An early stablecoin?
The Bank of Amsterdam and the governance of money

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2020 Bank of Canada Annual Economic Conference on "The future of money and payments: implications for central banking", 7 November 2020

A rigid stablecoin: the Bank of Amsterdam over 1609-1683

Assets	Liabilities
	Deposits

An impeccable reputation

"At Amsterdam, however, no point of faith is better established than that for every guilder, circulated as bank money, there is a correspondent guilder in gold or silver to be found in the treasure of the bank"

(Adam Smith, *Wealth of Nations*, 1776)
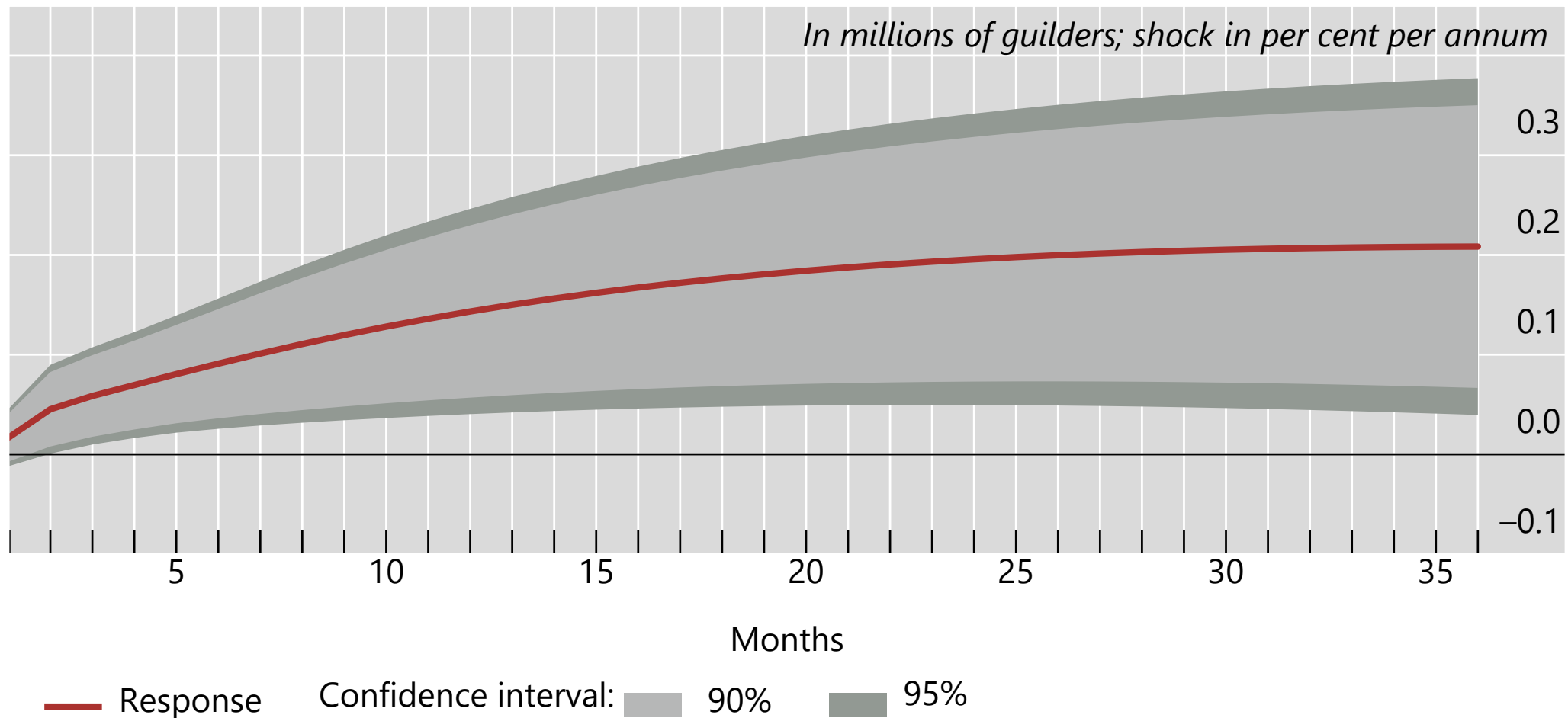
From rigid stablecoin to proto-central bank

