

Reserve Currencies in the Era of Fiat Money

‘Maths and Money: From Gold to Bitcoin’ Series, Gresham College

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Lecture Outline in Four Parts

Part One: The Economic Theory of Reserve Currencies

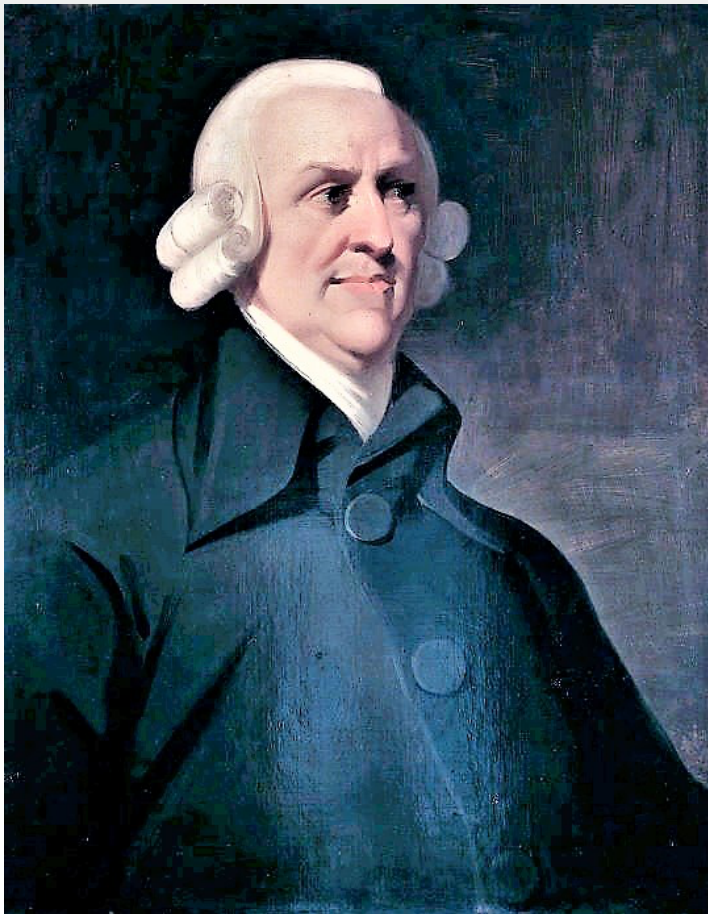
Part Two: The History of Reserve Currencies before and after the Collapse of the Bretton Woods Agreement

Part Three: Implications for Globalisation and Geopolitics

Part Four: Scenarios for the 21st century

I. ECONOMIC THEORY OF RESERVE CURRENCIES

The Meanings of Money as expressed by Adam Smith in the *Wealth of Nations*



- Unit of Account
- Store of Value
- Medium of Exchange

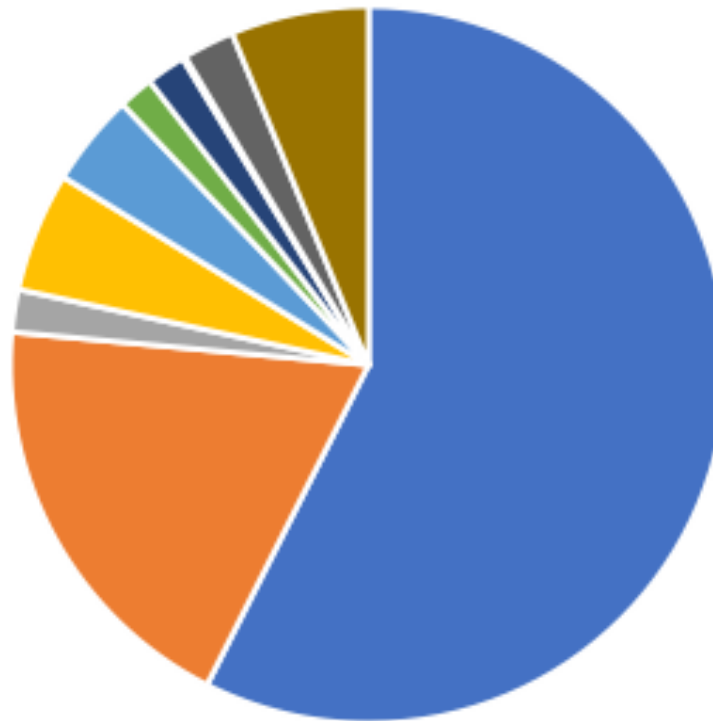
Definition of ‘reserve currency’

A reserve currency is a foreign currency that a central bank or other official institutions hold in their foreign exchange reserves.

