

CREDIT, MONEY, and BANKING

CREDIT

[**ORIGIN** mid 16th cent. (originally in the senses [belief,] [credibility]): from French *crédit*, probably via Italian *credito* from Latin *creditum*, neuter past participle of *credere* 'believe, trust.']

—New Oxford American Dictionary

- As old as the hills.
- We ourselves often issue it, e.g.
 - we work, expecting payment later
 - we fill orders and send invoices with due dates
 - we pay money first, expecting delivery later
 - we lend money, expecting repayment in the future
 - e.g. we "deposit" some paper money in a bank (that paper money you "deposited" is now legally owned by the bank, however the bank takes on an obligation to you, the creditor)
- Relationship between two parties

DIFFERENCE between CREDIT and MONEY

CREDIT requires trust, obligation bridges a time gap

MONEY completes the transaction

When I give money for what I have bought, I pay my debt. The transaction is complete.

Thus there is a quality attaching to money . . . which clearly distinguishes it from . . . credit. It is, so far as the giver of the money is concerned, a final closing of the transaction.

—Henry George, *The Science of Political Economy*, Bk V
Ch 2

WHAT IS MONEY?

From our textbook *Where Does Money Come From?* (Ryan-Collins, Werner, et al):

In [this book] . . . we cut through the tangled historical and theoretical debate to identify that anything *widely accepted as payment*, particularly by the Government as payment of tax, is money. This includes bank credit because although an IOU from a friend is not acceptable at the tax office or in the local shop, an IOU from a bank most definitely is.

—*WMF* 1.2.1

this implies that

- money is a deeply social phenomenon
- money is political

FORMS of MONEY

too many to list in full, e.g.

shells, wampum, cigarettes, silver, gold, coins, paper money, bank account balances, complementary currencies, cryptocurrencies, . . .

Whatever in any time and place is used as the common medium of exchange is money in that time and place.

—Henry George, *The Science of Political Economy*,
Bk V Ch 2

These various forms serve as **tokens** which convey information.

Forms such as local and complementary currencies deserve a whole course of their own.

This course will focus on officially recognized forms of national money. The state (or monetary union) defines the monetary unit (dollar, pound, euro, yen, etc.). Surprisingly, however, the state is not the major issuer of its national "money supply."

TYPICAL FUNCTIONS of MONEY

unit
medium
store
standard

ACCOUNTING

GAAP Generally Accepted Accounting Principles

two methods (cash, accrual)

three major accounting statements:

- income statement
- balance sheet
 - Assets what you own
 - Liabilities what you owe
 - Equity the difference $A - L$
- cash flow statement

TERMS

solvency

A company is solvent when its total assets exceed its total liabilities.

liquidity

Liquidity is the means (funds) available to meet one's financial obligations as they come due on a given day.

A solvent company can still have a 'liquidity crisis'.

Hicks says Keynes coined the term.

cash 2 different usages:

1) "cash" coins + paper money

when contrasted with
the other 2 forms of the
national money (*WMF*)

2) "cash" in accounting type 1 + bank acc't balances

Note: On a balance sheet the line item "cash" includes account moneys as well as coins and paper money. For example, on a typical business' balance sheet, it would include the business' bank account balances as well as any physical cash. On a typical banks' balance sheet, it would include money on account with the central bank if any, money on accounts with other banks if any, as well as physical cash in vaults and teller drawers.

money supply usually refers to the total of:

- physical cash
- bank account balances (excluding central bank reserves)

3 MAIN FORMS of NATIONAL MONEY at present

See chapter 1 of *Where Does Money Come From?* (WMF)

- 1) physical cash coins and bills
- 2) money on account with the central bank^{*}
central bank reserves
- 3) money on account with a commercial bank
commercial bank money
bankmoney (Huber)

A lot of mystery surrounds the term "reserves" because the word has different usages.

Here it's simply a number in an account, where the account is kept at the central bank.

- 1) and 2) together "*central bank money*"
a.k.a. "*base money*"
- 1) and 3) together "*money supply*".

— WMF sections 1.2 and 2.4

That 1), 2), and 3) trade at **par** (one for one) does not happen by itself. It is due to government / central bank policy.

e.g. the US Treasury (Mint, Bureau of Engraving and Printing) sells cash to the Federal Reserve Banks, which sell cash to member commercial banks, which sell cash to non-FR members.—All these sales are done using account balances.

(FR adds to the Treasury's account when buying cash; FR subtracts from the bank's account when selling cash; bank subtracts from the customer's account when selling cash.)

* At present only banks (+ national Treasury + foreign central banks) have this form of money.

DEBT:
THE FIRST 5,000 YEARS
DAVID GRAEBER

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from Ch 8:

. . . the invention of coinage. Coinage appears to have arisen independently in three different places, almost simultaneously: on the Great Plain of northern China, in the Ganges river valley of northeast India, and in the lands surrounding the Aegean Sea, in each case, between roughly 600 and 500 BC. This wasn't due to some sudden technological innovation: the technologies used in making

the first coins were, in each case, entirely different. It was a social transformation. Why this happened in exactly this way is an historical mystery. But this much we know: for some reason, in Lydia, India, and China, local rulers decided that whatever longstanding credit systems had existed in their kingdoms were no longer adequate, and they began to issue tiny pieces of precious metals – metals that had previously been used largely in international commerce, in ingot form – and to encourage their subjects to use them in day-to-day transactions.

. . . For more than a thousand years, states everywhere started issuing their own coinage. But then, right around 600 AD, about the time that slavery was disappearing, the whole trend was suddenly thrown into reverse. Cash dried up. Everywhere, there was a movement back to credit once again.

If we look at Eurasian history over the course of the last five thousand years, what we see is a broad alternation between periods dominated by credit money and periods in which gold and silver come to dominate – that is, those during which at least a large share of transactions were conducted with pieces of valuable metal being passed from hand to hand.