From rigid stablecoin to proto-central bank

- A stable agio through monetary operations

- Adjusting money stock for settlement liquidity in wholesale payment system

- Lender of last resort function

The "receipts" system and money creation

Assets	Liabilities
	Encumbered deposits
	Unencumbered deposits

Response of unencumbered metal stock to a shock in the agio

In millions of guilders; shock in per cent per annum

Months

— Response   Confidence interval: � 90%   ▮ 95%

Adapted from Quinn and Roberds (2019), for the period 1736-1775

Composition of Bank of Amsterdam assets

Millions of guilders

Legend:
— Total Of Balances
▇ Metal Stock
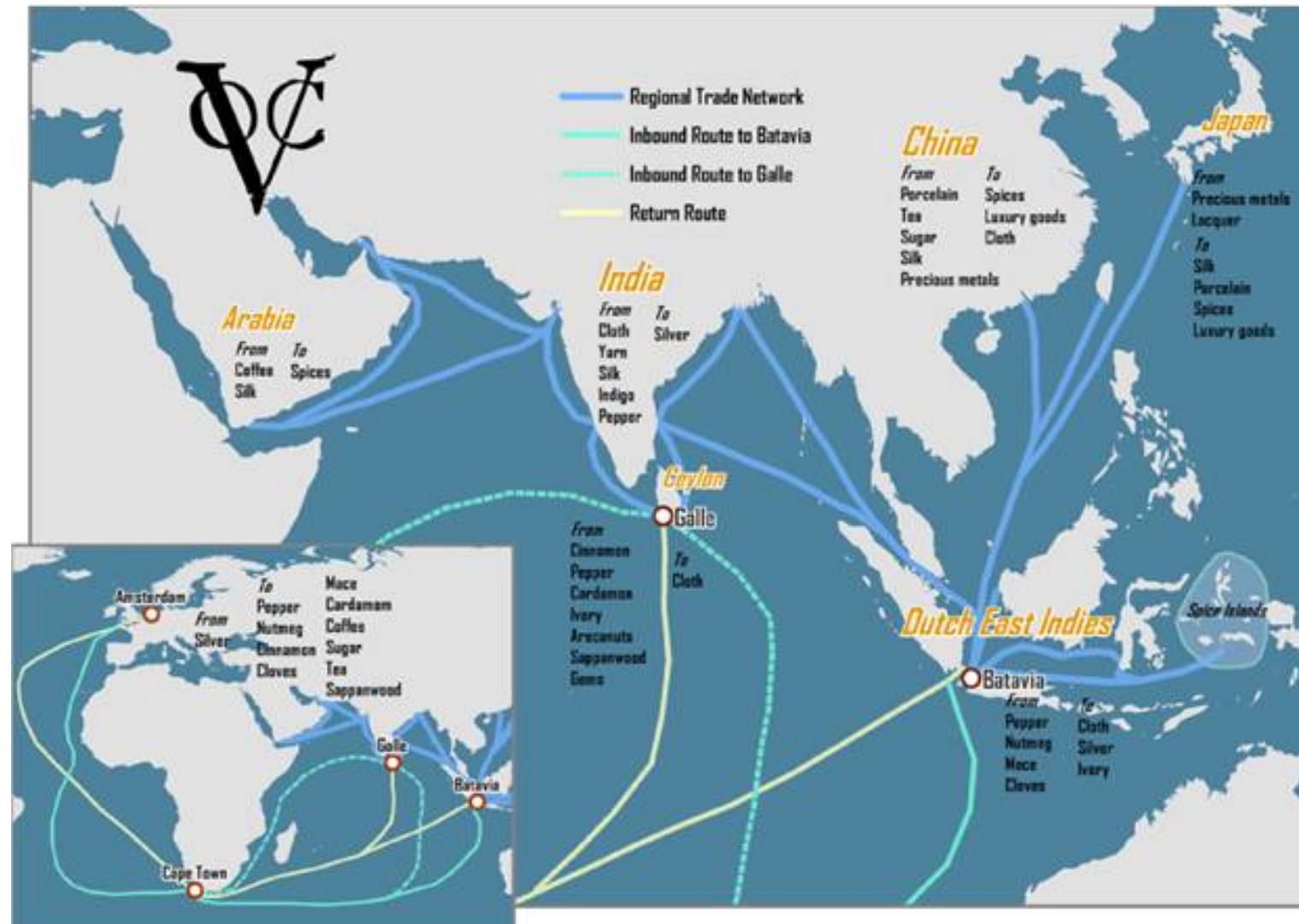▇ Debt of The Town Treasury
▇ Debt of The East India Company
▇ Debt of The Loan Chamber
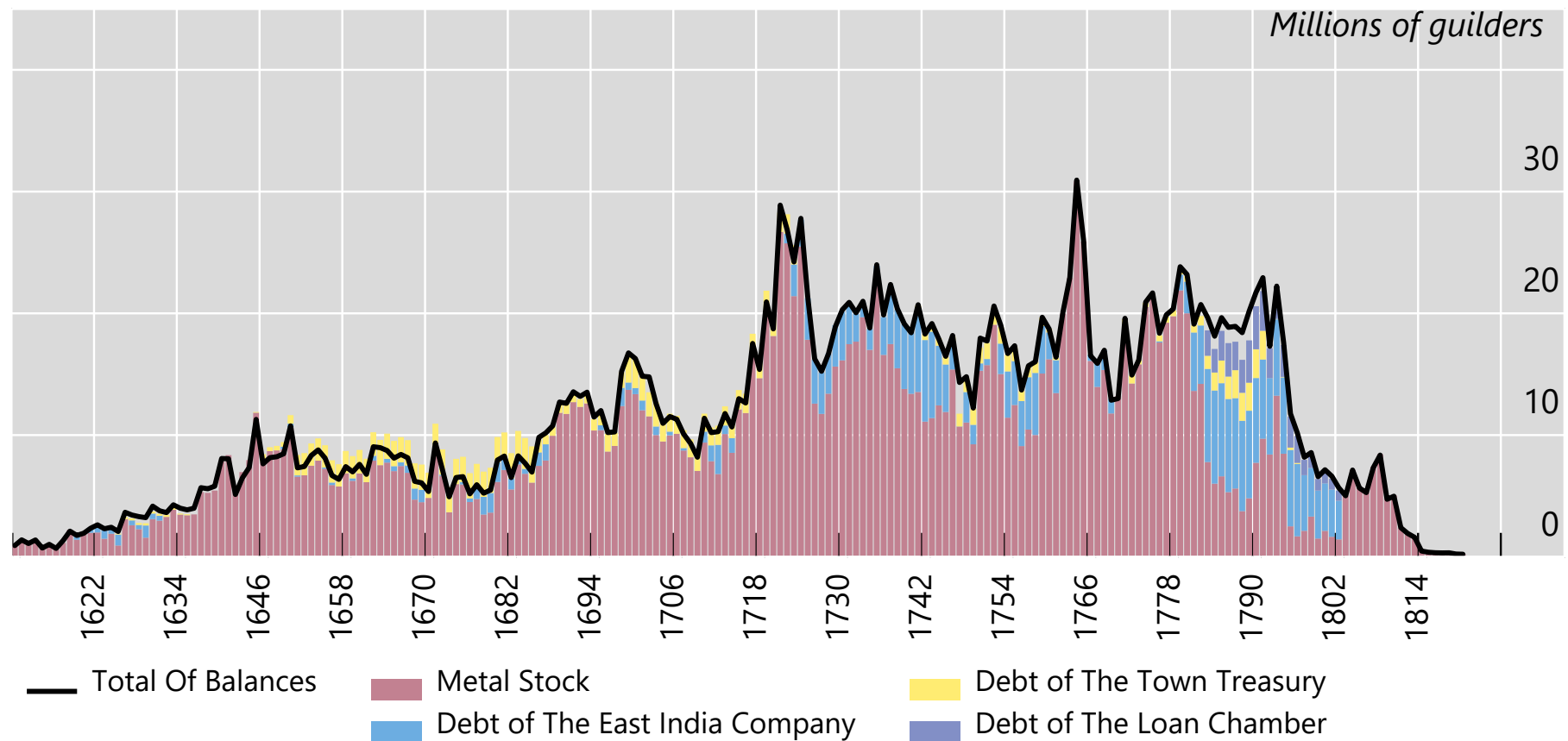
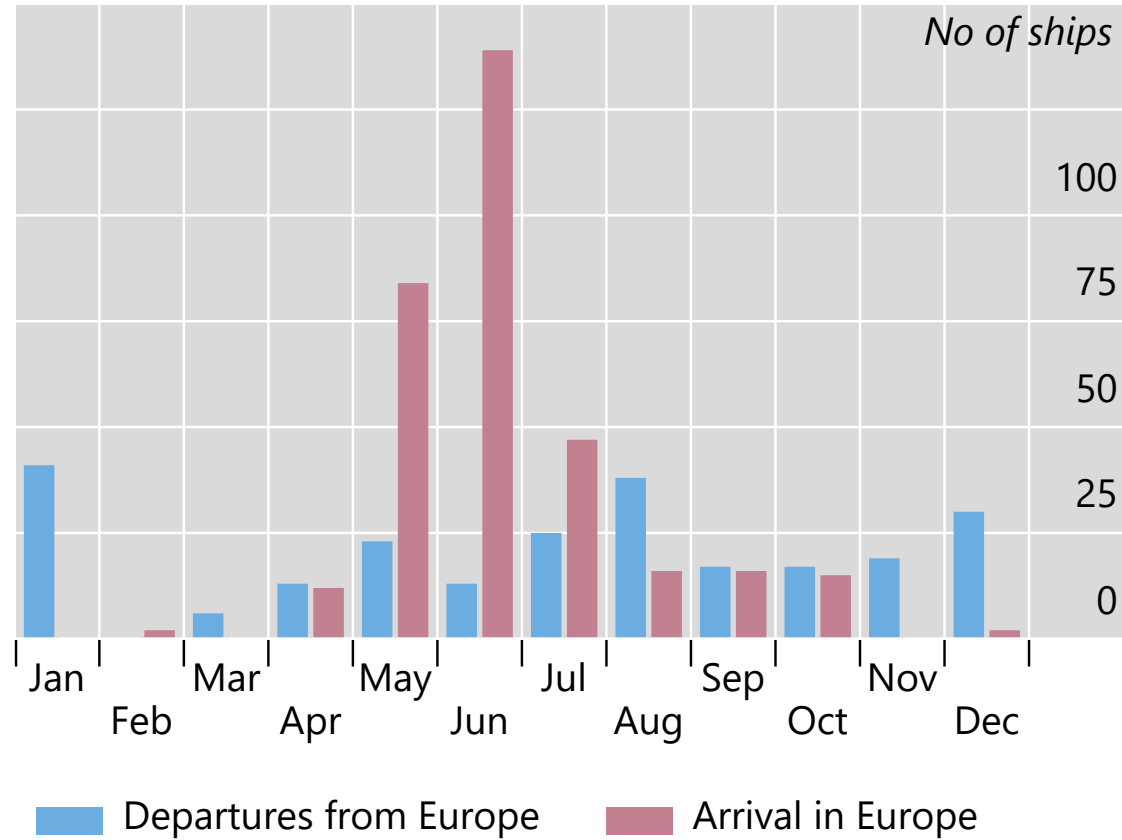# The need for settlement liquidity: the Dutch East India Company (VOC)

