

Money and payments: where are we heading?

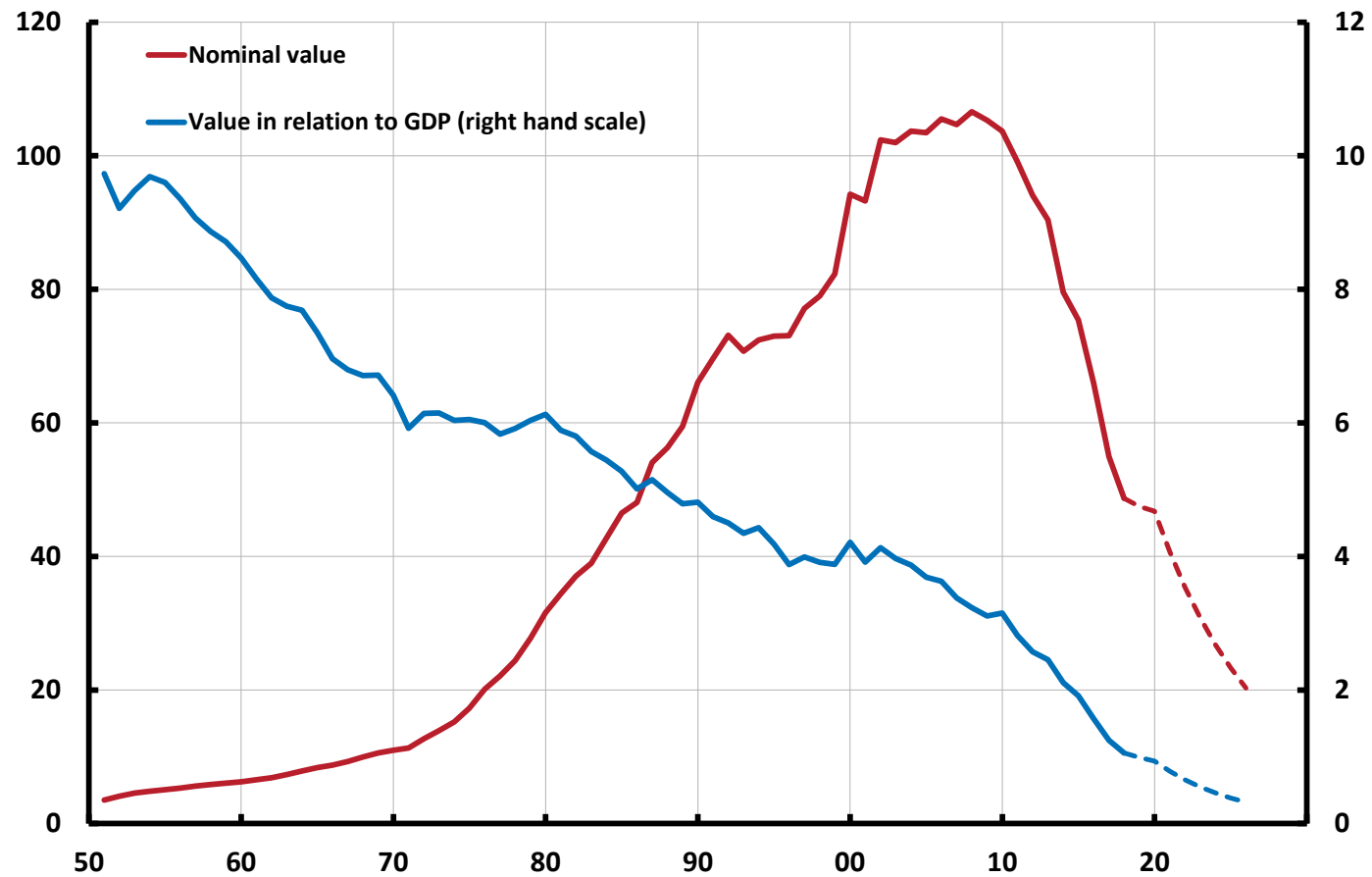
Swedish Economics Association

Stockholm School of Economics
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S V E R I G E S R I K S B A N K

Stefan Ingves,
Governor of the Riksbank

Rapidly declining use of cash



SEK billion (annual average). Cash in circulation/GDP. Broken lines estimate possible development based on trend from 2010.

