate transactions				C	
		S						C	
	Debit card	S	← Every 30 minutes		C				
Credit card						S C	International card networks clear and settle themselves; Equens divested all its credit card activity		
Prepaid card									

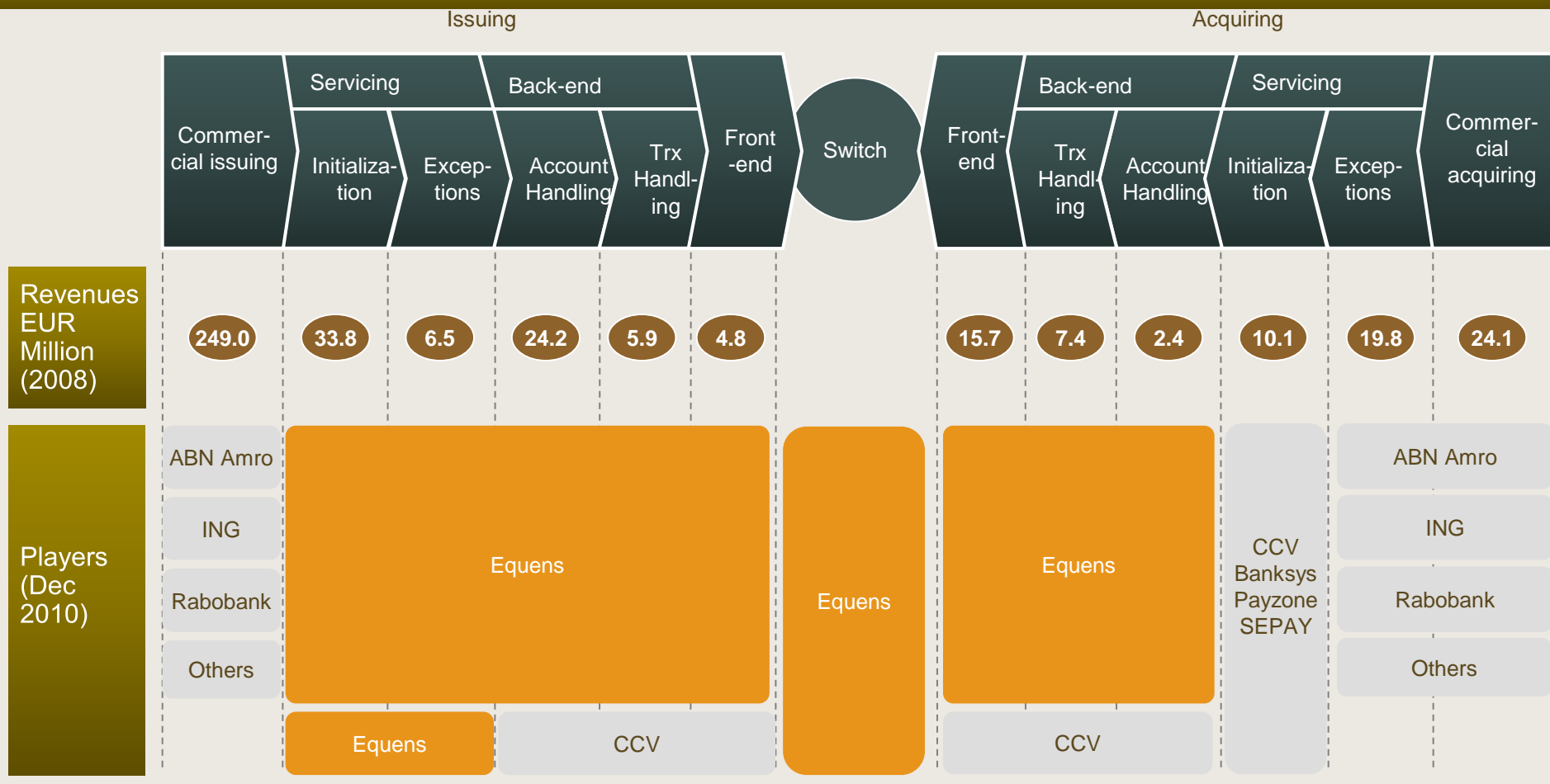
1 Equens clears and settles every 30 minutes; net values remaining are settled daily via the RTGS