The geographic reach of the VOC

Short-term lending operations

Ship arrivals and departures showed a seasonal pattern

Departures from Europe   Arrival in Europe

Short-term lending operations

Ship arrivals and departures showed a seasonal pattern
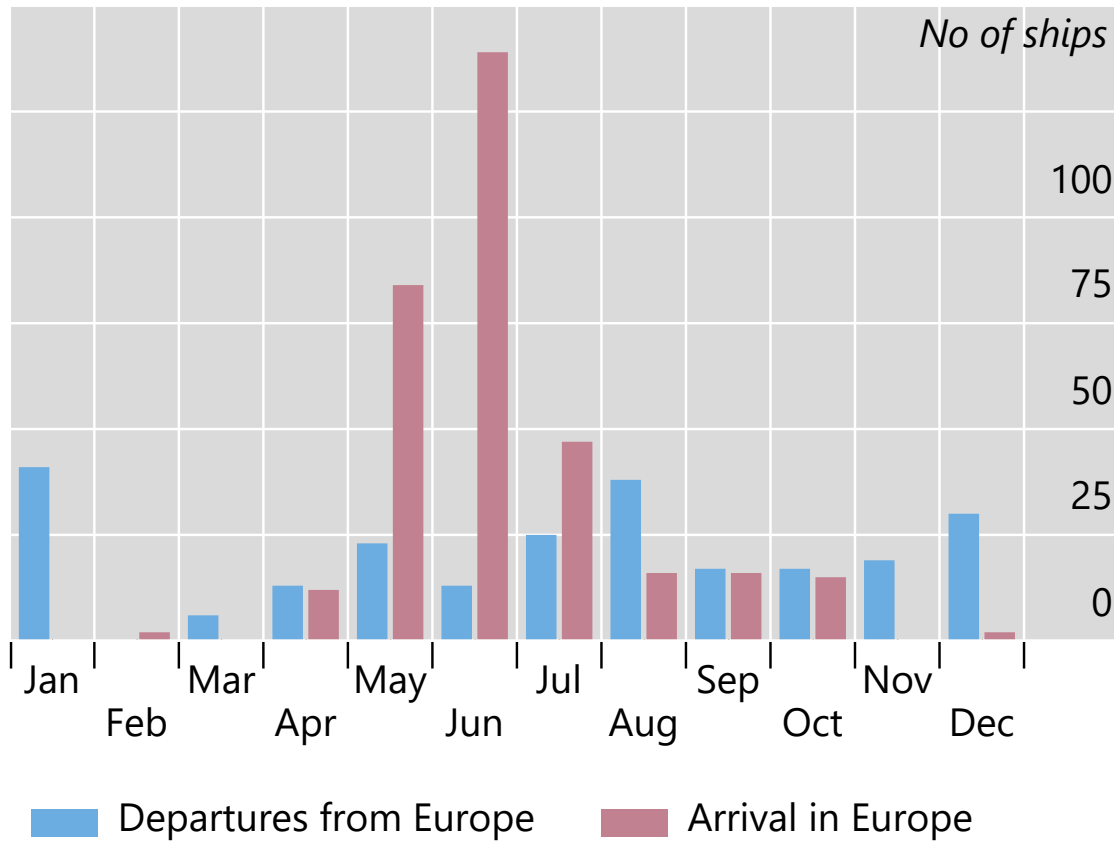
Credit to the VOC vs unencumbered accounts