Source: Statistics Sweden and the Riksbank

What is money?

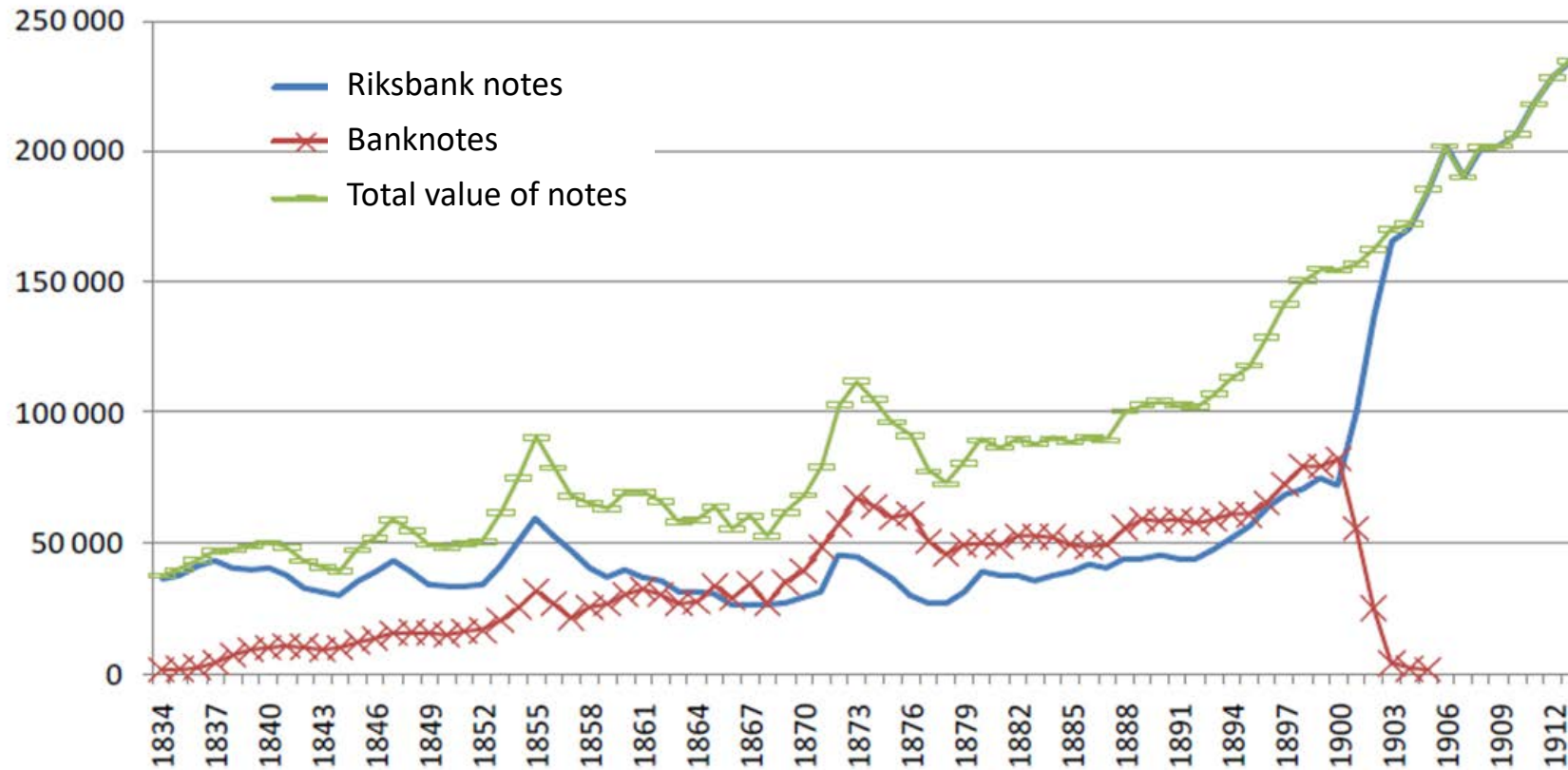
Means of payment
+
Unit of account
+
A store of value
=
MONEY



Huge coins became convenient banknotes



Monopoly on banknotes – a uniform standard for banknotes



SEK thousands. Banknotes issued by commercial banks and the Riksbank, 1834-1913.