Why? The single most important factor would appear to be war. Bullion predominates, above all, in periods of generalized violence. There's a very simple reason for that. Gold and silver coins are distinguished from credit arrangements by one spectacular feature: they can be stolen. A debt is, by definition, a record, as well as a relation of trust. Someone accepting gold or silver in exchange for merchandise, on the other hand, need trust nothing more than the accuracy of the scales, the quality of the metal, and the likelihood that someone else will be willing to accept it.

Where *Does* Money Come From?

In the case of our dominant money—the balances in our checking and savings accounts—it can transfer from one account to another, such as when we receive a paycheck, or when we pay for something. But that does not tell us how the money originated.

The form of national money which exists in bank accounts and makes up the lion's share of our national "money supply" comes into existence when a bank and a customer sign a loan contract. The loan contract is a *swap of IOUs*. In that contract, the bank acquires the customer's promise to pay, which is a new asset to the bank. Meanwhile *the customer gets a new account balance—the bank's promise to pay upon demand*. Customer account balances are among a bank's liabilities. Since these bank IOUs we call customer account balances are "widely accepted as payment," they function as money.

Note: The bank's "loan" asset is not money, although it is a financial asset. (It is usually not very liquid, i.e. selling it for money in a hurry would likely involve some loss from its face value).

Note: When bank account money is used to pay back a loan, that money ceases to exist. Follow it—the "loan" asset disappears since it's now repaid, and an account balance goes down in order to make that payment. Thus the money supply (physical cash + aggregate account balances) goes down by the amount of the principal paid back.

[Today's Source of Money Creation](#)

Professor Werner:

"Banks don't take deposits, and they don't lend money." (2:11)

". . . and that's how the money supply comes about." (–3:04)

[Prof. Werner at the Just Banking Conference](#)

advocating credit for productive purposes instead of speculation

Professor Werner:

"In Germany . . . credit growth is in line with GDP growth" (17:00)

"Germany . . . 70% are small, local banks." (20:00)

How Can Bank Liabilities Function as Money?

You might wonder, how can I pay for groceries using my bank debit card (or check) if the grocery store has its bank account with a different bank?

If both of us bank with TD Bank, it's simple—TD debits my account and credits the grocery store's account, thus TD's total liabilities remain unchanged.

But what if I bank with TD, while the grocery store banks with Bank of America? In this case, TD's total liabilities goes down, while BoA's total liabilities goes up. Why would BoA be willing to accept that?

The answer is that BoA's total assets goes up by the same amount, while TD's total assets goes down by that amount. TD pays its own money (typically central bank reserves) to BoA to compensate for the new liability BoA accepts.

This one debit card (or check) transaction involves

- the grocery customer
- that customer's bank
- the central bank (TD's balance goes down, BoA's balance goes up)
- the grocery store's bank
- the grocery store

See *WMF* 2.4 (par. 5-8), 4.3, 4.5, 4.9

NICOLAUS TIDEMAN, PROFESSOR OF ECONOMICS, VIRGINIA TECH

“Money is what people make sure they have when they want to buy things. *Something works as money when people expect others to accept it as payment.* Sometimes money is a valuable commodity, such as gold, wampum, or packs of cigarettes. More often, especially these days, money consists of pieces of paper.

AUGUST 14

1989 – DEATH OF ROBERT B. ANDERSON, SECRETARY OF TREASURY UNDER PRESIDENT EISENHOWER

"When a bank makes a loan it simply adds to the borrowers' deposit account in the bank by the amount of the loan. The money is not taken from anyone else's deposit; it was not previously paid in to the bank by anyone. It's new money, created by the bank for the use of the borrower."

AUGUST 15

1971 – PRESIDENT NIXON CLOSES “GOLD WINDOW”

Richard Nixon issues [Executive Order 11615](#) freezing wages and prices. ["to stabilize prices, rents wages, and salaries"] Foreign-held paper dollars are no longer converted for gold, thereby nullifying in an important aspect the Bretton Woods Agreement

—[MONETARY HISTORY CALENDAR](#)

WAGES

wages are the earnings—that is to say, the makings of labor . . . the laborer who receives his wages in money . . . really receives in return for the addition his labor has made to the general stock of wealth, a draft upon that general stock, which he may utilize in any particular form . . . that will best satisfy his desires

—Henry George, *Progress and Poverty*, Book 1, Chapter 1

theories of banking

credit creation ToB

fractional reserve ToB

financial intermediation ToB

regulation*

credit guidance

reserve requirements

capital adequacy

* These 3 approaches to regulation correspond to the 3 theories of banking. The correct theory of banking is the first listed. See Werner (2015) "A lost century in economics: Three theories of banking and the conclusive evidence." Also Kumhof (2015) "Banks are not intermediaries of loanable funds—and why this matters." The latter 2 approaches to regulation derive from incorrect theories of banking, and are ineffective (*WMF* Ch 5).

the money market

"federal funds"

and market interest rates

US central bank reserves

banks borrow from each other

The term 'money market' covers the vast network of deals involving the lending and borrowing of liquid assets in a range of currencies, generally between financial institutions such as banks, as well as non-financial companies and the Government. These assets include tradable securities, such as government securities, Treasury bills or corporate IOUs (commercial paper, or 'CPs'), bank debt (certificates of deposit, 'CDs') usually maturing with a year or less.

—Ryan-Collins et al, WMF, Ch 3.6.3 Box 4

Mehrling "[Payment vs Funding: The Law of Reflux for Today](#)"

the central bank

policy tools

open market operations

increase / decrease money supply

discount window, discount rate

"lender of last resort"

interest on reserves

effectively a floor for federal funds rates

"liquidity facilities"

. . .

contraction and expansion

"business cycle"

"land cycle"

Whatever the underlying cause of fluctuation may be, . . . a swing from one extreme to another, from *scarcity* to *elasticity* and back again. . . .

That is why the history of monetary theory so largely consists of a dialogue between two points of view, often distinguished as the Currency Principle versus the Banking Principle, which emphasize respectively the importance of scarcity and the importance of elasticity. From the point of view I have been developing, both of these intellectual traditions have part of the truth . . .

—Mehrling, "The Inherent Hierarchy of Money"

the swings toward extremes generate calls for

Keynesianism

monetarism (Friedman)

Chartalism

Metallism

Just as banks create new money when they make loans, this money is extinguished when customers repay their loans as the process is reversed.