There are many *reasons* that central banks hold foreign exchange reserves (and in differing amounts), and those reasons have change over time.

Breakdown of Foreign Currency Reserves in Q2 2020

World Currency Reserves- Composition Q2 2020, IMF



■ \$
 ■ €
 ■ CH ¥
 ■ JP ¥
 ■ £
 ■ AUS \$
 ■ CN \$
 ■ CHF
 ■ Other
 ■ Unallocated

The Political Economy of the Eurozone

Edited by Ivano Cardinale,
D'Maris Coffman and Roberto Scazzieri

Published in 2017 by
Cambridge University
Press

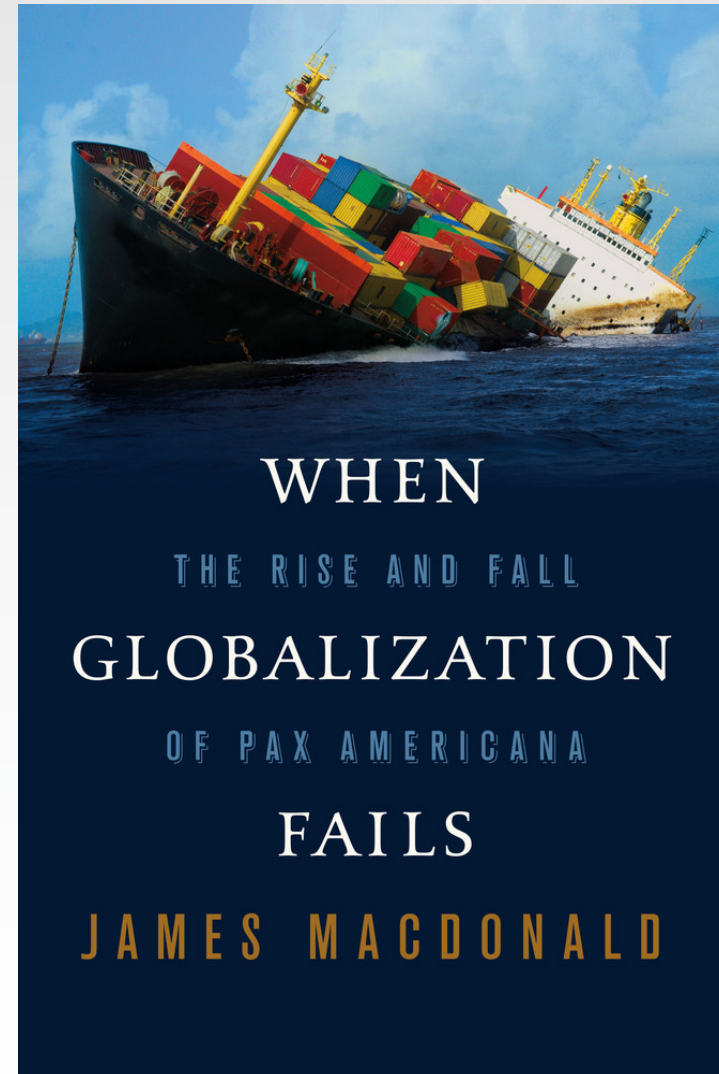
‘Exorbitant Privilege’ or not?



EXORBITANT PRIVILEGE

The Rise and Fall
of the Dollar

BARRY
EICHENGREEN



WHEN THE RISE AND FALL GLOBALIZATION OF PAX AMERICANA FAILS JAMES MACDONALD

II. A BRIEF HISTORY OF RESERVE CURRENCIES

LOMBARD STREET:

A DESCRIPTION OF THE MONEY MARKET.

BY

WALTER BAGEHOT.

HENRY S. KING & Co.

65 CORNHILL & 12 PATERNOSTER ROW, LONDON.

1873.