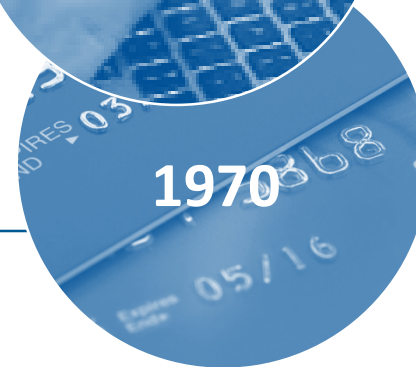
Sources: Ögren, A. (2003) Post & Inrikes tidning 1835-1871, Sammandrag af Bankernas oppgifter (Summary of the banks' tasks), 1871-1911, Sveriges Riksbank (1931)

Account-based payments made possible by postal and bankgiro systems

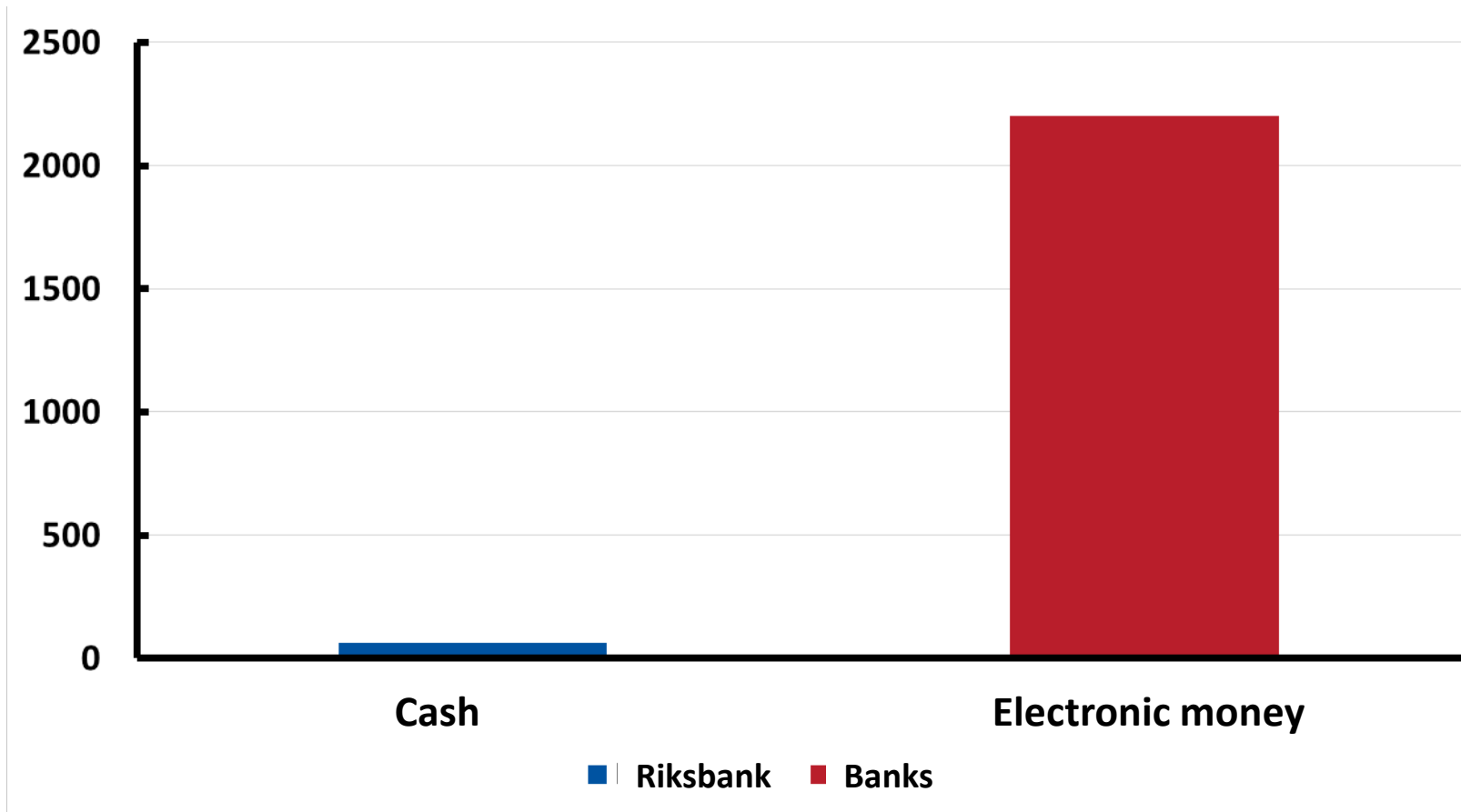


- 1925: Postgirot formed
 - Government initiative to simplify transfers
- 1950: Standardised paper form for bank credit transfers
- 1959: Bankgirocentralen formed

Several new means of payment in the 20th century



Only 2% of today's money is cash



SEK billions

Source: Sveriges Riksbank