$R^2 = 0.877$

Month-on-month change in Dutch East India Loans (millions of guilders)

Month-on-month changes in unencumbered accounts (millions of guilders)

■ Departures from Europe   ■ Arrival in Europe
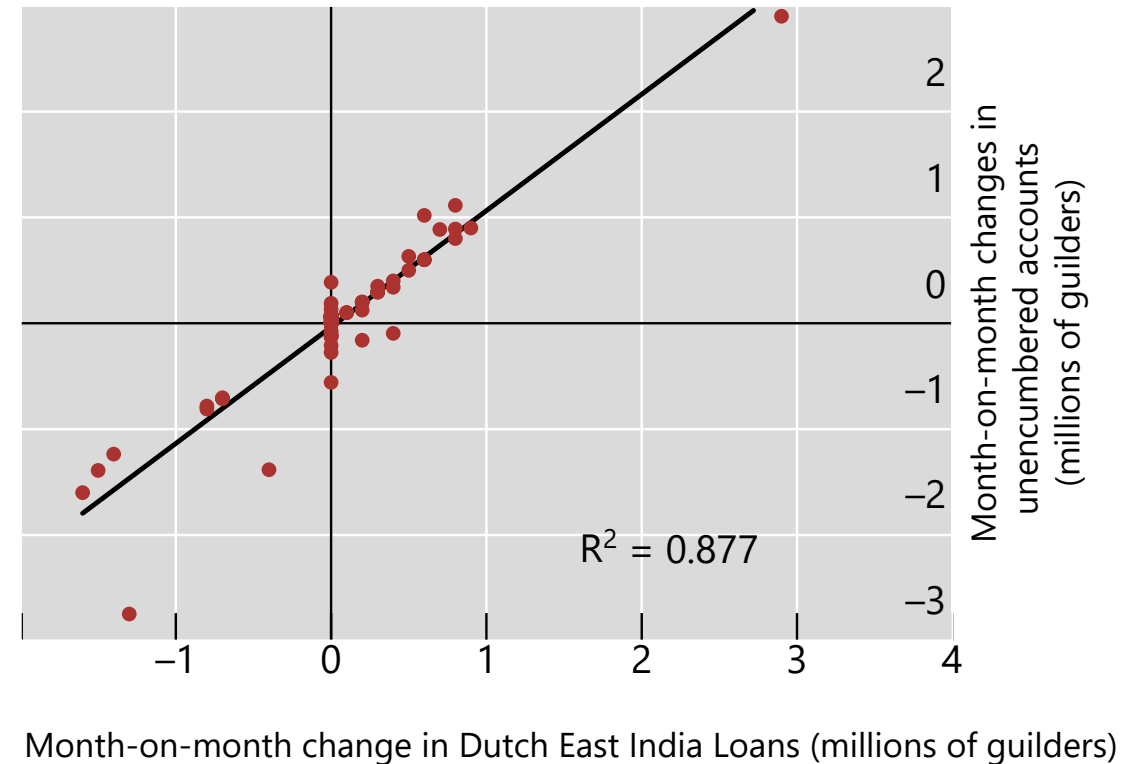
The need for flexible nodes in the system: Panic of 1763