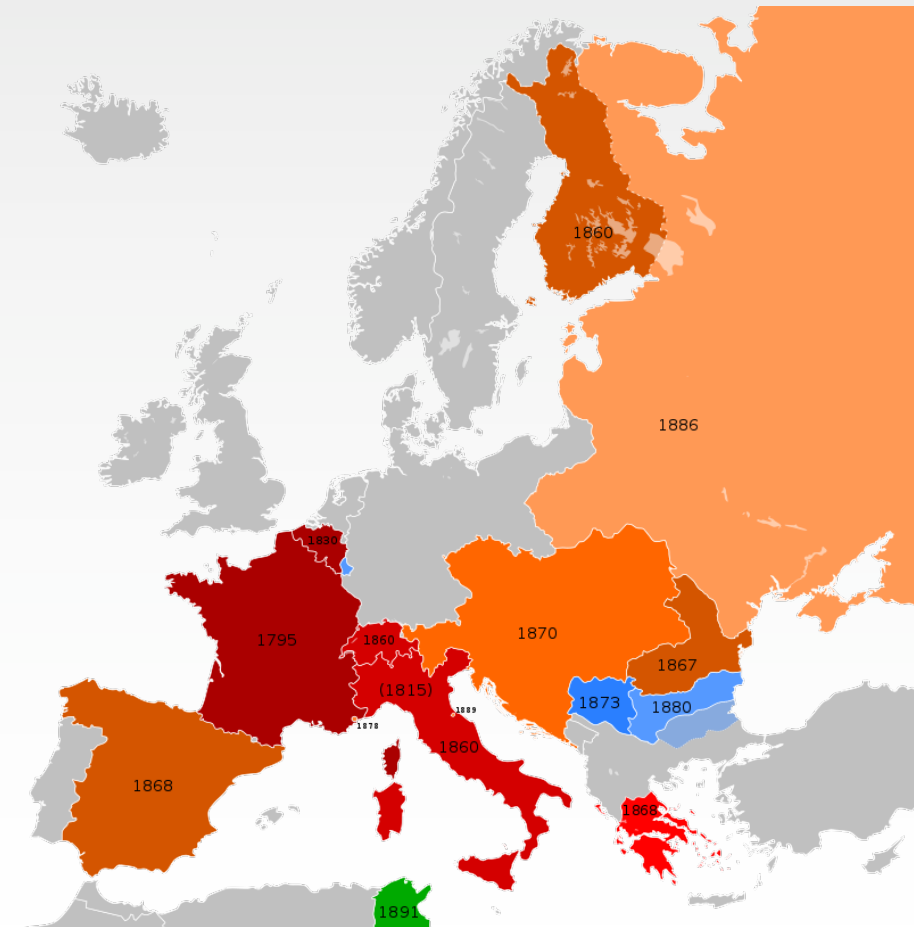


BULLION OFFICE—RECEIVING OFFICE.