The difference between money and money



**Central bank
money**



**Commercial
bank
money**

The payment market has many imperfections

- Confidence in the currency – a collective utility
 - Government involvement justified for efficiency
- Economies of scale and network externalities lead to concentration in monopoly systems
 - Vulnerable, inefficient, worse for innovation
- Positive network externalities
 - Cooperation and standardisation effective

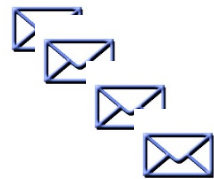
Efficiency gains of coordination

 bankgirot



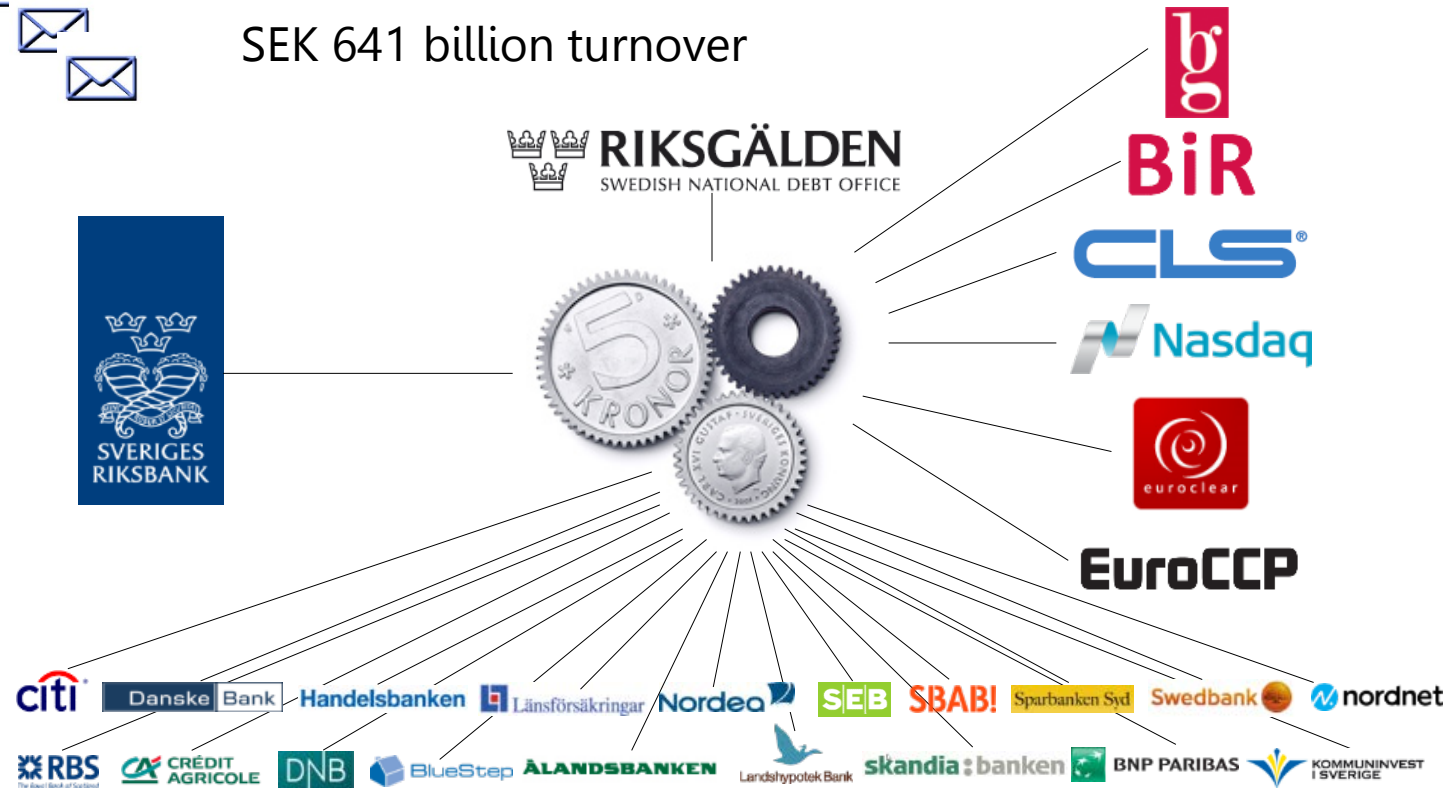
Account-based payments demand large IT systems

