

Innovations in retail payments

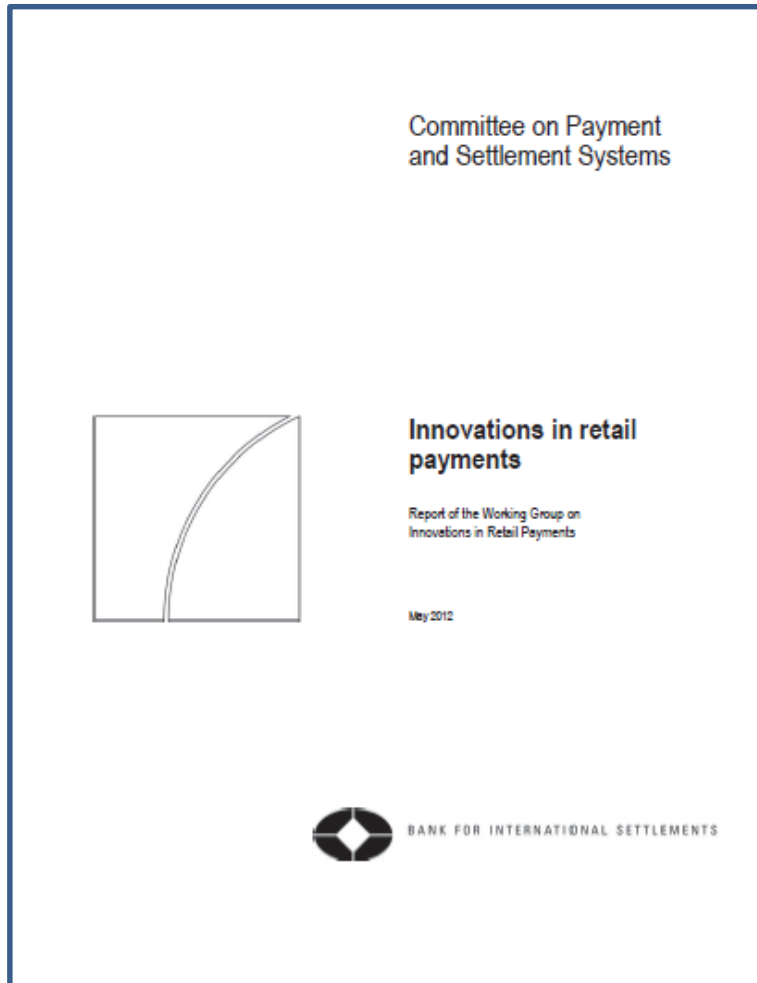
CPMI-BCRP Seminar

Lima, Peru, 26-27 May 2016



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CPMI WG on Innovations of Retail Payments (2012)



Trends identified

- Only a few innovations have a significant effect
- Most innovations are for the domestic market
- Increased focus on faster payment processing
- Financial inclusion is an important driver
- Increased role of non-banks

Outline of presentation

- The changing landscape for retail payments and the drivers of innovations
- The importance and challenges of innovation, and their implications
- The role of central banks and public authorities

The changing landscape for retail payments and the drivers for innovation



Main drivers for payment innovations

- Technological developments: e.g. the Internet, smart phones, NFC, blockchain/distributed ledger
- New players and new business models: e.g. Google, Apple, Samsung, Facebook, Microsoft, Amazon, Tencent, Alibaba, Ripple
- User needs: online commerce and payments; P2P payments, faster payments, 24/7 availability, convenience
- Appetite for new product and services, e.g. shared economy (Uber, Airbnb), P2P lending
- International remittances: increased labour mobility
- New and changing regulations, e.g. EU's PSD2, e-money laws
- Financial inclusion: In many countries, e-money provides access to payment services without the need of a bank account