. . . when banks are burdened by bad debts and are more risk averse, more people will repay their loans than banks are willing to create new ones and the money supply will contract, creating a downturn.

—Ryan-Collins et al, WMF, Ch 4.3

monetary policy

increasing/decreasing Σ central bank reserves
guiding money market interest rates (e.g. Fed sets a "federal funds target" rate—usu. achieved via open market operations and other [policy tools](#))
assisting fiscal policy by selling government debt via primary dealers (e.g. UK's 'gilts' sold via 'Gilt-Edged Market Makers' (GEMMs))

...

Box 13: Could the Government directly create money itself?

There are many historical examples of governments funding fiscal shortfalls through the issuance of government money.

—Ryan et al, WMF, Ch 6.1

fiscal policy

government spending, taxing, borrowing
borrowing in practice has been via selling securities (US Treasury bills/notes/bonds) to market makers (primary dealers), who sell them to investors

SPECIFIC EXPECTATIONS AND ELIGIBILITY REQUIREMENTS

Primary dealers are trading counterparties of the New York Fed in its implementation of monetary policy. They are also expected to make markets for the New York Fed on behalf of its official account holders as needed, and to bid on a pro-rata¹ basis in all Treasury auctions at reasonably competitive prices.

Primary dealers are expected to participate in open market operations consistently and competitively, in a variety of market environments, to support the implementation of monetary policy. . . . If a primary dealer is active in agency debt or agency mortgage-backed securities (MBS), it is also expected to participate in any Desk operations in these instruments . . .

The Desk also expects primary dealers to provide ongoing insight into market developments . . . to support the formulation and implementation of monetary policy. . . . submit weekly activity reports . . . respond to periodic surveys.

Eligibility criteria

In order to be eligible as a primary dealer, a firm must: . . .

—<https://www.newyorkfed.org/markets/primarydealers>

HG on "THE FUNCTIONS OF GOVERNMENT"

. . . It is not the business of government to direct the employment of labor and capital, and to foster certain industries at the expense of other industries

. . . On the other hand, it is the business of government to issue money.

. . . The legitimate business of banking—the safekeeping and loaning of money, and the making and exchange of credits, is properly left to individuals and associations

—Henry George, *Social Problems*, Chapter 17

SEIGNIORAGE

seigniorage |'sānyərij| (also **seignorage**)

noun

profit made by a government by issuing currency, esp. the difference between the face value of coins and their production costs.

- historical the Crown's right to a percentage on bullion brought to a mint for coining.
- historical a thing claimed by a sovereign or feudal superior as a prerogative.

ORIGIN late Middle English : from Old French *seignorage*, from *seigneur* (see **seigneur**).

—New Oxford American Dictionary

fiscal policy

government spending inserts money but taxing and government borrowing from the markets remove money—*net zero effect on the money supply* (see Ch 6 Figures 19 and 20 for illustrative diagrams)

6.2.2 **Borrowing**

Under current arrangements the only circumstance in which governmental borrowing leads to an expansion in the money supply is if a commercial bank directly purchases a government bond on its own account. . . . However, there are two alternative methods of financing government spending that would ensure much greater expansion in the money supply . . .

6.3.1 **Linking fiscal policy to increased credit creation**

It is possible . . . to increase the impact of fiscal policy by linking it to credit creation. . . . The easiest would be for the central bank to purchase . . . the Government bonds newly issued . . . while not counteracting these purchases through any of its other transactions. . . .

. . . the Government can easily implement an alternative by ceasing the issuance of government bonds and borrowing instead directly from commercial banks in the form of long-term loan contracts. . . . a similar mechanism . . . was last adopted in the UK during World War II . . .

In response to the UK banking crisis, the Government chose to do the opposite: it borrowed money from the markets to finance a bailout of the banking system. This has now been partially counteracted, however, by the central bank buying back government bonds through the programme of QE.

—Ryan-Collins et al, WMF, Ch 6.2.2 and 6.3.1

foreign exchange market

trading of currencies

largest market in the world

av \$5-6 T per day (2019)

A key feature of late twentieth century globalization has been the deregulation and liberalisation of international flows of money across national monetary regimes

—Ryan-Collins et al, WMF, Ch 6.4

See Ch 6, Figure 21 for an illustrative diagram.

In the example, the Citibank customer pays dollars (\$) and receives British pounds sterling (£), while, in central bank reserve accounts, Citibank pays dollars (\$) to Barclays and receives pounds (£).

spot (cash) markets

forwards

futures

options

currency swaps

the [Impossible Trinity](#)

- free capital flows
- fixed exchange rate
- sovereign monetary policy

It is widely acknowledged that it is not possible to simultaneously maintain free capital flows, a fixed exchange rate and a sovereign monetary policy, i.e. to use monetary policy as a policy tool to fulfil particular national requirements.

—Ryan-Collins et al, WMF, Ch 6.4.3

WMF Conclusions

money is a social relationship backed by the state

possible alternatives to the current system

- government borrowing directly from commercial banks for add'l spending
- government borrowing directly from the central bank for add'l spending
- gov't money issuance for additional spending (taking up economic slack)
- regional and local money systems

current monetary system

- government defines the monetary unit
- banks issue most of the money supply

authors

Macleod (credit theory of banking put forth in mid-19th century)

Minsky (proposed 'open a national inquiry into the structure of the banking and financial system')

Mehrling (describes the money market)

Schumpeter

Kumhof

Werner

Graeber

Hudson

Pistor (on law)

reform oriented:

Soddy

Paul Douglas (signer of the Chicago Plan proposal)

Fisher

Simons

Zarlenga

Huber

Wortmann

C. H. Douglas

alternatives oriented:

Riegel

Greco

Lietaer

"Satoshi Nakamoto"

central banks

1668

1694

1882

1913

1930

1935

1948

1960

1964

1998

central banks

1668	Riksbank	Stockholm
1694	BoE	London
1882	BoJ	Tokyo
1913	FRS	DC board, 12 Banks (NY, . . .)
1930	BIS*	Basel
1935	RBI	Mumbai
1948	PBoC	Beijing
1960	RBA	Sydney
1964	BCB (CBB)	Brasilia
1998	ECB	Frankfurt

* owned by central banks

* "fosters international cooperation . . . serves as a bank for central banks"

* established in 1930 by an intergovernmental agreement between Germany, Belgium, France, the United Kingdom, Italy, Japan, the United States, and Switzerland

a few monetary events

American colonies–USA

1690– all 13 American colonies issued paper money

In 1690, Massachusetts became the first colony to issue paper currency. This currency was employed as a means to finance its share of the debt from [King William's War](#).