All roads in SEK lead to RIX

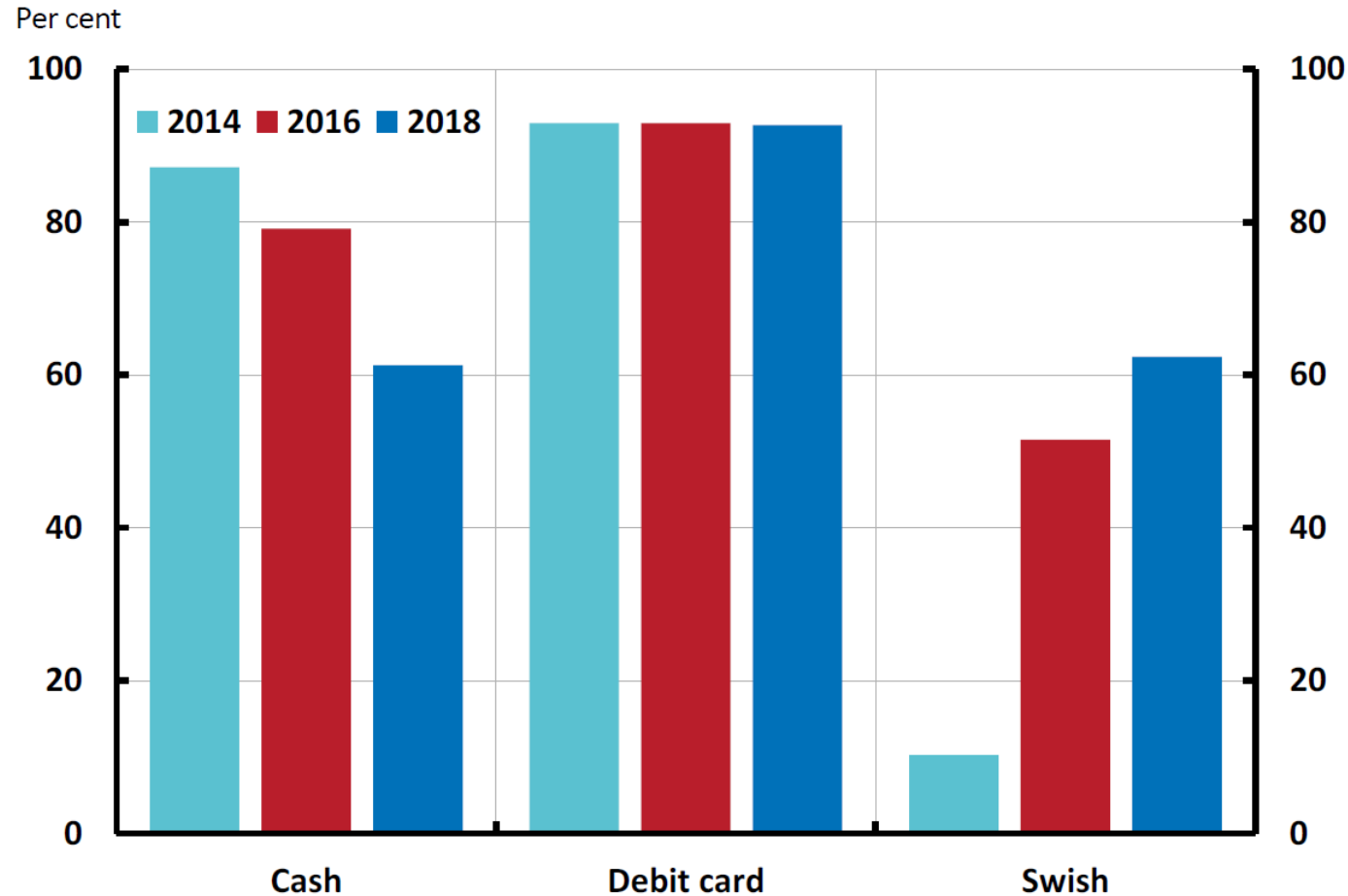


17,842 transfer orders/day

SEK 641 billion turnover



Swedes are paying more often with Swish and more seldom with cash



