

PKES INTRODUCTORY WORKSHOP
MONEY IN THE ECONOMY:
A POST-KEYNESIAN PERSPECTIVE

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A MONETARY THEORY OF PRODUCTION

*In my opinion the main reason why the problem of crises is unsolved, or at any rate why this theory is so unsatisfactory, is to be found in the **lack of what might be termed a monetary theory of production.***

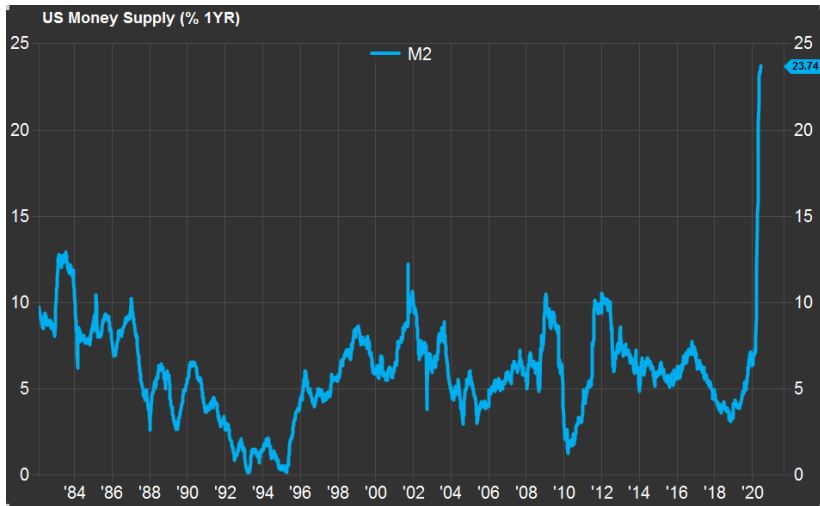
(Keynes, 1933)

A MONETARY THEORY OF PRODUCTION

*The theory which I desiderate would deal ... with an economy in which money plays a part of its own and affects motives and decisions, and is, in short, one of the operative factors in the situation, so that **the course of events cannot be predicted** in either the long period or in the short, **without a knowledge of the behaviour of money between the first state and the last**. And it is this which we ought to mean when we speak of a monetary economy.*

(Keynes, 1933)

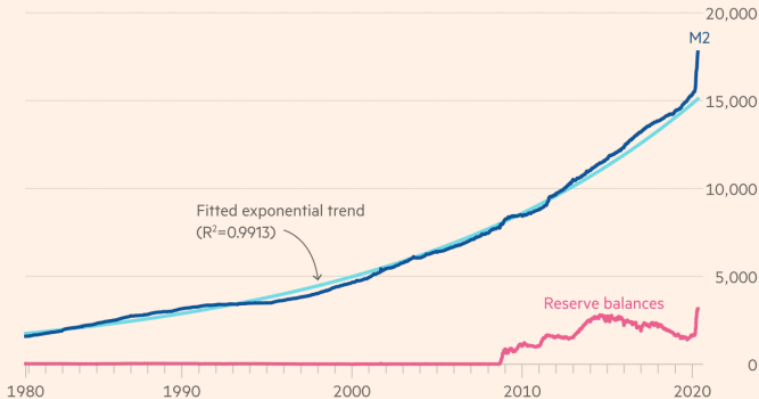
A MONETARY EXPERIMENT?



A MONETARY EXPERIMENT?

US money supply has suddenly jumped upwards since the Covid-19 crisis

Broad money measure M2 and reserves of the banking system (\$bn)

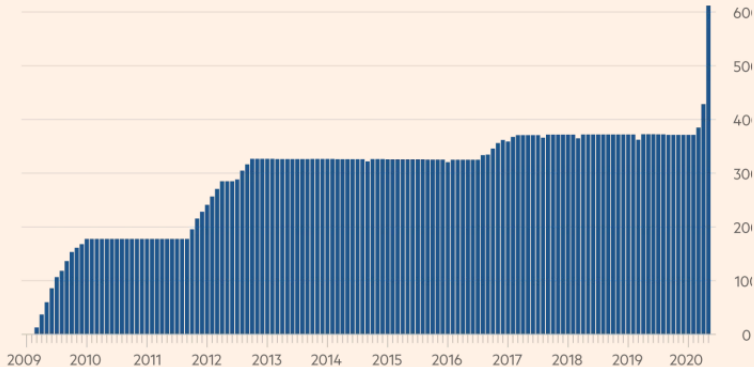


Source: Federal Reserve
© FT

A MONETARY EXPERIMENT?