Mn of guilders

Cumulative change: ◆ Loans ▮ Accounts

◆BIS
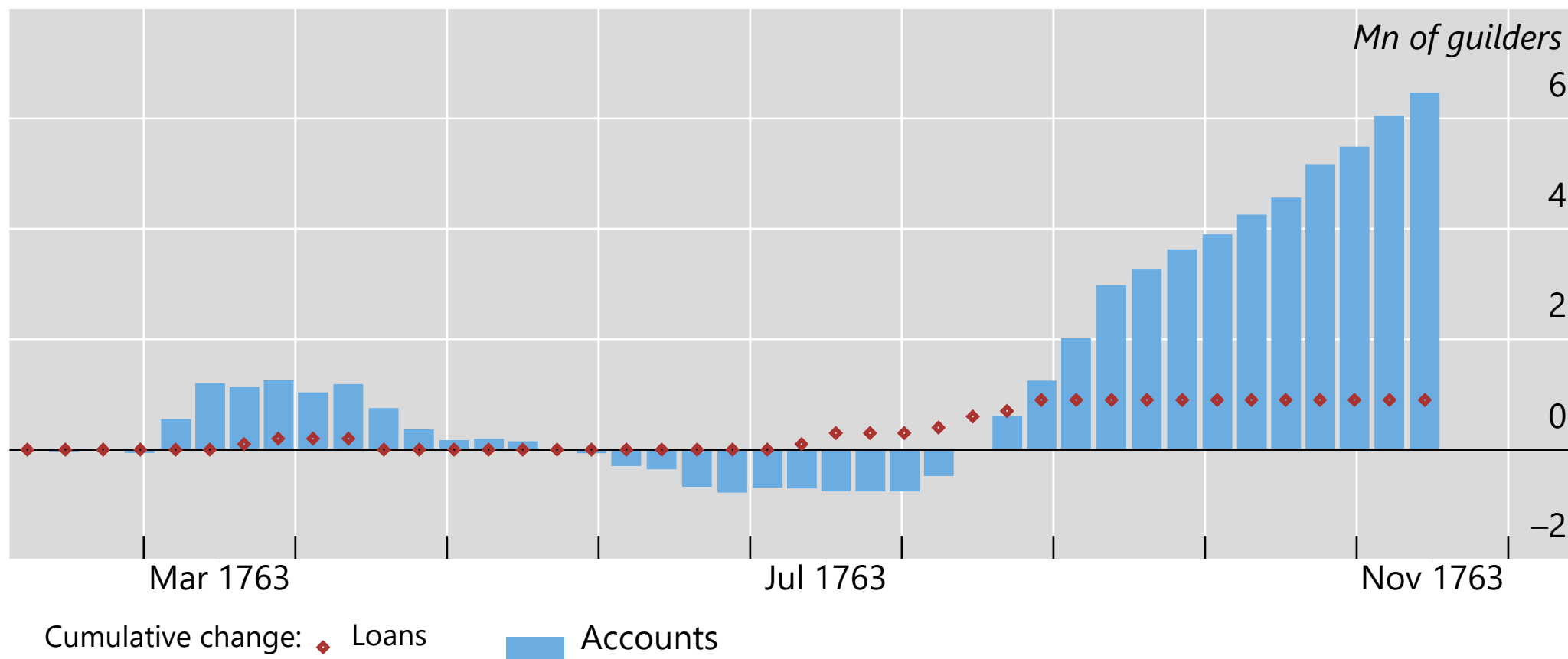
...not unlike the Great Financial Crisis of 2008...

Cumulative change: ♦ Commercial and industrial loans   ■ Deposits
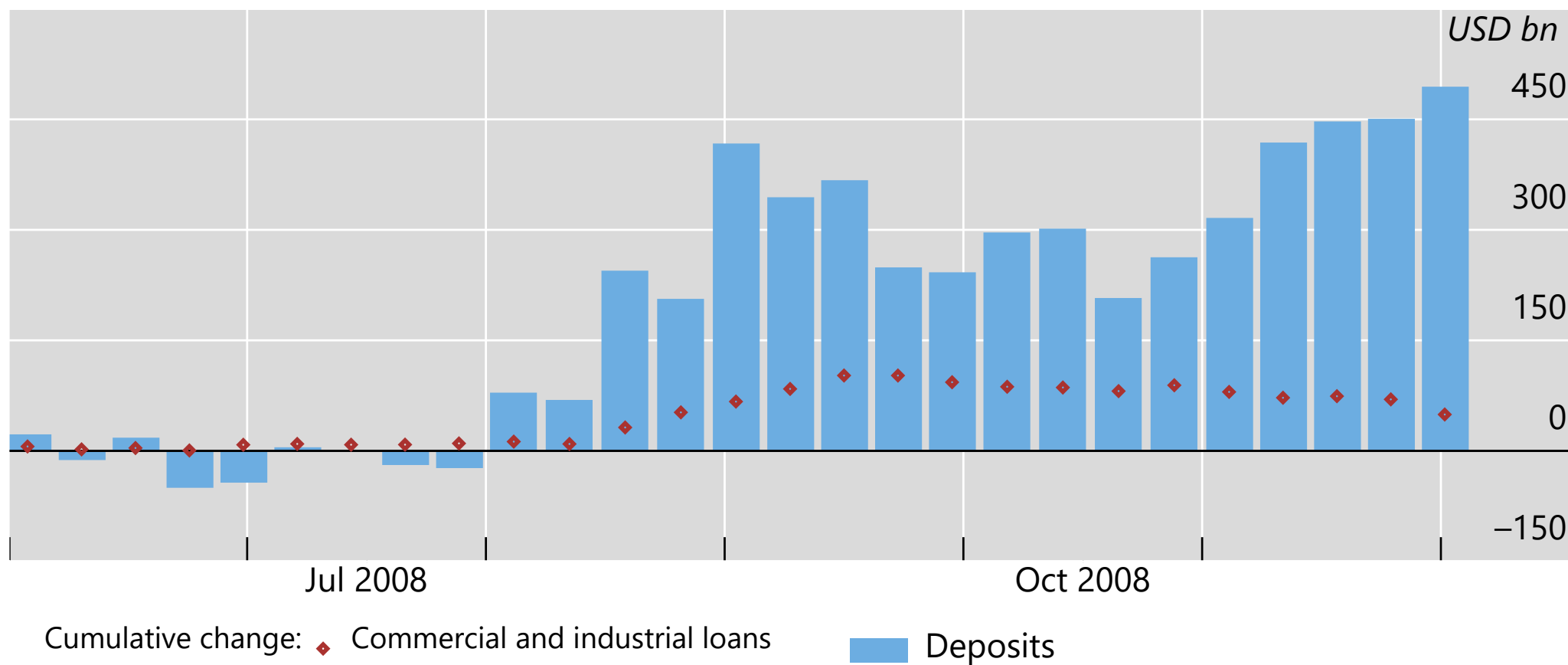
...or the Covid-19 pandemic of 2020