SOURCE: BIS CPSS Red Book and Blue Book

For debit cards, Equens performs most bank-end and servicing activities



Overview of bank-issued debit card value chain



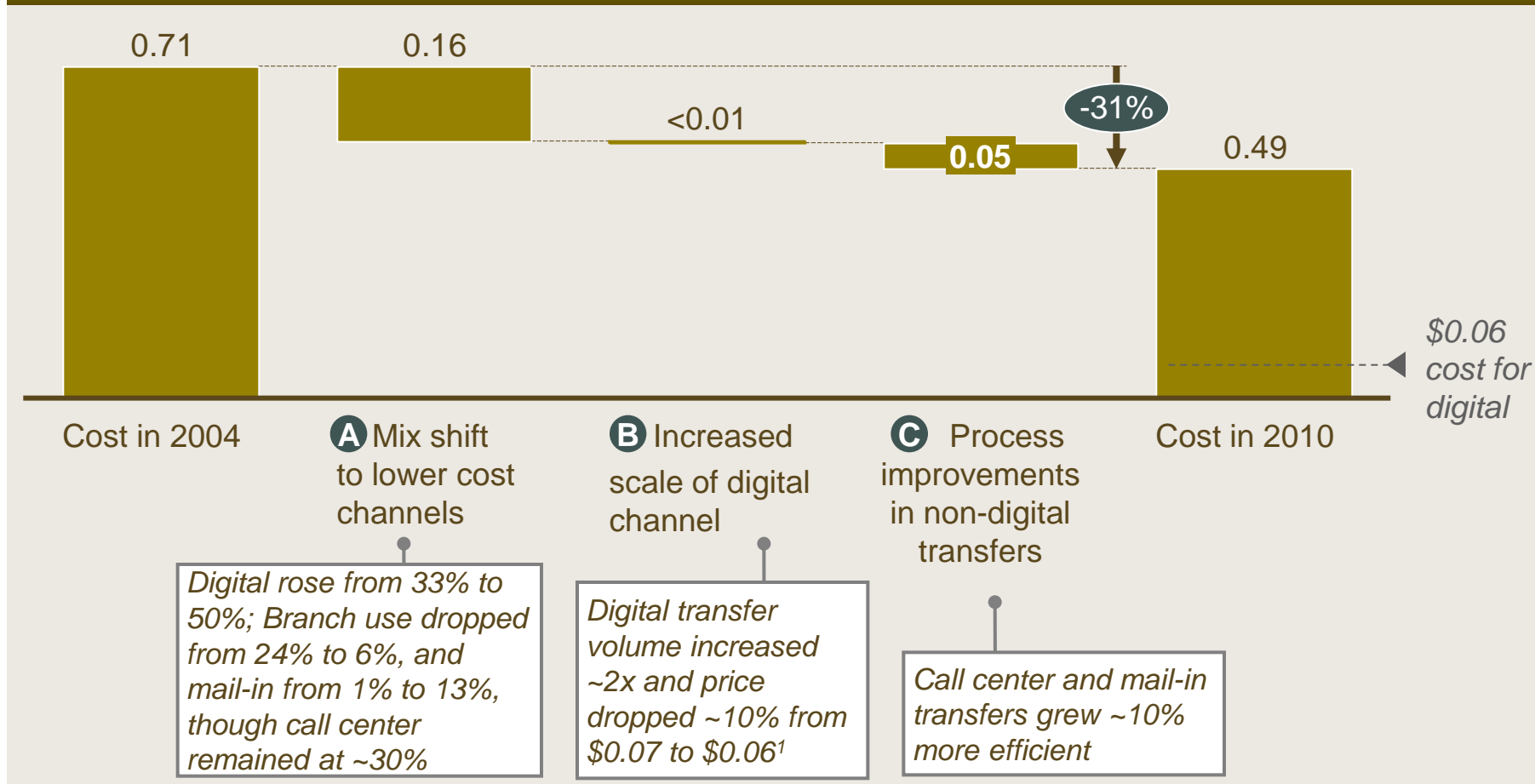
1 Market share in number of cards issued for issuing and in number of transactions acquired for acquiring

SOURCE: McKinsey Global Payments Map; Expert Interviews

The shift to more efficient channels was the most important lever for credit transfer cost decreases; room to improve remains