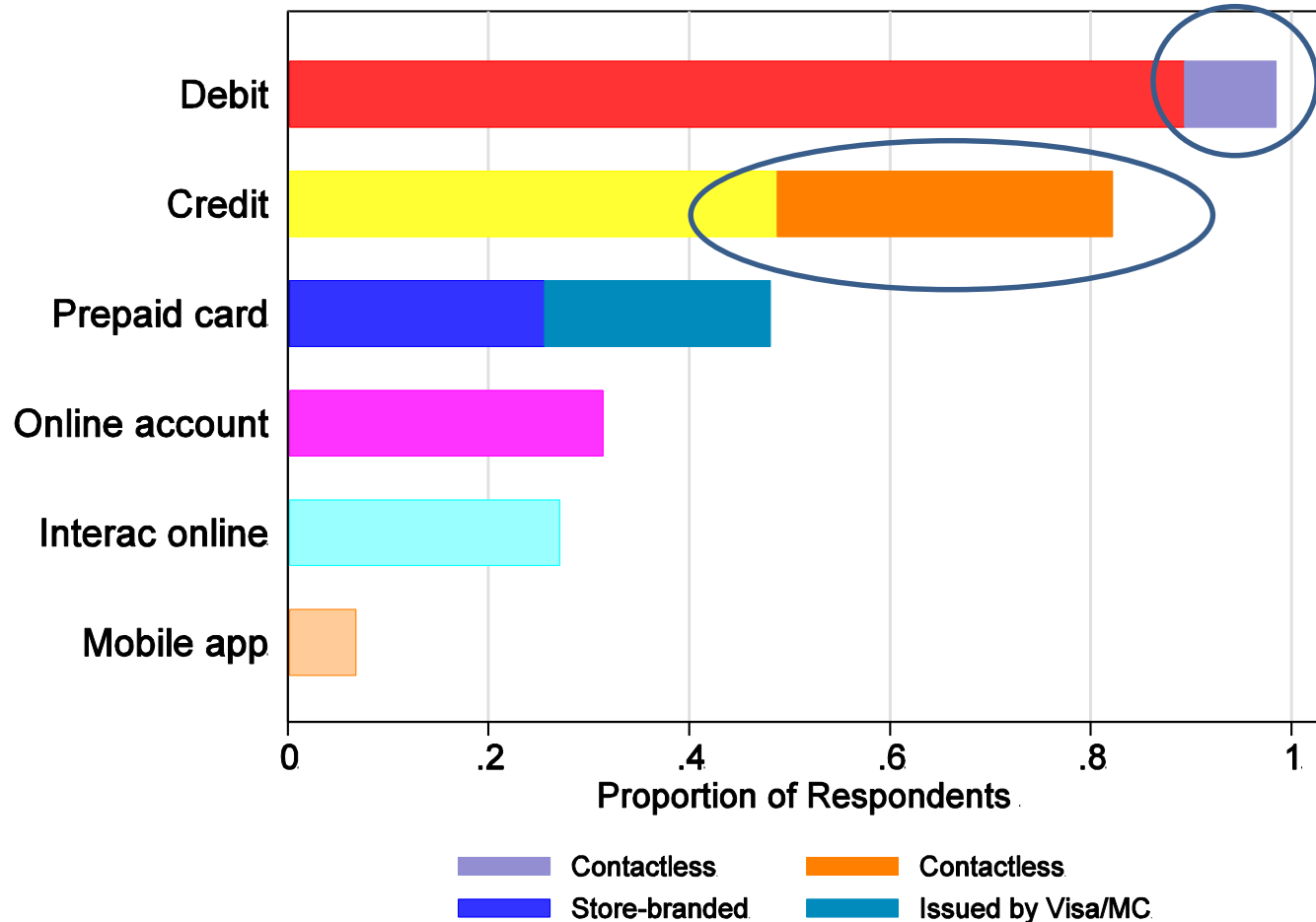
Innovations in retail payments: some examples

	E-payments	E-money	Digital currency
Bank a/c	Yes	No	No
POS	EMV/contactless cards; Mobile payments (Apple/Android Pay, Square), prepaid cards	Octopus card (Hong Kong), Suica (Japan), Alipay, WeChat Pay, PayPal, Bim	
Online	card tokenization; iDEAL, Interac Online, Braintree, Stripe	PayPal prepaid balance, Alipay, WeChat Pay	Cryptocurrencies e.g. Bitcoin; Coinbase
P2P	Venmo, WeChat, Interac e-transfer, Swish, Dwolla	M-PESA in Kenya, Bim, Facebook Messenger	Cryptocurrencies, e.g. Bitcoin
Remittance	MoneyGram Online, Global Money Transfer	PayPal, Alipay	Cryptocurrencies e.g. Ripple
Bill payment	Epost, Bpay, PPS, WU Pay		

Examples of payment gaps

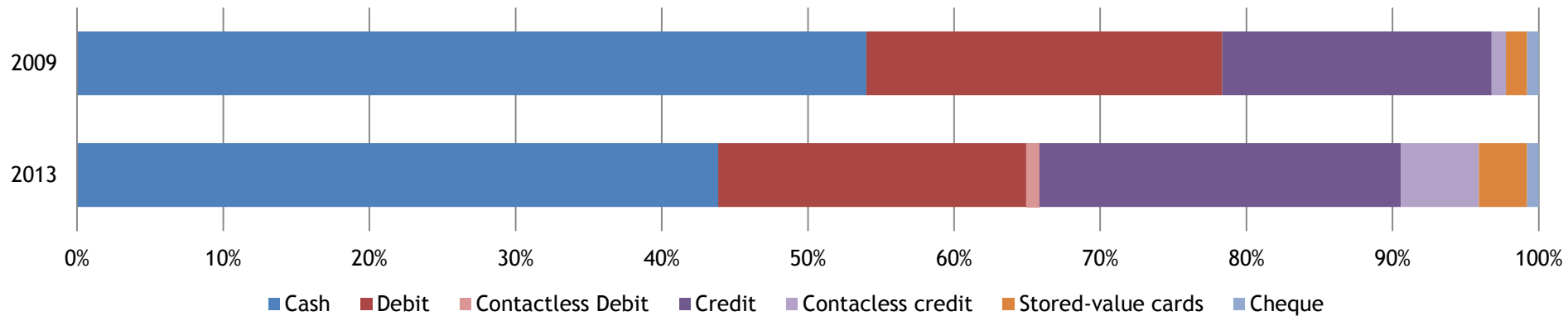
	Safety/privacy	non-monetary costs	fees
POS	Don't trust certain sellers	Cash only merchants; cost of withdrawing cash; access to financial services	Merchant card fees
Online	security and privacy concerns	Cost of setting up an online account, e.g. PayPal; inconvenience of entering card information	PayPal and card fees, esp. for micropayments
P2P		Cost of going to ATM or downloading and learning new apps	Cost and fees
Remittance	Sending cash is unsafe	access to financial services; take time for funds to arrive	Fees of Western Union, PayPal and banks.