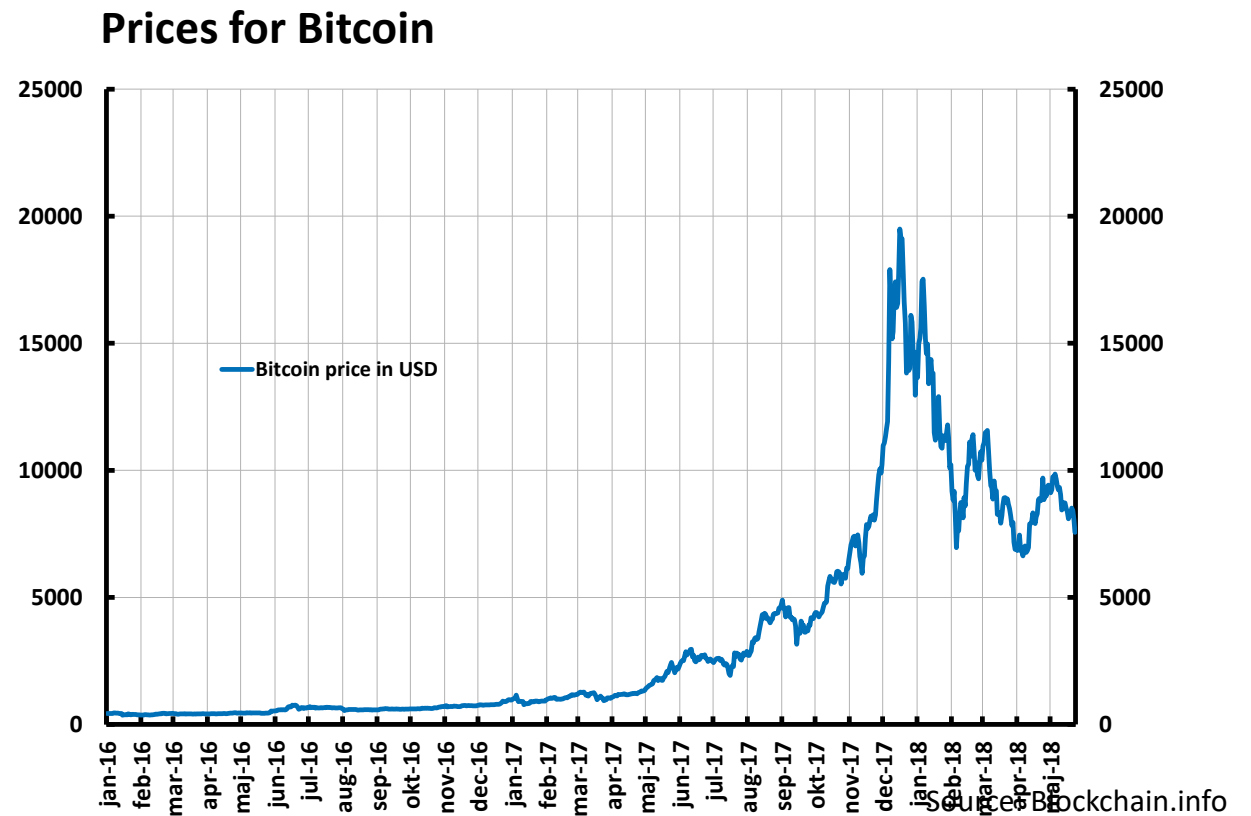
Note. The figure shows responses to the question: Which means of payment have you used in the past month?