1751, 1764 Currency Acts restricted issuance / use

1775–83 Continental Congress issued paper money

the British successfully waged [economic warfare](#) by [counterfeiting](#) Continentals on a large scale. [Benjamin Franklin](#) later wrote:

The artists they employed performed so well that immense quantities of these counterfeits which issued from the British government in New York, were circulated among the inhabitants of all the states, before the fraud was detected. This operated significantly in depreciating the whole mass.^[51]

In the 1790s, after the ratification of the United States Constitution, Continentals could be exchanged for [treasury bonds](#) at 1% of face value.^[54]

The painful experience of the runaway inflation and collapse of the Continental dollar prompted the delegates to the [Constitutional Convention](#) to include the [gold and silver clause](#) into the [United States Constitution](#) so that the individual states could not issue bills of credit or "make any Thing but gold and silver Coin a Tender in Payment of Debts".^[59]

–Wikipedia: [early American currency](#)

1789–91 Alexander Hamilton 3 reports to Congress

1792 US Mint established (Philadelphia)

1862–1971 US Notes issued (3 Legal Tender Acts 1862–63)

1870, 71, 84 legal tender cases (Hepburn-, Knox-, Juilliard-)

in [Juilliard v. Greenman](#) the Supreme Court of the United States settled an ongoing and very heated debate

"By the constitution of the United States, the several states are prohibited from coining money, emitting bills of credit, or making anything but gold and silver coin a tender in payment of debts. **But no intention can be inferred from this to deny to congress either of these powers.**"^[60]

monetary events

UK

1694	Bank of England
1704	Promissory Notes Act
1800s	Banking School–Currency School controversy
1844	Bank Charter Act
2014	Parliament debate " Money Creation and Society "

a few terms

hypothecate

put up an asset as collateral

rehypothecate

hypothecate a collateral-secured asset

repo

seller agrees to repurchase

reverse repo

buyer agrees to resell
(in effect makes a collateralized loan)

short

invest so as to gain from the fall of an asset price

off-balance sheet

e.g. manage assets for owners

W—**Off-balance sheet (OBS)**, or **incognito leverage**, usually means an [asset](#) or [debt](#) or financing activity not on the company's [balance sheet](#). [Total return swaps](#) are an example of an off-balance sheet item.

IFRS International Financial Reporting Standards
(issued by London-based IFRS Foundation)

US agencies

SEC Securities and Exchange Commission

AICPA American Institute of CPAs
(national professional organization)

FASB Financial Accounting Standards Board
(private, non-profit organization)

GASB Governmental Accounting Standards Board
(private, overseen by FAF and FASB)

FAF Financial Accounting Foundation

3 of roughly a dozen federal statistical agencies in the US:

BEA Bureau of Economic Analysis
(National Income and Product Accounts)

USCB Bureau of the Census
(conducts decennial census)

BLS Bureau of Labor Statistics
(publishes CPI, employment stats, . . .)

BIBLIOGRAPHY

Aristotle

~330 BC *Nichomachaen Ethics*

It is therefore necessary that all commodities shall be measured by some one standard, as was said before. And this standard is in reality demand, which is what holds everything together, since if men cease to have wants or if their wants alter, exchange will go on no longer, or will be on different lines. But demand has come to be conventionally represented by money; this is why money is called nomisma (customary currency) , because it does not exist by nature but by custom (nomos)

—[NE 1133](#)

Henry George

1879 *Progress and Poverty* (Bk I Ch 1.26)

1883 *Social Problems* (Ch 17.17)

1898 *The Science of Political Economy* (II.14 and 20; V.2)

The value arising from obligation constitutes no part of the wealth of nations.

—SPE II.21

Silvio Gesell

1916 [The Natural Economic Order](#)

[Part II, Ch 6] . . . unemployment and economic crises however are . . . problems of exchange or commerce, even interest . . . a problem of exchange . . . Rent is a part of the harvest, not an exchange, and that is why the study of the problem of rent can offer no basis for the solution of the problem of interest. . .

We shall now examine the condition under which capital-interest, crises and unemployment are produced, and we shall discuss the measures necessary for the removal of these evils.

[Part III, Ch 2] The products of divided labour are not goods for immediate consumption by the producer, but wares, things useful to the producer only as means of exchange. A cobbler, a carpenter, a general, a teacher or a day-labourer cannot consume the immediate product of his own labour. Even a farmer can do so only to a very limited degree. They must all sell what they produce. . .

. . . Will a tailor continue to make clothes for which he cannot find customers?

But sales, mutual exchanges of products, are effected through the medium of money. Without the intervention of money no wares can reach the consumer. . .

. . . The use of money is therefore as indispensable to all as the division of labour is advantageous to all.

—NEO (trans. from German by Philip Pye)

David Graeber

2011 [*Debt: The First 5,000 Years*](#)

What is the difference between a mere obligation, a sense that one ought to behave in a certain way . . . and a *debt*, properly speaking? The answer is simple: money. . . . a debt can be precisely quantified. This requires money.

Not only is it money that makes debt possible: money and debt appear on the scene at exactly the same time.

—[Debt, Ch 2 "The Myth of Barter"](#)

Michael Hudson and Marc Van De Mieroop, ed.