Electronic payment methods are broadly available in Canada (2013)

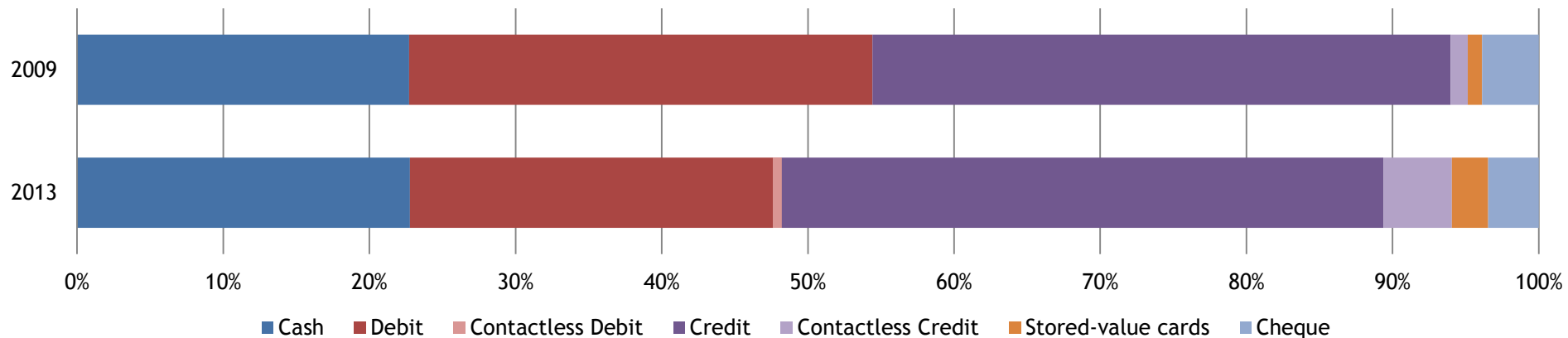


Canadians are using less cash and more electronic payments at the POS, including newer payment innovations

Volume



Value



Sources: 2009 and 2013 Methods-of-Payment Surveys (2009 diary and 2013 survey questionnaire weights used)

The importance and challenges of innovations in retail payments, and their implications

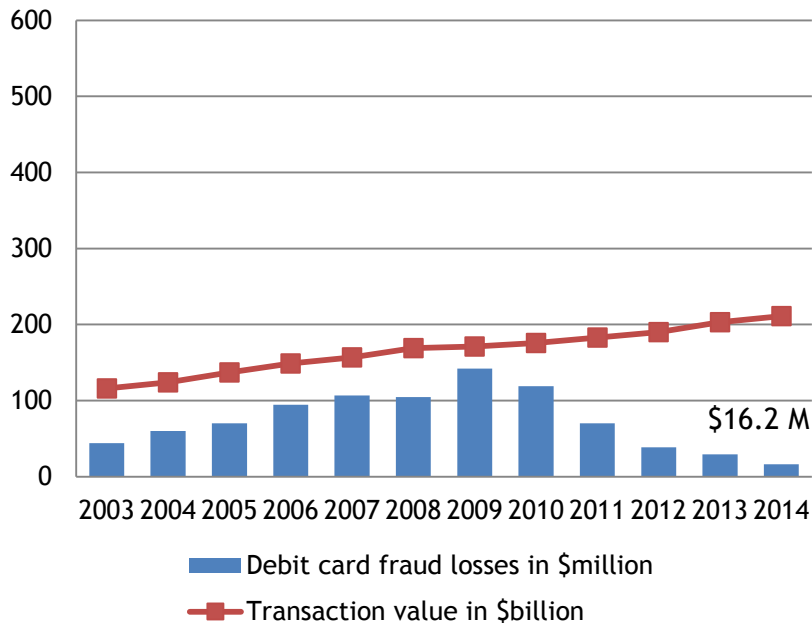


The importance of innovation

- Enable consumers to do transactions that they were not able to do before (foregone transaction): improve efficiency
- Allow consumers to conduct existing transactions at a lower cost and in a safer or more convenient way – increase competition, access and usage