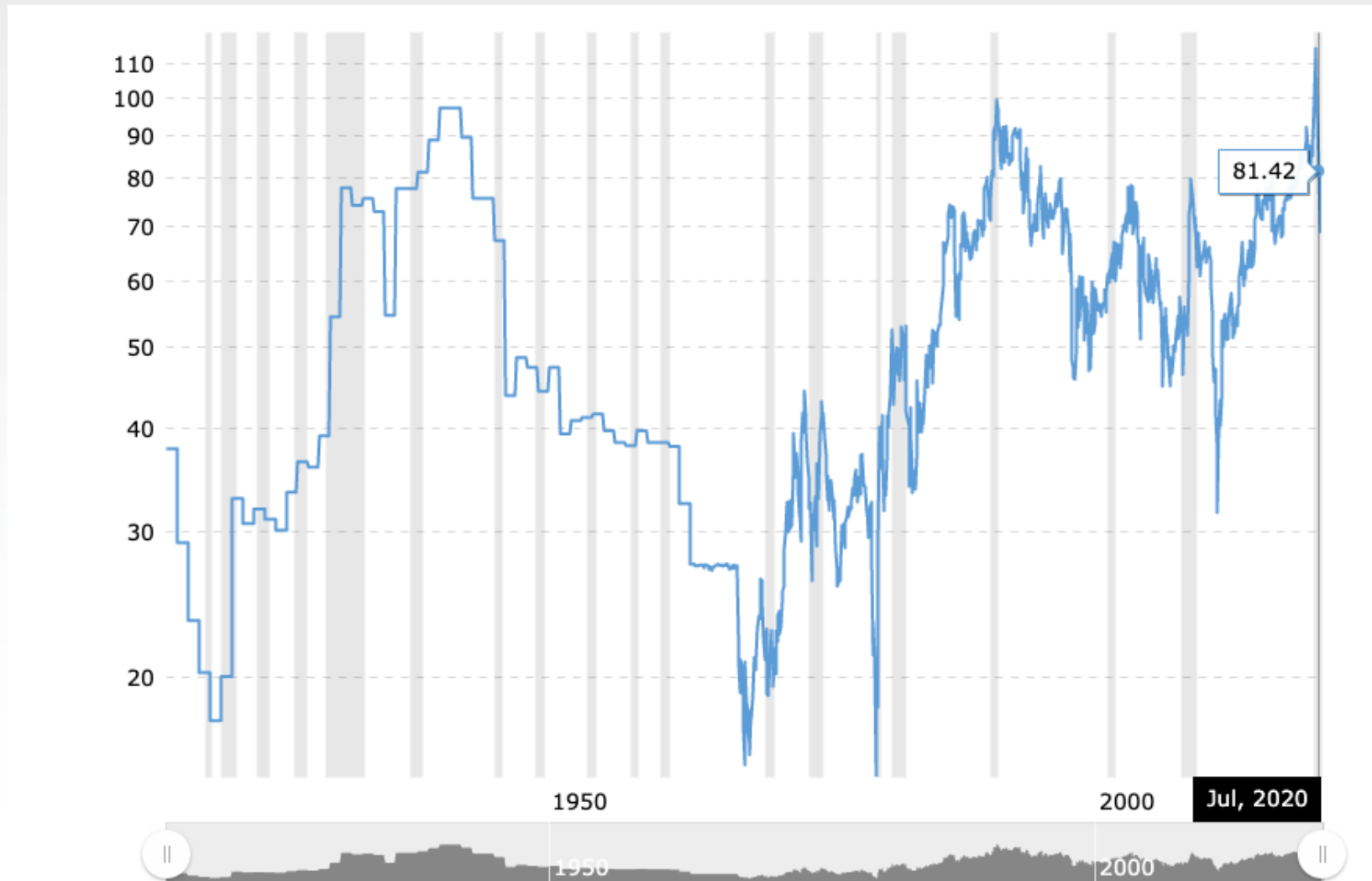
Frome Hoard: Roman coins in Britain (2010)