2002 *Debt and Economic Renewal in the Ancient Near East*

Ch 1 Hudson, "[Reconstructing the Origins of Interest-Bearing Debt and the Logic of Clean States](#)"

Ch 6 Van De Mieroop, "Credit as a Facilitator of Exchange in Old Babylonian Mesopotamia"

The loan document is probably the most commonly preserved record from ancient Mesopotamia, and the Old Babylonian period (c. 2000 to 1593 BC) is especially rich in such records. . . . The transactions recorded . . . are much more varied than a simple advance of silver or goods . . . Any arrangement between two parties that entailed a delivery at a later date . . . Thus a loan agreement was used as a contract for the transfer of goods. . . .

This use of credit . . . can be documented most clearly in the institutional sector. The large organizations of Babylonia, the temples and the palaces, made extensive use of credit in order to manage their agricultural resources. . . . primarily done through a system of sharecropping. Farmers, herdsmen, and fishermen took care of the daily duties in return for a share of the proceeds. . . .

Since the institutional owners could be paid only with the produce . . . they were faced with an abundance of perishable goods beyond their own direct needs. . . . In order to convert the surplus into easily storable silver, a system was developed using entrepreneurs as intermediaries. They arranged the contacts between the institutions and the producers, and between the institutions and the consumers. . . .

. . . The palace cannot obtain its silver immediately, for the recipients of the wool . . . need to be able to "market" it through a series of smaller transactions. The latter are not recorded. . . . But the men who received the wool on credit from the palace were considered indebted to it, and a record was drawn up . . .

. . . the document became a transferable note. One of the texts . . . states that the silver is to be paid "to the bearer of the tablet" . . . This is not an unusual clause in contracts . . . from northern Babylonia from the reign of Hammurabi on . . . and indicates that a loan or claim for payment in the future of whatever nature could be passed from one creditor to another, or from a creditor to his agent.

Carolyn Humphrey

1992 *Barter, Exchange and Value: An Anthropological Approach*

No example of a barter economy, pure and simple, has ever been described, let alone the emergence from it of money; all available ethnography suggests that there never has been such a thing.

—cited in Graeber (2011), Ch 2 "The Myth of Barter"

Alfred Mitchell-Innes

1913 "What is Money?"

1914 "The Credit Theory of Money"

[John Maynard Keynes](#)

1930 *A Treatise on Money* (2 vol.)

[Preface] I feel like someone who has been forcing his way through a confused jungle.

[Ch 1] MONEY-OF-ACCOUNT, namely that in which Debts and Prices and General Purchasing Power are expressed, is the primary concept of a Theory of Money.

A Money-of-Account comes into existence along with Debts, which are contracts for deferred payment, and Price-Lists, which are offers of contracts for sale or purchase. . .

Money itself, namely that by delivery of which debt-contracts and price-contracts are discharged . . . derives its character from its relationship to the Money-of-Account, since the debts and prices must first have been expressed in terms of the latter.

. . .

Now by the mention of contracts and offers, we have introduced Law or Custom, by which they are enforceable . . .

Georg Friedrich Knapp

1905 *The State Theory of Money*

The following general principles remain:

- (1) The *choice* of the means of payment is a free act of the State's authority;
- (2) The *denomination* of the means of payment according to new units of value is a free act of the State's authority;
- (3) The *definition* of the new unit is also a free act of the State's authority.

. . .

Perhaps the Latin word "Charta" can bear the sense of ticket or token, and we can form a new . . . adjective—"Chartal." Our means of payment have this token, or Chartal form.

—STM, Ch 1.2

What forms part of the monetary system of the State and what does not?

The criterion cannot be that the money is issued by the State, for that would exclude kinds of money which are of the highest importance; I refer to bank-notes: they are not issued by the State, . . . Nor can legal tender be taken as the test . . .

We keep most closely to the facts if we take as our test, that the money is accepted in payments made to the State's offices. . . . On this basis it is not the issue, but the *acceptation*, as we call it, which is decisive.

—STM, Ch 2.6

Michael Kumhof & Jaromir Benes

2012 ["The Chicago Plan Revisited"](#)

Michael Kumhof & Zoltan Jakab

2015 ["Banks are not intermediaries of loanable funds
—and why this matters"](#)

banks create new funds in the act of lending, through matching loan and deposit entries, both in the name of the same customer, on their balance sheets. . . . The main constraint is banks' expectations concerning their profitability and solvency.

Following identical shocks, FMC [financing through money creation] models predict changes in bank lending that are far larger, happen much faster, and have much larger effects on the real economy than otherwise identical ILF [intermediation of loanable funds] models . . .

Henry Dunning Macleod

1856, 66 [The Theory and Practice of Banking](#) (2 vol.)

Property is not a thing but a right residing in the person.

—TPB, vol 1, Ch 1.6

Katharina Pistor

2019 *The Code of Capital*

In this revealing book, Katharina Pistor argues that the law selectively “codes” certain assets, endowing them with the capacity to protect and produce private wealth. With the right legal coding, any object, claim, or idea can be turned into capital—and lawyers are the keepers of the code. Pistor describes how they pick and choose among different legal systems and legal devices for the ones that best serve their clients’ needs, and how techniques that were first perfected centuries ago to code landholdings as capital are being used today to code stocks, bonds, ideas, and even expectations—assets that exist only in law.

—[CoC, Princeton Press](#)

the notion that capital is a physical input . . . when in fact capital has never been about a thing, but always about its legal coding; never just about output and input, but always about the ability to monetize expected returns.

—CoC p 116

E. C. Riegel

1944 *Private Enterprise Money:
A non-political money system*

Community and monetary economist [Thomas H. Greco, Jr.](#) writes of Riegel:

Riegel left a great legacy of writings and correspondence. ...as he showed so clearly, [peace, freedom and prosperity] are dependent upon the liberation of the exchange process from the dominance of political and banking interests, and he showed how private initiative and voluntary action could achieve it.