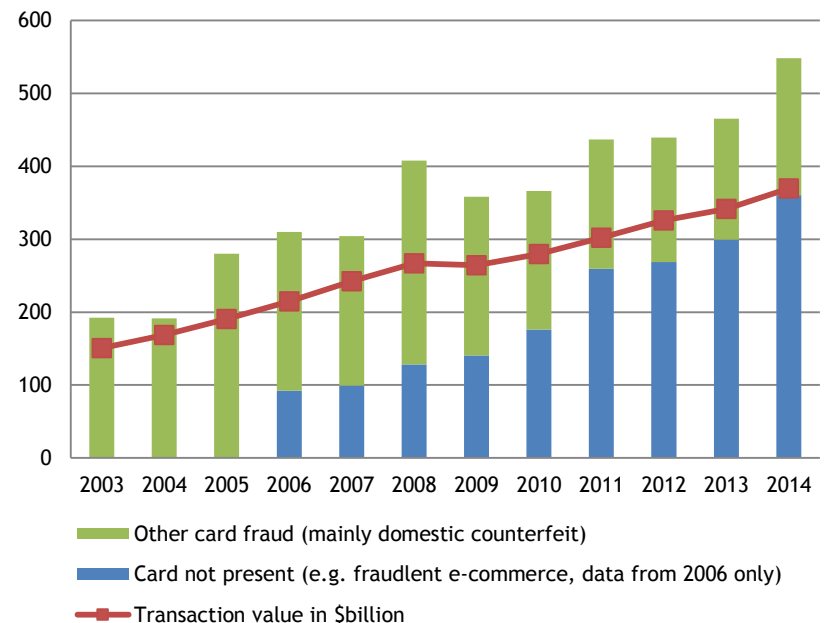
Chip and pin help reduce payment card fraud in Canada at the point-of-sale