USD bn

Cumulative change: ◆ Commercial and industrial loans   ■ Deposits
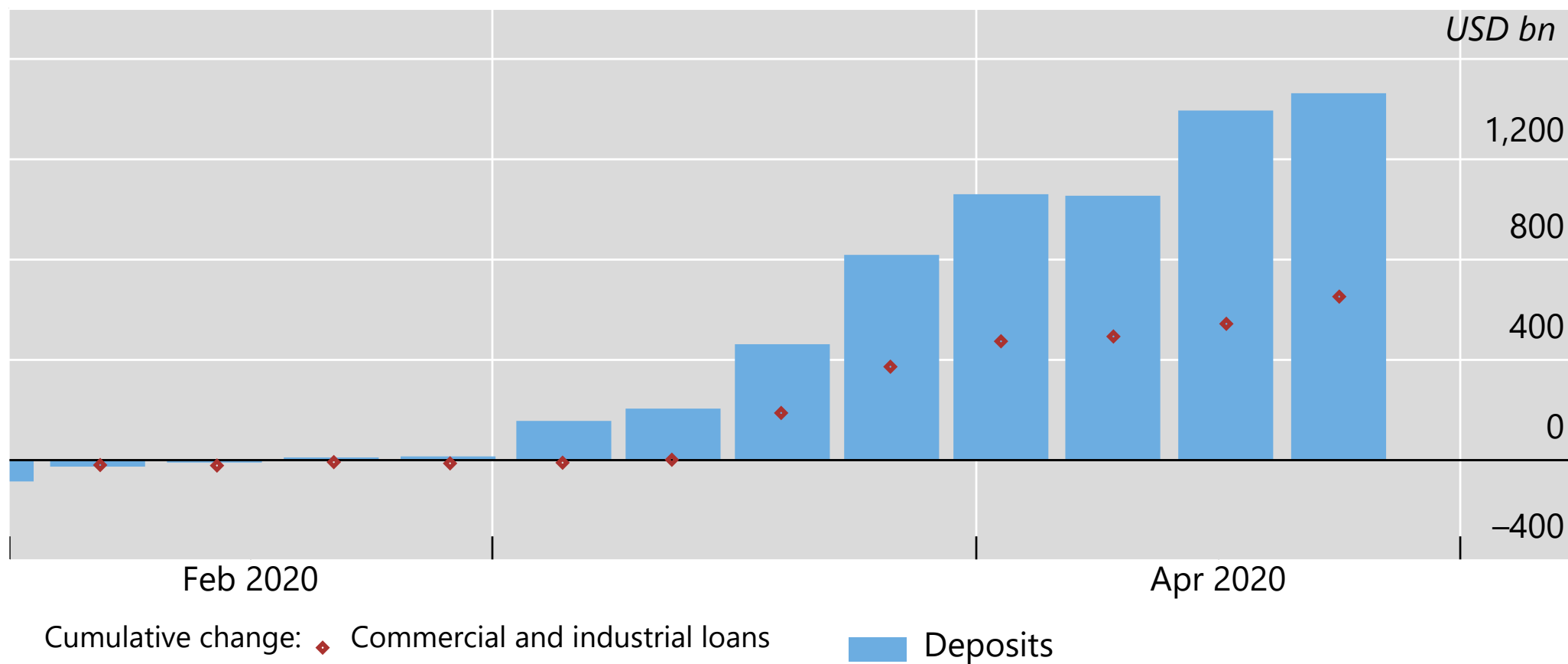
Disaster strikes: the fourth Anglo-Dutch war