Josh Ryan-Collins, Tony Greenham, Richard Werner, Andrew Jackson

2011 *Where Does Money Come From?*

Richard Werner

2015 "[A lost century in economics:
Three theories of banking and the conclusive evidence](#)"

Kaoru Yamaguchi

2017 "[On the Monetary and Financial Stability under A Public
Money System \(Revised\)](#)
—Modeling the American Monetary Act"

2017 "[Public Money, Debt Money and Blockchain-based Money
Classified](#)
—EPM as Money of the Futures"

Stephen Zarlenga

1999 *The Lost Science of Money
The Mythology of Money – The Story of Power*

The secular power in society is exercised largely through its monetary and banking system. While much attention is focused on the elections of presidents, prime ministers, and representatives, the real outcomes in society . . . are often quietly determined by the structure of the society's money system.

—LSM, Introduction

BIBLIOGRAPHY (more)

Walter Bagehot

1873 *Lombard Street:*

A Description of the Money Market

Herman Daly

2012 "[Nationalize Money, not Banks](#)"

Why should money, a public utility (serving the public as medium of exchange, store of value, and unit of account), be largely the by-product of private lending and borrowing? Is that really an improvement over being a by-product of private gold mining, as it was under the gold standard? The best way to sabotage a system is hobble it by tying together two of its separate parts, creating an unnecessary and obstructive connection.

Tim Di Muzio & Richard H. Robbins

2017 *An Anthropology of Money*

Money is the ultimate stuff. With it you can buy almost anything, and in that lies a tale. Economists generally don't spend much time writing or talking about money. It is, for them, simply a tool we use to facilitate exchange—the buying and selling of stuff. But . . . the manner in which we create money and what we are (or are not) able to . . . do with it matters a great deal. It determines how we live our life and the nature and quality of the world in which we live it. It is our goal to show why this is so.

C. H. Douglas

1920 *Economic Democracy*

the distribution of economic power back to the individual is a fundamental postulate of any radical improvement.

—[ED, Ch 12](#)

Irving Fisher

1935 [100% Money](#)

Under our present system, the banks create and destroy check-book money by granting, or calling, loans. When a bank grants me a \$1,000 loan, and so adds \$1,000 to my checking deposit, that \$1,000 of "money I have in the bank" is new. It was freshly manufactured by the bank out of my loan and written by pen and ink on the stub of my check book and on the books of the bank.

As already noted, except for these pen and ink records, this "money" has no real physical existence. When later I repay the bank that \$1,000, I take it out of my checking deposit, and that much circulating medium is destroyed on the stub of my check book and on the books of the bank. That is, it disappears altogether.

—100% Money, Ch 1

Benjamin Franklin

1729 ["A Modest Enquiry into the Nature and Necessity of a Paper Currency"](#)

published by Franklin at the age of 23

There is a certain proportionate Quantity of Money requisite to carry on the Trade of a Country freely and currently . . .

William Gouge

1833 *A Short History of Paper Money and Banking in the U.S.*

documents that investors' "subscriptions" were only partially filled by handing over specie (coins), mostly by newly created account money

Thomas H. Greco, Jr.

2001 [*Money: Understanding and Creating Alternatives to Legal Tender*](#)

What . . . is the essential nature of money?

Michael Linton, the originator of an exchange system called "LETS" (Local Employment and Trading System), has provided us with an essential definition . . . "an information system we use to deploy human effort."

. . . Think of the market economy as a game of put-and-take. . . . Money is really just a way of keeping score. . . . **Money, then, is an accounting system.**

—Ch 4

Christopher Hollis

1935 [*The Two Nations:
A Financial Study of English History*](#)

Out of the continuous story of monetary experiment, which is English history, the text-books pick out one or two passing incidents and give us their account of them. Thus, after no word has been said about the management of the currency during the Middle Ages, a paragraph or two is usually devoted to the debasement of the coinage by Henry VIII — for it is one of the few instances in history of an English King mismanaging the currency. After Henry VIII the river of money plunges underground again. The story of the sixteenth and seventeenth centuries is told as if their controversies were entirely political and religious. . . For all that the painful student can understand there might have been no problems of money at all from Henry VIII's day until, a volume later on, he finds that in George I's time there was something called the South Sea Bubble. It seems to be a working rule with writers of School Certificate text-books that one, and not more than one, monetary experiment may be referred to in each volume.

Now the South Sea Bubble, for all its prominence in the text-books, was not, philosophically

speaking, of great original importance in English monetary history. All that happened, in the last analysis, was that a number of rich men told a number of lies to induce people to buy shares from them for more than they were worth. The politicians kept their mouths shut because they had been bribed. It was, as Bishop Berkeley put it(49) with characteristic carefulness of language, an “attempt of men, easy in their fortunes and unprovoked by hardships of any sort, in cold blood to ruin their native country.” Unfortunately such attempts are not sufficiently rare in history to deserve extended notice.

—TN, Ch 5

Joseph Huber

sovereignmoney.site

3 components of a [state's monetary prerogative](#):

1. unit
2. issue
3. seigniorage

Joseph Huber & James Robertson

2000 *Creating New Money: A monetary reform for the information age*

Steve Keen

2015 "[Post Keynesian Theories of Crisis](#)"

Minsky and Godley

2016 "[Hey Joe, Banks Can't Lend Out Reserves](#)"

just as you can make mistakes in biology if you have a theory that requires chemically impossible reactions to take place, you can make mistakes in economics if your economic theory relies on processes that defy the laws of accounting.

And there is a “Law of Accounting”: that “Assets equal Liabilities plus Capital”. And the belief that banks can lend out their reserves (excess or otherwise) violates the Law of Accounting.

Bernard Lietaer et al

2012 *Money and Sustainability: The Missing Link*

2013 *Rethinking Money:*

How New Currencies Turn Scarcity into Prosperity

Karl Marx

"fictitious capital"

"capitalism"

"M-C-M"

division of the surplus (*Capital*, vol. 3)

looming collapse

Perry Mehrling

2020 ["Payment vs Funding: The Law of Reflux for Today"](#)

2015 ["Why is Money Difficult?"](#) a little 2-page gem

1996– [Economics of Money and Banking](#) course

Hyman Minsky

"Anyone can create money—the problem is getting it accepted."

1994 ["Financial Instability and the Decline \(?\) of Banking:
Public Policy Implications"](#)

In the theory Keynes developed, upon which the financial instability hypothesis is built, money and finance are in general not neutral. . . . changes in monetary and financial institutions will affect the path of the economy through time.