Debit card fraud is declining



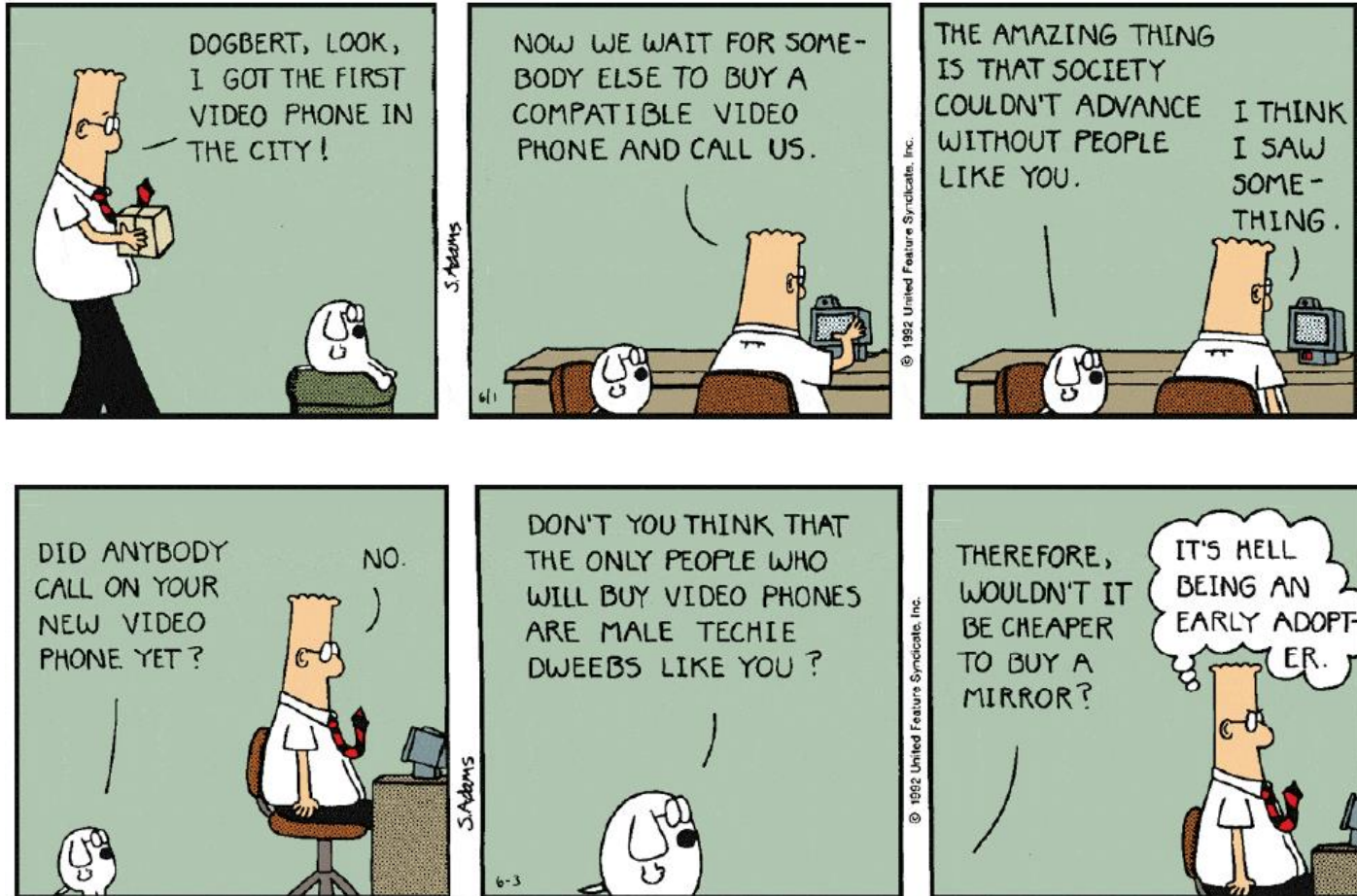
Source: Interac Association

Credit card fraud remains high owing to rising card not present fraud



Source: Canadian Bankers Association

Successful innovations need to overcome the network effect in a two-sided market



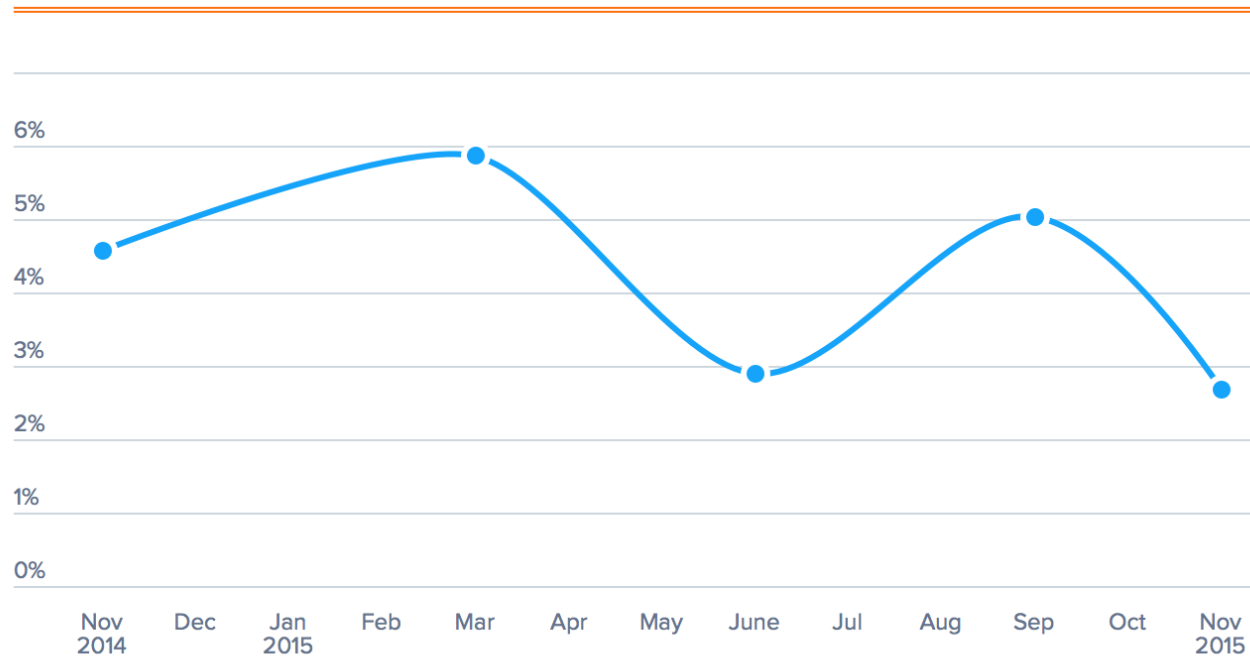
Few innovations were able to achieve the network effect in a two-sided market

- Successful examples
 - Debit cards – it is the ATM card
 - Credit cards – consumer likes interest-free and rewards
 - Octopus cards in Hong Kong – almost everybody takes public transportation and owns an Octopus card already
 - M-PESA in Kenya – more people have mobile phones than bank accounts
- Not so successful examples
 - Mondex, Facebook Credit and Messenger, Google Wallet, PayPal at the POS
- Among all the latest innovations in retail payments around the world, how many of them will be broadly adopted and accepted (Bitcoin/Ripple, Apple Pay, ...)?