VOC shipping collapses

Shipping volumes of the Dutch East India Company

'000 of guilders

Traded goods

BIS

Lending operations

Millions of guilders

Legend:
— Total Of Balances
Metal Stock
Debt of The Town Treasury
Debt of The East India Company
Debt of The Loan Chamber
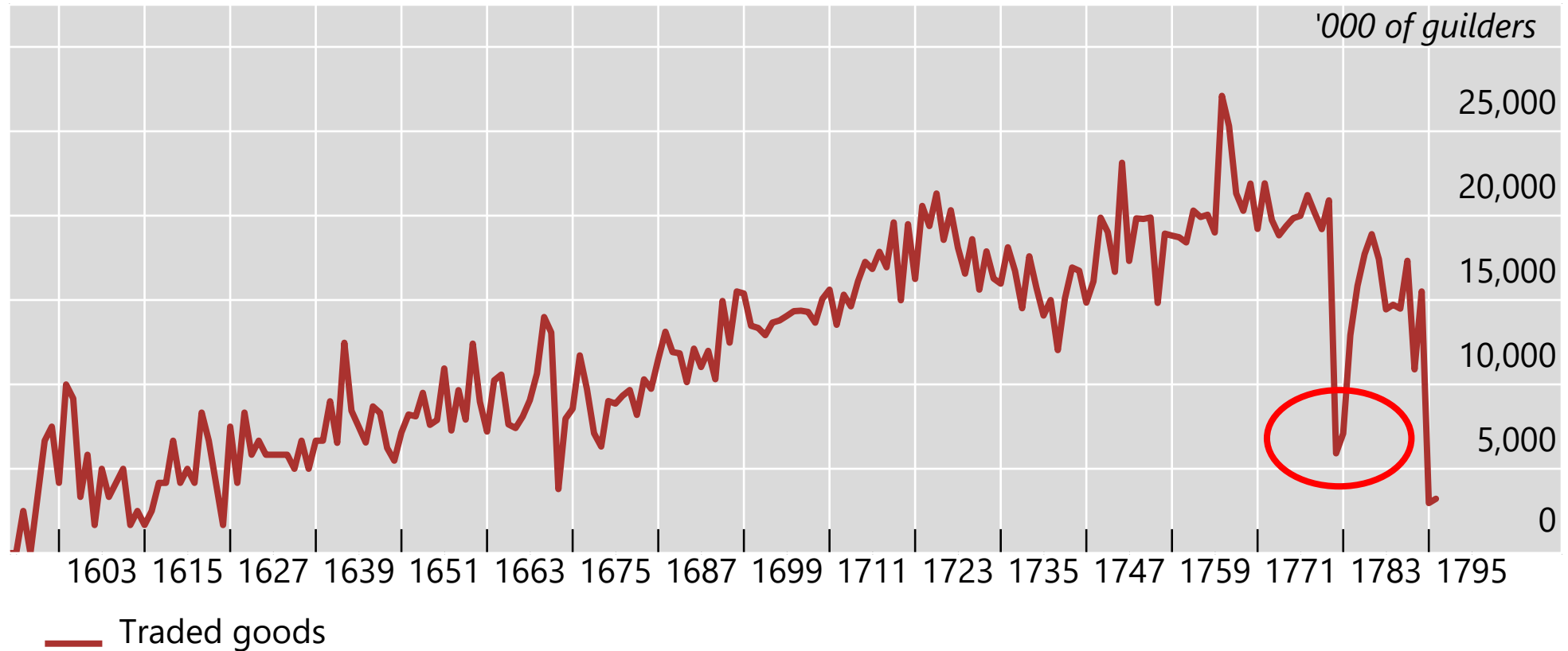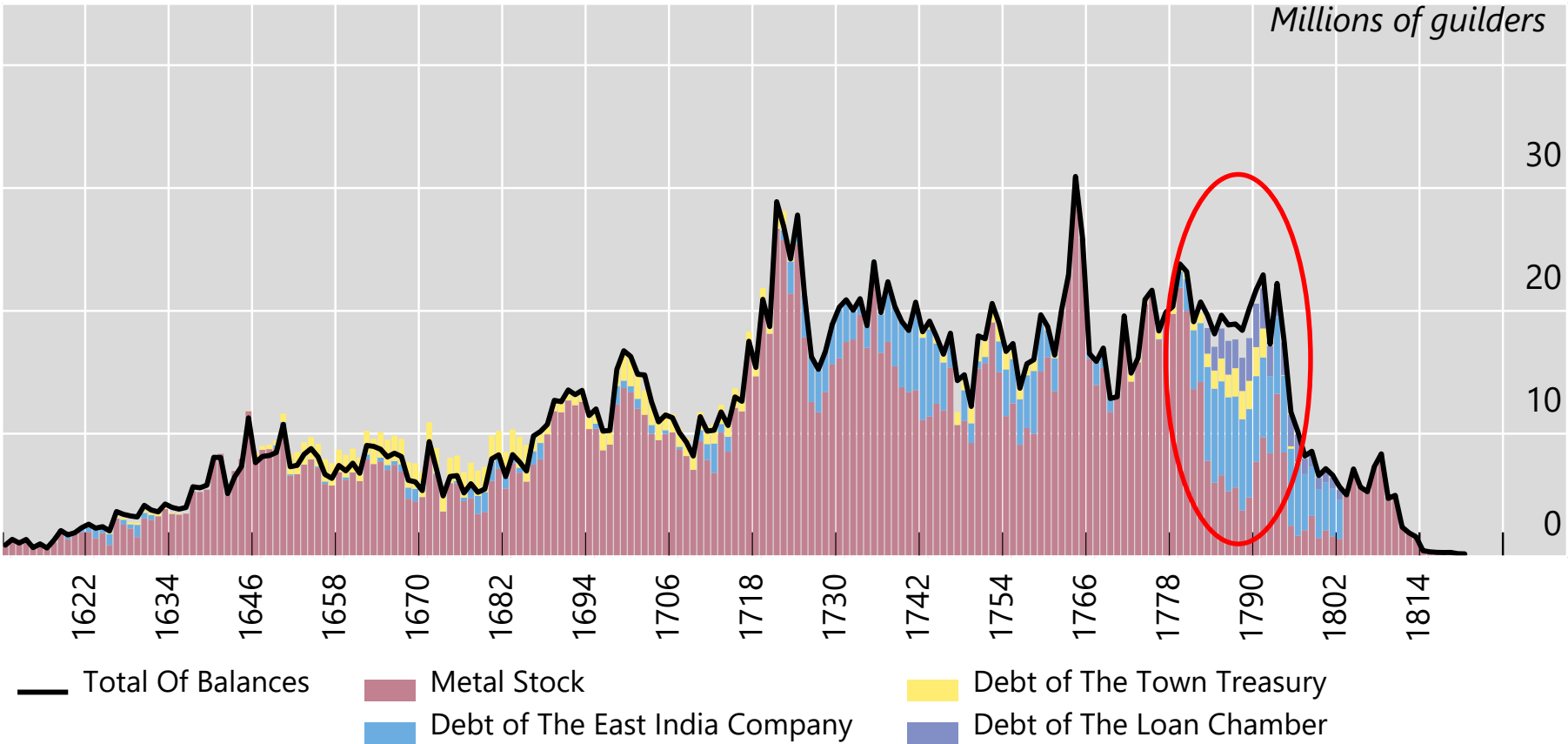
The agio starts to suffer