. . .

The time has come to open a national inquiry into the structure of the banking and financial system. . . .

In the past, serious changes were the result of serious public inquiries. I suggest that enough is amiss in our financial and banking structures that it is time to go back to the drawing board and determine what the monetary, financial, and financing arrangements should be in the 21st century. A late 20th century National Monetary Commission should be on the public policy agenda.

"Satoshi Nakamoto"

2008 ["Bitcoin: A Peer-to-Peer Electronic Cash System"](#) (9p)

Digital signatures provide part of the solution, but the main benefits are lost if a trusted third party is still required to prevent double-spending. . . The network timestamps transactions by hashing them into an ongoing chain of hash-based proof-of-work, forming a record that cannot be changed without redoing the proof-of-work. The longest chain not only serves as proof of the sequence of events witnessed, but proof that it came from the largest pool of CPU power. As long as a majority of CPU power is controlled by nodes that are not cooperating to attack the network, they'll generate the longest chain and outpace attackers. . . nodes can leave and rejoin the network at will, accepting the longest proof-of-work chain as proof of what happened while they were gone.

. . . Transactions that are computationally impractical to reverse would protect sellers from fraud, and routine escrow mechanisms could easily be implemented to protect buyers. . . we propose a

solution to the double-spending problem using a peer-to-peer distributed timestamp server to generate computational proof of the chronological order of transactions. The system is secure as long as honest nodes collectively control more CPU power than any cooperating group of attacker nodes.

Condy Raguet

1839 [*Treatise on Currency and Banking*](#)

This remarkable hard-money treatise appeared in 1840 [2nd ed]. It is by Condy Raguet (1784-1842), a noted Pennsylvania politician and economist who worked as a merchant in several Latin American countries. He was wholly dedicated to free trade, the free market, and especially to sound money and banking. . .

He clearly distinguishes between sound and unsound banking practices, delineated based on their redemption practices. He shows that there is a big difference between good credit based on savings and bad credit based on monetary expansion. He clarifies the role that credit plays in the cause of economic growth: praiseworthy when extended based on good judgment but dangerous when extended with guarantees and recklessness.

Raguet has been celebrated by the American hard-money school as a great theorist and part of a group of thinkers who warned against the national bank and other schemes to guarantee the monetary system against failure.

—mises.org

Rebecca Rojer

2014 [*"The World According to Modern Monetary Theory"*](#)

the revelation that the rules of money are not immutable laws of nature but are instead created and constantly modified by people opens up possibilities beyond the scope of our current political imagination. The questions become: What sort of society do we want? Do we have the physical resources to support that society? And finally, how the hell do we muster the political will to get there?

Those at the very tip of our economic pyramid understand that fiat money is unlimited, but most everyone below believes it to be scarce. We live under austerity and debt. But it doesn't have to be this way. The idea that we don't have the "money" to supply essential public goods to everyone is a pernicious myth that can only be maintained so long as we remain ignorant of how money actually functions.

Murray Rothbard

1962 "The Case for a 100 Percent Gold Dollar"

1963 "What Has Government Done to Our Money?"

Josh Ryan-Collins, Toby Lloyd, & Laurie Macfarlane

2017 *Rethinking the Economics of Land and Housing*

[Ch 1] By land we don't mean physical earth and rock, we mean locational space.

Joseph Schumpeter

1954 [*History of Economic Analysis*](#)

. . . inadvisable to construe bank credit on the model of existing funds being withdrawn from previous uses by an entirely imaginary act of saving and then lent out by their owners. It is much more realistic to say that the banks 'create credit', that is, that they create deposits in their act of lending, than to say that they lend the deposits that have been entrusted to them. . .

Nevertheless it proved extraordinarily difficult for economists to recognize that bank loans and bank investments do create deposits.

—HEA, Part IV Ch 8.7 (p 1080, pdf p1115/1186)

Harlan M. Smith

1968 *Elementary Monetary Theory*

[Ch 1] Monetary theory had its origin in attempts to explain changes in the value of money. . . . What are some of the principal relationships between monetary factors and critical nonmonetary factors in the economy?

. . . such changes . . . may be advantageous or disadvantageous to certain individuals or to the public in general.

[Ch 2] When a bank makes a loan it typically gives the borrower the proceeds in the form of a demand deposit. This deposit is new money that it has created; the bank cannot simply "transfer" the money from some other depositor's account . . . for it is not allowed to reduce the deposits of other depositors. . . .

In its simplest forms, the quantity theory pays no attention to factors other than the money supply, and explains changes in the value of money as due simply to changes in the quantity of money. This seems to ignore the . . . relevance of the demand for money, and other seemingly relevant economic variables. . . . The quantity theory had to be developed so as to take cognizance of other factors. Much of the discussion came to run in terms of one or another form of what is called the "equation of exchange." Its most popular form is attributable to the American economist Irving Fisher, and is sometimes called the Fisherine or transactions equation.

$$MV = PT$$

M is the money supply, already defined.

V is the velocity of circulation of money.

T is the number of money transactions involving prices.

P is the average price of the money transactions.

The price level referred to here is the broadest possible price index . . . the base period of the index is taken to be unity; that is, P in the equation is the number "one"; T is then the quantity of goods and services bought, quantity being measured in units of a dollar's worth in the base period. The velocity of money is the number of times each dollar, on the average, is spent during some defined period to effect the money transactions for the period represented in T.

This equation itself does not tell us anything about the real world. . . . the money value of the money transactions . . . There is only one thing referred to . . . though this can be decomposed in two ways . . .

. . . the equation . . . has been the "clothes rack" on which much discussion on the quantity theory of money has been hung. . . .

We shall see that the quantity approach, while yielding some insights into the changes in the value of money, also has certain shortcomings. This will lead us into more recent approaches, especially those stemming from the work of John Maynard Keynes and modern macroeconomic theory. We shall find it necessary to analyze factors determining real income and interest rates in order to get very far in explaining price-level (value of money) behavior.