Apple Pay usage in the United States at its lowest rate since introduction

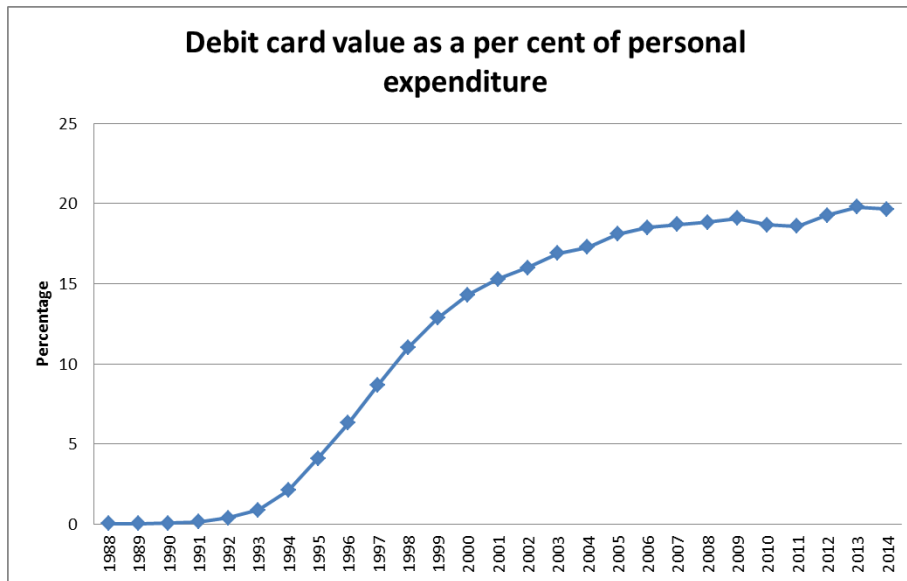
Apple Pay Usage

as a percentage of Apple Pay eligible transactions

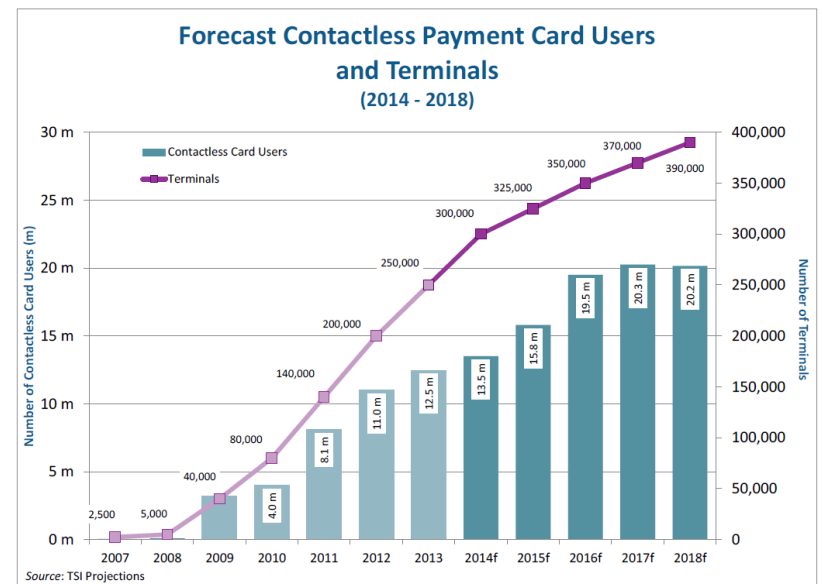


Adoption of innovations takes time: The S-curve

Debit cards in Canada



Contactless credit cards in Canada



Other challenges

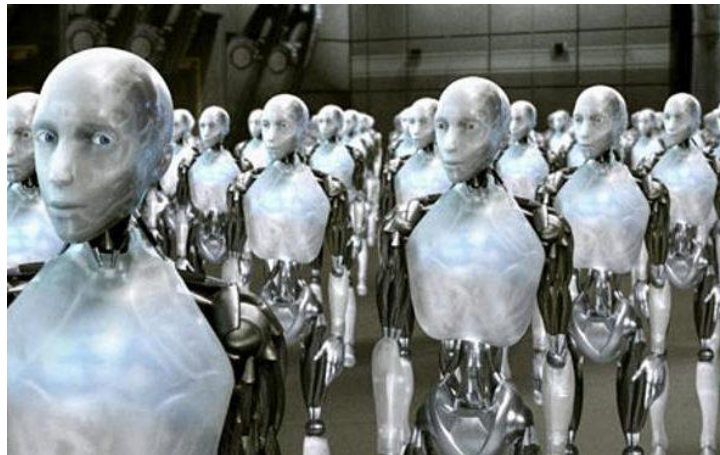
- Standardization, interoperability and cooperation
 - E.g. Many mobile payment schemes (initially) tend to be platform specific: require a particular combination of mobile carriers, mobile phone OS, banks, card schemes
- Regulatory requirements – definitions of e-money and cryptocurrency, prepaid products, compliance with KYC and AML requirements, the use of new technology by FIs under supervision
- Competition and barriers to entry

The role of central banks



Are we nearing a cashless society?

Payment innovations aim to drive out cash



Cash is no longer accepted or available everywhere



- All Air Canada flights accept cards only for in-flight purchases
- The government does not accept cash for some services, e.g. income taxes: online payments or pay at a FI or by wire transfer
- Online purchases are increasingly popular and cash is not accepted
- Around the world
 - In the Netherlands, some retail chains (e.g. Marqt, cashless supermarket) are not accepting cash for cost and security reasons or have a limited number of cashiers that accept cash
 - In Sweden, many banks branches don't carry or accept cash ("cash-free"), with cash available only from ATMs
 - In Hong Kong, parking meters accept only Octopus cards³

Is Sweden on the verge of becoming the world's first cashless society?



“We don't accept cash”