Latin Monetary Union



Gold to Silver Ratio from 1915-2020

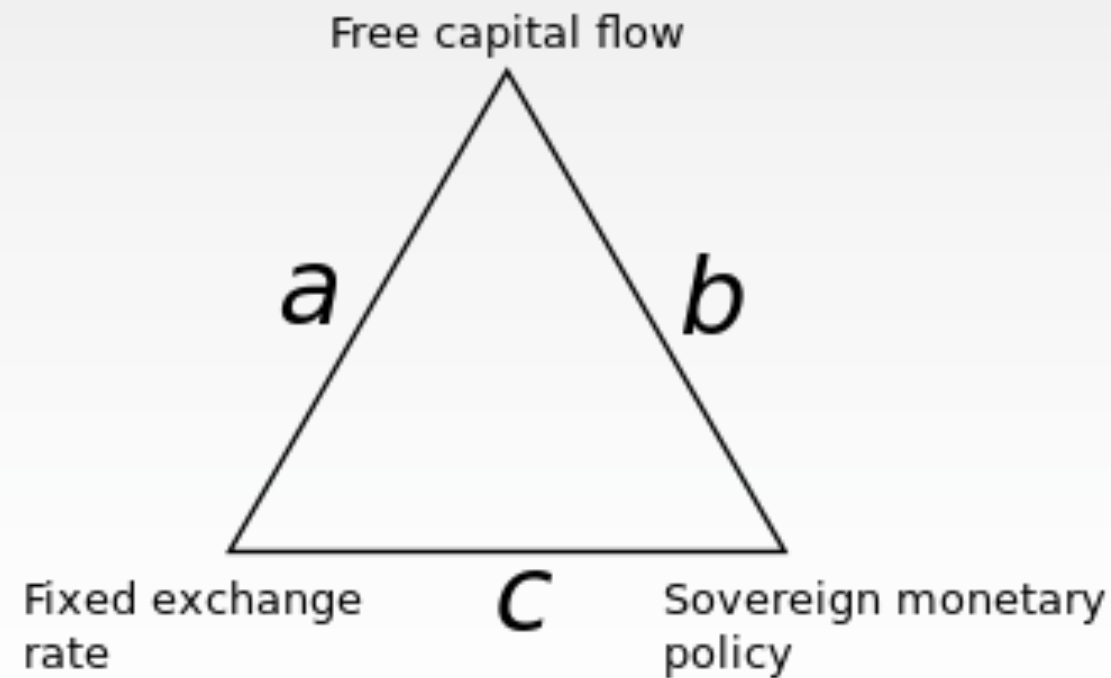


Bretton Woods Conference (1944)



III. IMPLICATIONS FOR GLOBALIZATION AND GEOPOLITICS

The Mundell-Fleming Trilemma



Chinese fears of Hot Money from the West in 2010



At a Glance: The IMF's Firepower

The IMF is able to lend about \$1 trillion to its member countries

THIS MONEY COMES FROM 3 DIFFERENT SOURCES:

First line of defense

Quotas

In normal times, the IMF uses its quota-based resources to finance lending.

\$440 billion

(SDR 320 billion)

Second line of defense

Multilateral borrowing arrangements

If the IMF believes that its quota resources might fall short—for example, in the event of a major financial crisis—it can activate the New Arrangements to Borrow (NAB).

\$196 billion

(SDR 143 billion)

Third line of defense

Bilateral borrowing agreements

As a third line of defense, the IMF has access to bilateral borrowing agreements to supplement quotas and NAB resources in case tail risks materialize.

\$344 billion

(SDR 250 billion)*

* Data as of end-Feb, 2020

IV. SCENARIOS FOR THE 21ST CENTURY

What is the Blockchain? What does it do?

- Blockchains are a form of distributed ledger technology, or really a kind of private database
- What does this mean? “Distributed ledger technologies (blockchains) are a system for storing transactional-ledgers in a distributed manner, thus enabling digitally-supervised markets to operate without a central clearing authority.” (Lockley, Mi, Coffman 2019).
- They are also ‘smart contracts’ permitting self-verification, hence useful in a range of fields
- Three principles: decentralised, transparent, immutable

Types of blockchain technology

- Public blockchains
 - Key features: fully decentralized, tamper resistant, use a token (like Bitcoin or Ethereum)
- Private blockchains
 - More centralized, need permission to join network, transactions are accessible only to those in the network
 - Can form a consortium, like a supply chain, central bank clearing, etc.
- Hybrid blockchains
 - Private but export to public blockchains, new area

Types of protocols

- Proof-of-work: this is very the energy intensive bit, made famous by bitcoin mining
 - Proof-of-stake: competitor to PoW
 - Proof-of-authority
 - Proof-of-space
-
- Ripple Labs and Stellar Labs use an iterative consensus ledger that is much less energy intensive

Familiar cryptocurrencies

- Bitcoin: most famous crypto-currency and largest platform for crypto assets; not very sustainable
- Ethereum: second largest platform, and widely used by financial institutions. Moving from PoW to PoS (more on that in a second). Houses about 50 cryptocurrencies, offers smart contracts
- Ripple: platform for XRP crypto currency widely used by banks as well. Uses a consensus protocol

Country Ranking



Switzerland

58.46

TWh per year



Bitcoin

58.93

TWh per year



Czechia

62.34

TWh per year

Digitalisation of Money and Central Banking

- Unbundling and re-bundling of functions of money
- Creation of Digital Currency Areas linked to particular networks
- Heterogeneity of payment platforms
- Possible synthetic international currency? Libra

Open Access Article

Designing a Blockchain Model for the Paris Agreement's Carbon Market Mechanism

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