Trends – where are we heading?

- Reduced cash usage
- Instant payments probably the norm for how we will pay in the future
- New consumption patterns and new players
- Migration to foreign infrastructure and gradual adjustment of Swedish payment services to EU standards

Crypto-currencies are not money

- What is money?
 - Means of payment
 - Unit of account
 - A store of value
- Bitcoin is a speculative virtual asset whose value has no guarantee



An e-krona would guarantee a government presence on a market where it is needed

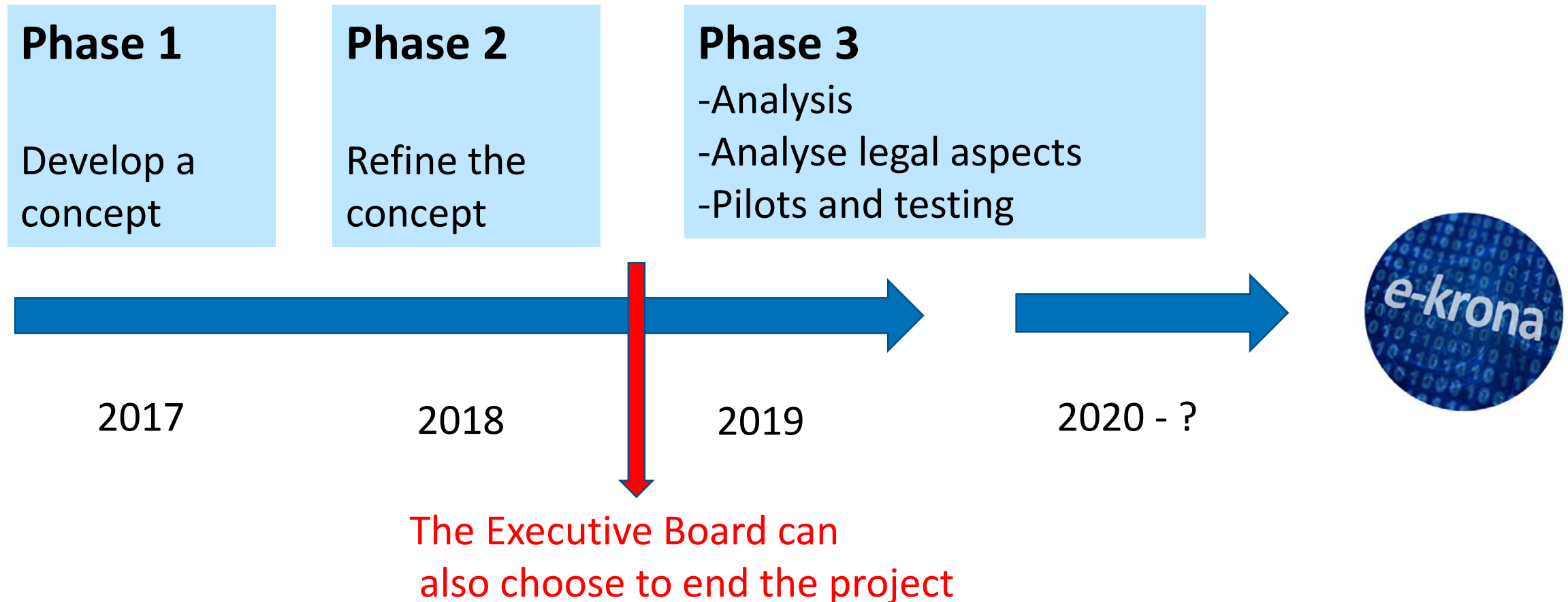
- Market imperfections lead to inefficient monopolies
- Difficult to regulate a monopoly, e-krona replaces cash as back-stop
- Certain groups find it difficult to cope with today's digital solutions
 - The private market cannot be expected to solve this itself
- The Riksbank's means of payment can be prepared for crisis situations
 - The private market does not consider this kind of vulnerability

E-krona: future means of payment?