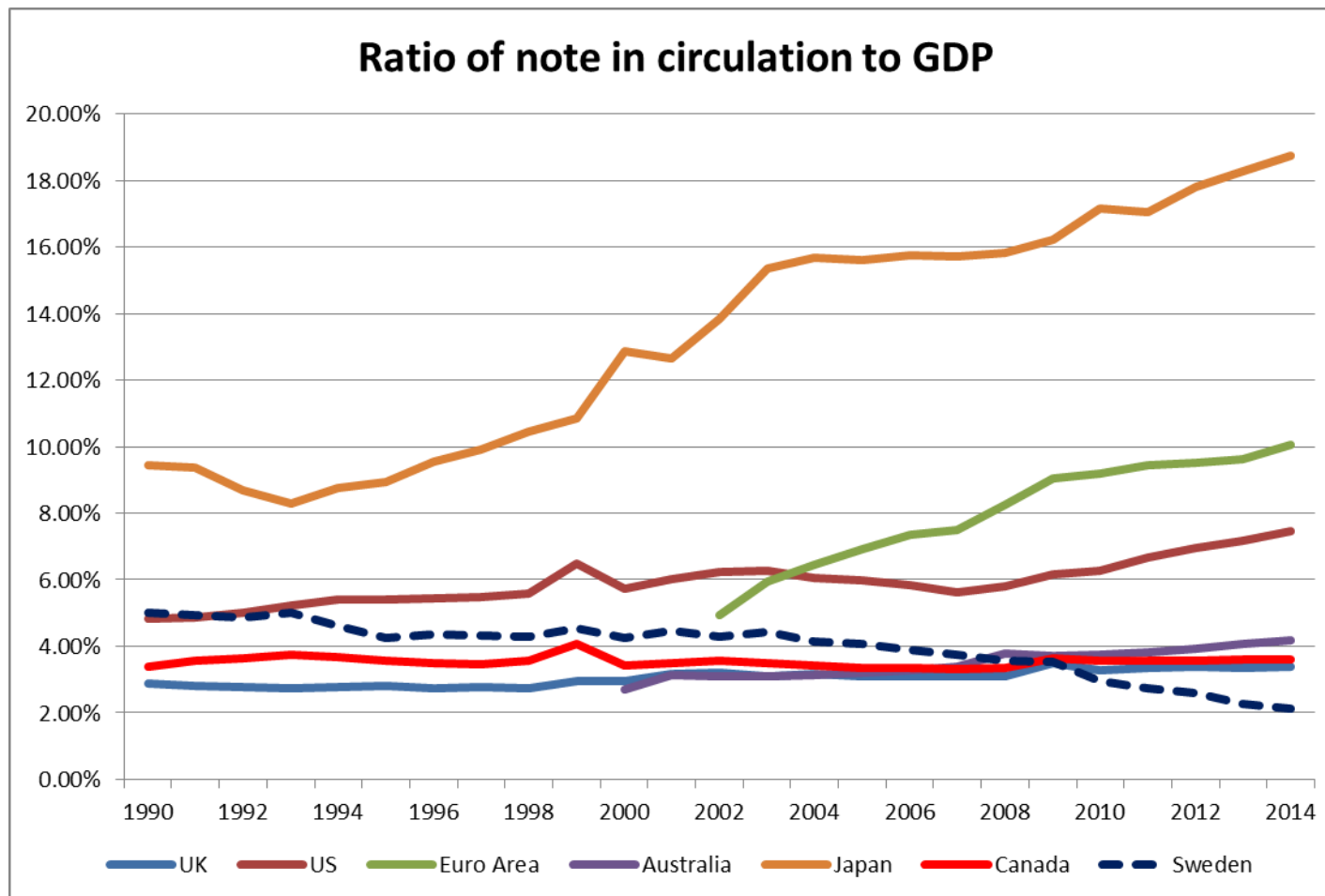
- “Welcome to Sweden - the most cash-free society on the planet,” The Guardian, Nov 12, 2014.
- “Sweden on way to becoming cashless society,” Euronews, Dec 14, 2015
- “In Sweden, A Cash-Free Future Nears,” The New York Times, Dec 26, 2015;
- “Why Sweden Is Going Cash-Free?” Fortune, December 26, 2015.
- “Could Sweden become the first cashless society?” ComputerWeekly.com, accessed March, 20, 2016;
- “Sweden’s central bank put brakes on cash-free society,” ComputerWeekly.com, accessed March, 30, 2016;

Cash is still broadly used in Australia, Canada, and the US, especially for small value transactions and P2P payments

	Canada	Australia	United States
Cash share (volume)	44%	47%	40%
Cash share (value)	23%	18%	14%
Average value of total payment	CA\$43	AU\$67	US\$59
Average value of cash payments	\$18	\$26	\$21
Cash share (volume) in P2P payments	69%	55%	67%
Average value of P2P cash payments	\$30	\$98	\$35

“Cash continues to be the most frequently used payment instruments for proximity and P2P payments”
 CPMI Report, 2012