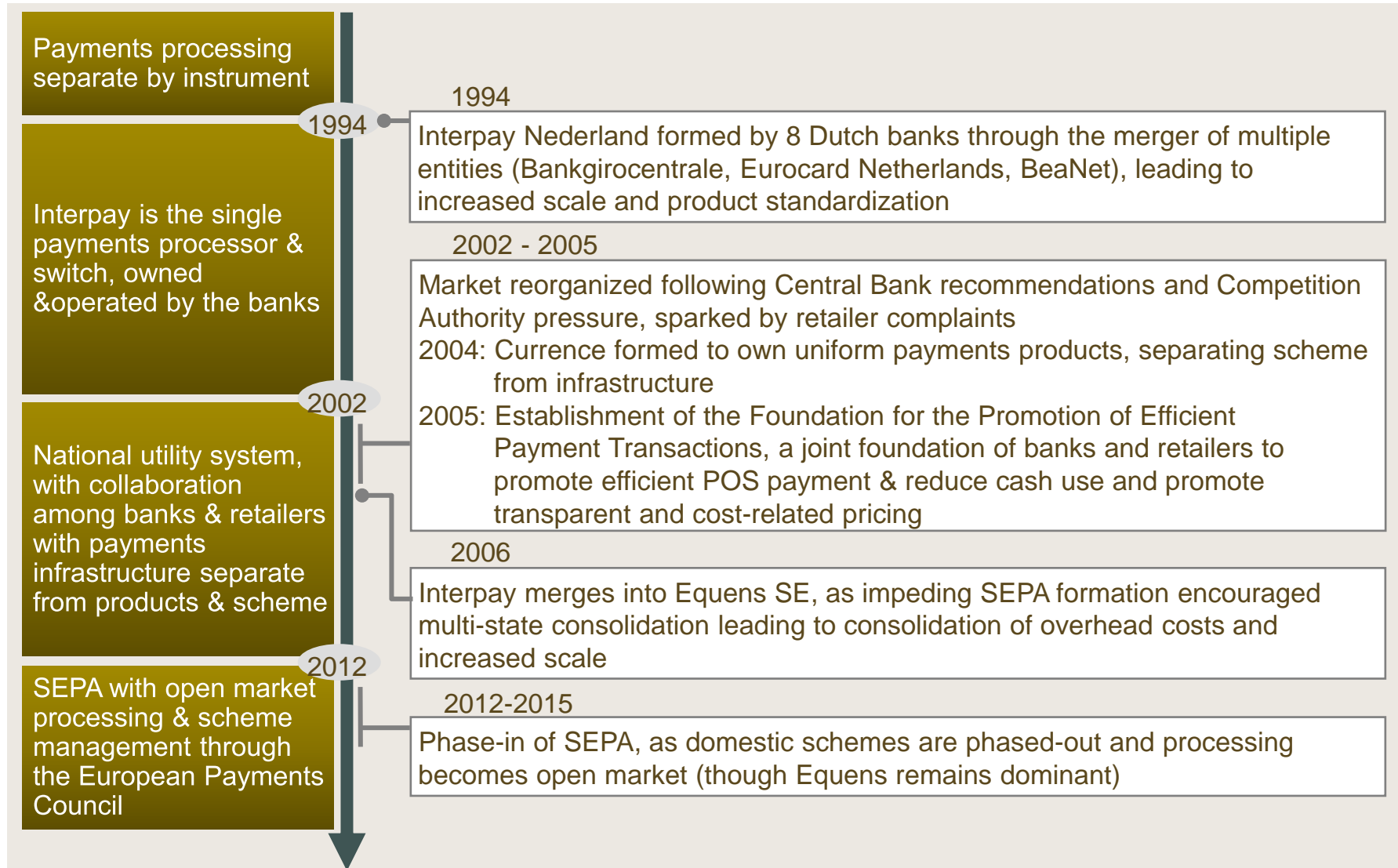
Cost of credit transfer in the Netherlands: Elements of the 2004-2010 reduction in direct costs USD/transaction



1 Magnitude of the scale effect was limited since the Netherlands already had very large volumes and efficient processes for digital transactions in 2004

SOURCE: McKinsey Payments Map Release Q1-2012, RBR, ECB

There is a history of collaboration in payments, which has been a true national utility since 2002; SEPA may usher in a new era



1 Single European Payments Area

SOURCE: Expert Interviews; Company and Institution Web pages