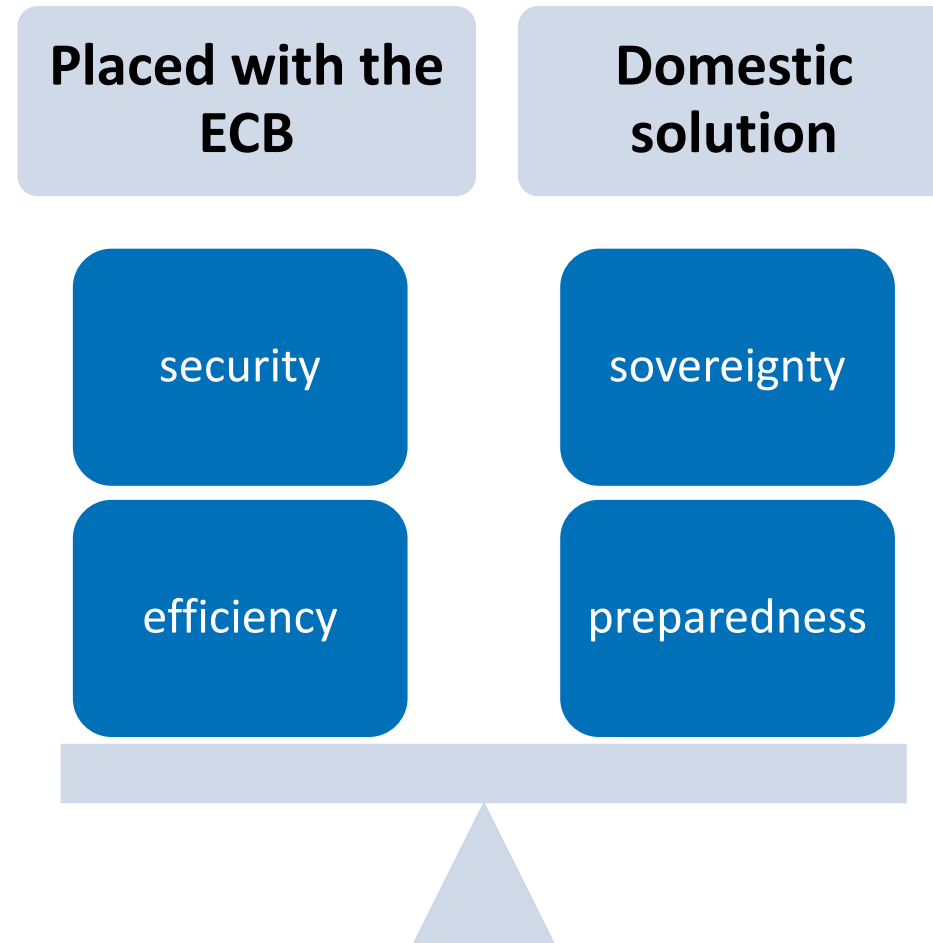
- Possible properties of an e-krona need further analysis
- Legislation will be needed for clarity's sake – current legislation obsolete
- E-krona's properties must determine choice of technical solution



An e-krona? The Riksbank's overall timetable



The infrastructure – the technical platform – does not have to be in Sweden



The Riksbank will modernise the supply of settlement services

- Given the increased significance of instant payments, the Riksbank should provide an infrastructure for instant settlement in central bank money
- Consultation on extended opening hours in RIX
- E-krona – decision at the end of the year
- The Riksbank's settlement services to be modernised
- Continued cooperation with the market

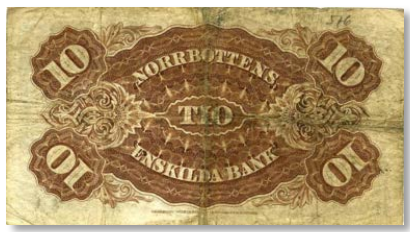
Money has been adjusted to technology and needs throughout history



Government money



Private money



Government currency

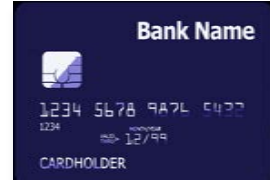


Private electronic money



swish®

iZettle



Government electronic currency



Thank you!