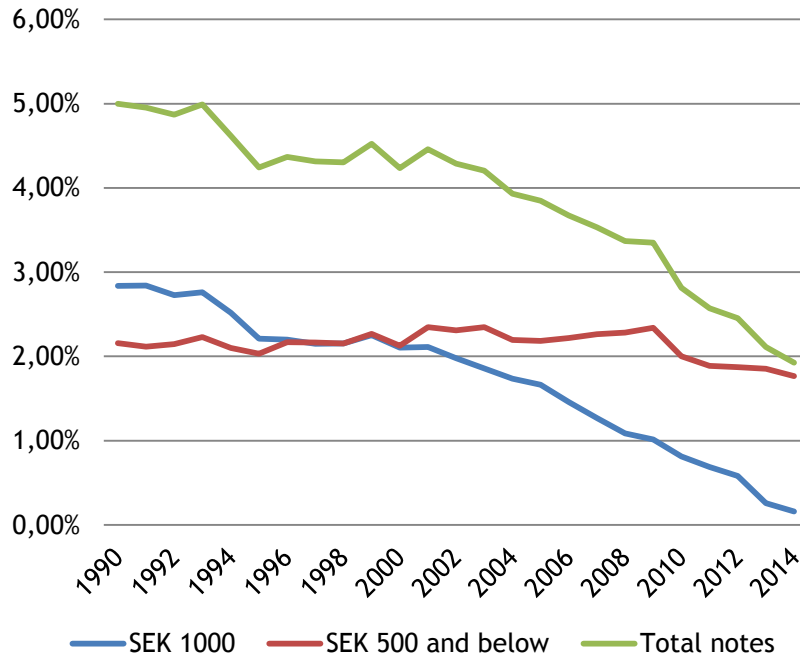
Bank notes continue to grow in a number of countries, except e.g. Sweden



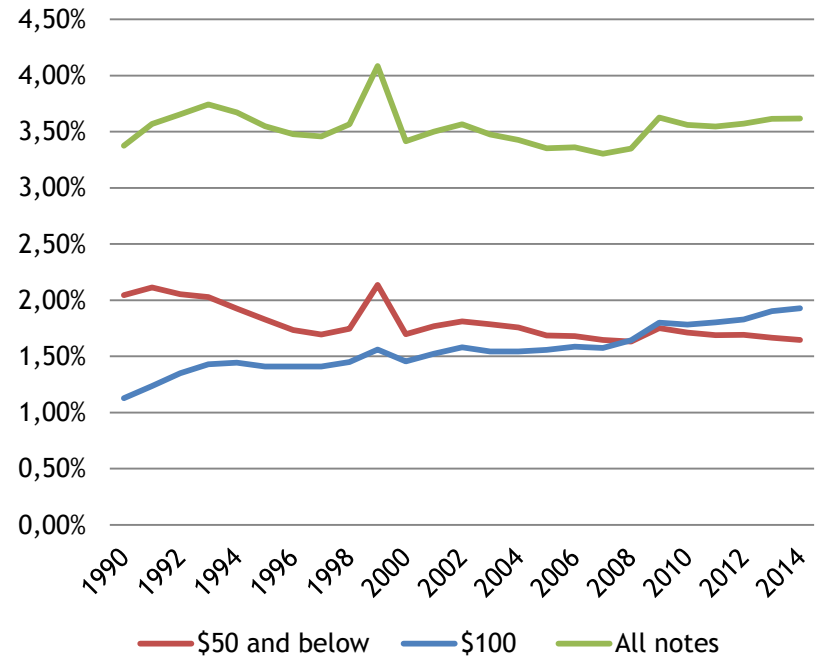
Source: BIS Red Book

The decline in cash demand in Sweden is mainly driven by the note of the largest denomination

Value of notes over GDP in Sweden



Value of notes over GDP in Canada



Public policy objectives for retail payments in Canada

- Safety: Measure, manage and control risks appropriately
 - What risks are raised by innovations of retail payments? Are these new or additional risks? How large are these risks?
 - Are there reliable legal and regulatory frameworks to manage and control the risks?
- Efficiency: Payment needs are met and resources used to deliver the service are efficiently allocated
 - What payment needs are not met right now (or underprovided) ?
Can total costs be lowered by payment innovations?
- Users' interest:: Meet end-users' needs and protect their interests

Potential roles for the central bank

- Facilitation or catalyst
 - Promoting or encouraging a particular outcome through moral suasion, financial incentives and support
- Regulation
 - Stable and reliable operations
 - Protect the safety of funds
 - Compliance with AML and counter-terrorist funding regulations
 - Clarify the playing field, e.g. E-money directives, digital currencies
- Direct provision of payment instrument and services and operator of payment infrastructures

- How should the central bank work with other public authorities such as bank supervisors, the ministry of finance, telecom regulators, etc.?

Intervention in the payments system

- Intervention (regulation or direct provision) only when the market by itself will not achieve the desired outcome and public policy objectives (market failure)
 - How to ensure users can share the benefits of innovations?
 - What is the appropriate timing of intervention?
 - What is the relative importance of safety versus efficiency?
- Are there impediments for innovations?
 - Should/can the central bank promote innovations among players in the payment industry? How?
- What guidelines/policy should policymakers follow when deciding to regulate financial and payment services and provide payment services directly (e.g. Central bank digital currency)?

Some thoughts

- People always want to make a trade
- Hard to find double coincidence of wants; so will need a medium of exchange
- The medium will evolve over time as needs and technology change
- One size generally does not fit all

Conclusions

- Innovations in retail payments are changing the way we pay and the way to meet users' needs
- The use of cash continues to decline relative to other payment methods and to the size of household spending
- Central banks should continue to monitor developments in retail payments, understand their implications (on the central bank and the economy), and review their roles regularly
- Ultimately, consumers make the decision to use the payment method that meet their needs and serves them the best

“ATM was the only financial innovation that has improved society over the past 25 years”

Paul Volker, former Fed Chairman