— Dutch agio (end of month value)
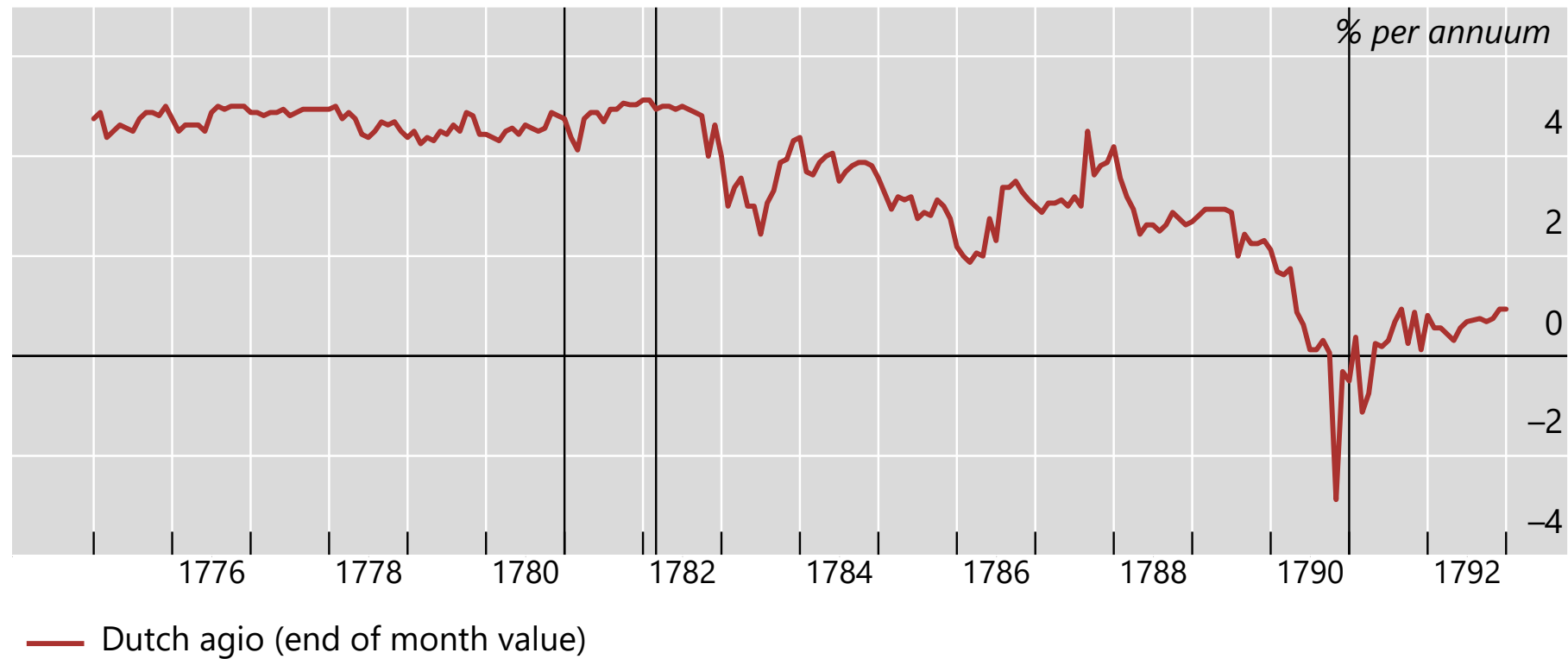
The vertical lines indicate 1780 (fourth Anglo-Dutch war breaks out), 1782 (bank steadily ramps up lending) and 1790 (Agio turns negative for the first time).

Downfall

Agio erodes with lending

Regression results for long-term effects of loan share on agio   Table 1

Dependent variable	Agio		
	(1)	(2)	(3)
Loan share	−0.034***	−0.025***	
	(−11.0)	(−13.8)	
Loan share, lagged and instrumented[1]			−0.035**
			(−2.0)
Constant	0.048***	0.049***	-0.052***
	(32.0)	(56.8)	(7.7)
Dummy=1 for period from July 1789 onward		−0.029***	−0.026***
		(−20.5)	(-6.9)
Estimation method	LSE	LSE	2SLS
Observations	205	205	107
R-squared	0.37	0.80	0.78
Test results for null hypothesis of unit root in the residuals	Not rejected; test statistic of − 1.2 versus −2.6 at 10% critical value	Rejected at 1%; test statistic of -4.0 versus −3.5 at 1% critical value	Rejected at 1%; test statistic of − 3.7 versus −3.5 at 1% critical value

T-values in parenthesis (and Z-values for the instrumented regression). ***/**/* denotes results significant at the 1/5/10% level. The sample period is Feb 1775–Dec 1792.

[1] The instrument variable for the loan share is the lagged value of monthly traded goods.

Error correction model

Regression results for short-run adjustment dynamics   Table 2

Dependent variable	Agio first differences		
	(1)	(2)	(3)
Error correction term		−0.17***	−0.17***
		(−3.1)	(−3.0)
Agio, first difference,	−0.36***	−0.28***	−0.29***
Lagged	(−5.6)	(−4.6)	(−4.8)
Loan share, first	−0.19*	−0.014	−0.012
difference, lagged	(−1.7)	(−1.3)	(−1.2)
Loan share * dummy for 1784 onward, first difference, lagged			−0.011***
			(−4.3)
Estimation method	LSE, robust SE	LSE, robust SE	LSE, robust SE
Observations	204	204	204
R-squared	0.14	0.21	0.22

T-values in parenthesis (and Z-values for the instrumented regression). ***/**/* denotes results significant at the 1/5/10% level. The sample period is Feb 1775–Dec 1792.

[1] The instrument variable for the loan share is the lagged value of monthly traded goods.

Governance and settlement liquidity

- If stablecoins stick to their governance rules, they provide limited settlement liquidity

- If stablecoins do <u>not</u> stick to their governance rules, that will be problematic in itself (eg, Bank of Amsterdam)

Lessons for the digital era

- Two key lessons for today:
  1. Rigid stablecoins are poorly suited as the foundation for a modern monetary system. If they stick to their governance rules (i.e. full backing), they provide limited settlement or lender of last resort liquidity. If they do not stick to their governance rules, they may be enticed to expand lending over time.
  2. Institutions with a strong reputation can use their room for manoeuvre up to a point, but there may be a breaking point. When the scale of losses is large and fiscal backing is limited, it is possible for an issuer of money to fail.
- While technology changes, the governance of money remains crucial.
- To allow for elastic credit provision and sound fiscal backing, countries around the world have central banks who can issue sovereign fiat currency

Conclusions

- Concept of stablecoins is not new
- The Bank of Amsterdam and bank guilder worked well for a long period of time, but the "halfway house" between a rigid stablecoin and a modern central bank was untenable
- Today's stablecoins may support important specific use cases, but poorly suited as the foundation for a wholesale payment system
- Just as this historic stablecoin gave way to a modern central bank, could modern stablecoins give way to CBDCs?
- Through the ages, the governance of money is key