Frederick Soddy

radiochemist, father of ecological economics (in writings 1921–)

1926 *Wealth, Virtual Wealth and Debt*

1934 *The Role of Money*

Money now is the NOTHING you get for SOMETHING before you can get ANYTHING.

This definition is . . . referring to ordinary transactions . . . and the *nothing*, *something*, and *anything* . . . refer to things of real value in themselves . . . goods and services. . . . it refers to ordinary people . . . who neither have the opportunity nor the power of uttering money themselves.

. . .

It is merely an ingenious device to secure payment in advance . . . in a monetary civilization the owners of money are those who have paid in advance for definite market values of buyable goods and services, without as yet having received them.

—RoM, Ch 2

Soddy's words seem to recall these from

Henry George

1879 *Progress and Poverty*

wages are the earnings—that is to say, the makings of labor

. . . the laborer who receives his wages in money . . . really receives in return for the addition his labor has made to the general stock of wealth, a draft upon that general stock, which he may utilize in any particular form . . . that will best satisfy his desires

—PP, Bk I Ch 1

Friedrich von Hayek

1931 *Prices and Production*

the past instability of the market economy is the consequence of the exclusion of the most important regulator of the market mechanism, money, from itself being regulated by the market process

1976 *Denationalisation of Money*
advocates competition in issuing moneys

Ludwig von Mises

1912, 53 [*The Theory of Money and Credit*](#)

In the case of money, subjective use-value and subjective exchange-value coincide. Both are derived from objective exchange-value, for money has no utility other than that arising from the possibility of obtaining other economic goods in exchange for it.

—TMC, Part II "The Value of Money," Ch 1

The fact that is peculiar to money alone is not that mature and secure claims to money are as highly valued in commerce as the sums of money to which they refer, but rather that such claims are complete substitutes for money, and, as such, are able to fulfill all the functions of money in those markets in which their essential characteristics of maturity and security are recognized. It is this circumstance that makes it possible to issue more of this sort of substitute than the issuer is always in a position to convert. And so the fiduciary medium comes into being in addition to the money certificate.

Fiduciary media increase the supply of money in the broader sense of the word; they are consequently able to influence the objective exchange value of money. To the investigation of this influence the following chapters are devoted.

—TMC, Part III "Money and Banking," Ch 1

[Edgar Wortmann](#)

2018 "The banking privilege"

It is often held that banks have the privilege to create money. In a legal sense, this is not true though. But banks do have legal privileges that enable them to issue debt instruments that are used as money. This back-ground document summarizes these privileges as codified in European law and puts them in context.

[sov.foundation](#)

a digital money defined and issued by a national government

On February 26, 2018 The Republic of the Marshall Islands legislature passed a law making SOV the new legal tender of the Marshall Islands.

BIBLIOGRAPHY (further)

Charles Calomiris & Stephen Haber

2014 *Fragile By Design:*

The Political Origins of Banking Crises and Scarce Credit

Works with a conceptual framework and a sample of five cases: England, US, Canada, Mexico, Brazil

[Preface] We argue that banks' strengths and shortcomings are predictable consequences of political bargains and that those bargains are structured by a society's fundamental political institutions. Citizens may be satisfied to blame the deficiencies of their country's banking system on the moral failings of bankers or regulators, or on "market failures" related to greed and fear, but when they do so, they miss the opportunity to see banks for what they are, for better or worse: an institutional embodiment—a mirror of sorts—of the political system that is a product of a society's deep history.

[Ch 1] the property rights system that structures banking is not a passive response to some efficiency criterion but rather the product of political deals that determine which laws are passed and which groups of people have licenses to contract with whom, for whom, and on what terms. These deals are guided by the logic of politics, not the logic of the market.

[Ch 14] it is high time to restore a balance to social science by emphasizing the role of narratives in causal inference and by insisting on a balance between statistical and narrative evidence.

—FBD

Charles Dunbar

1891, 1901 *Chapters on the Theory and History of Banking*

. . . this right the so-called borrower has ceded to the bank. . . . selling to a bank the right to receive money in the future. . . . The note has ceased to be his, and now takes its place among the investments or securities of the bank . . .

—THB, Ch 2

[Farley Grubb](#)

economist and historian of early American money

Woody Holton

2007 [Unruly Americans and the Origins of the Constitution](#)

from a [review](#) by Robert Cooper:

Congress had war debts but could not pay without revenue from the states. Securities paying interest had gone to those who had supported the war effort, many of whom were farmers of modest means. Over time the wealthy purchased an overwhelming

majority of the public debt . . .

Stephanie Bell Kelton

1998 ["Can Taxes and Bonds Finance Government Spending?"](#)

An analysis of reserve accounting reveals that all government spending is financed by the direct creation of HPM [high-powered money]; bond sales and taxation are merely alternative means by which to drain reserves/destroy HPM.

[Leon Maclaren](#)

1943, . . . *Nature of Society*

and other Essays

Credit is belief, trust or faith in a man. When we say "I credited Jones with good sense," we mean we believed Jones to have good sense, and we trusted in it.

This faith of trust is essential to all trade. . . In all countries where trade has reached any proportions, a degree of honesty and the resultant faith that men will fulfill their promises must have been achieved; and in such countries the law seeks as far as possible to bring pressure to bear on the individual to compel him to fulfill his obligations.

—Other Essays, "Credit"

Bill Mitchell, Randall Wray, Martin Watts

2019 *Macroeconomics*

does a nice job describing different schools and branches and placing its own perspective (MMT) within a broad spectrum

Pavlina Tcherneva

2019 ["MMT Is Already Helping"](#)

one of the most effective ways of engaging in this struggle is to render the wealthy obsolete — as in, we will stop pretending that we need them to pay for the good society. In a world with a sovereign currency and modern monetary and fiscal institutions, we never really did, and we sure don't now. And the public needs to know it. That's the MMT message.

Notes by Allen W. Smith

comments welcome

recordings of sessions 1-4 of 5-week course Oct-Nov 2020 here:

<https://drive.google.com/drive/folders/1NV1PvweEueh5KIy0Jux3GJXxiKm3icpk>

aws