The relentless rise of BoE holdings of government bonds

Asset purchase facility gilt holdings (£bn)



Source: ONS

© FT

WHAT IS MONEY?

- ▶ Common to define money by function:
 - ▶ Unit of account
 - ▶ Store of value
 - ▶ Means of payment
- ▶ Debates about
 - ▶ Credit versus commodity
 - ▶ Historical origins
 - ▶ Role of the state vs private sector

MONEY IN (HETERODOX) ECONOMICS

- ▶ Money matters; it is not a veil over real transactions
- ▶ Banks, financial systems and structures matter.
- ▶ Monetary analysis didn't start with Keynes: Classical political economy; Marx; Thornton, Wicksell; Hayek; Dennis Robertson, Schumpeter and others.
- ▶ But important contributions from Keynes and his followers
- ▶ Emphasis on time, uncertainty, history, institutional structure

MONEY IN POST-KEYNESIAN ECONOMICS

There is no single heterodox or Post Keynesian theory of money; debates within PK econ and with other schools and disciplines: sociology, history, law, finance.

- ▶ PK econ integrates monetary theory with macro
- ▶ Key elements:
 - ▶ Liquidity (preference)
 - ▶ The monetary circuit/endogenous money
 - ▶ Financial structure and process

COMMODITY OR CREDIT?

There are only two theories of money which deserve the name ...the commodity theory and the claim theory. From their very nature they are incompatible.

(Schumpeter, 1917, p. 649)

Practically and analytically, a credit theory of money is possibly preferable to a monetary theory of credit

(Schumpeter, 1954, p. 717)

MONEY IN NEOCLASSICAL ECONOMICS

*The distinction which is normally made between a barter economy and a monetary economy depends upon the employment of money as a convenient means of effecting exchanges — as an instrument of great convenience, but **transitory and neutral in its effect**. ... It is not supposed to affect the essential nature of the transaction from being, in the minds of those making it, one between real things, or to modify the motives and decisions of the parties to it. **Money, that is to say, is employed, but is treated as being in some sense neutral.***

(Keynes, 1933)

MONEY IN NEOCLASSICAL ECONOMICS

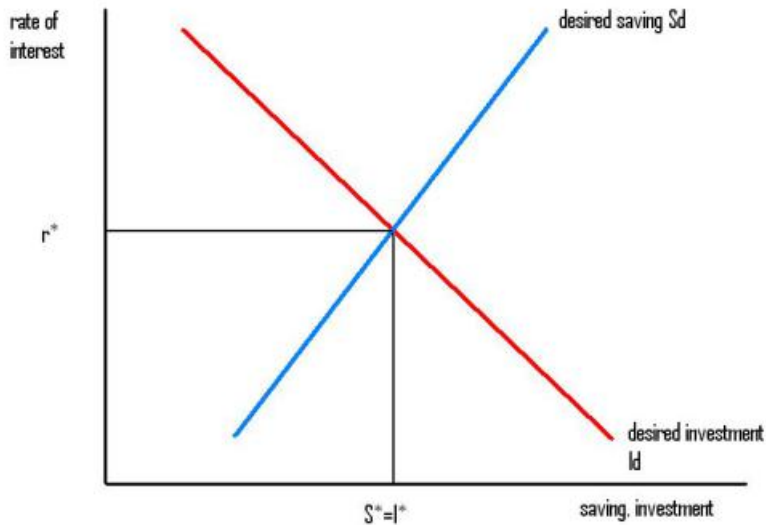
The use of money, credit and other assets in facilitating exchange should emerge as outcomes of, rather than inputs into our theories

(Vines and Wills, 2018)

To understand monetary exchange, credit arrangements, and related institutions, they should be endogenous, not primitives.

(Wright, 2018)

MONEY IN NEOCLASSICAL ECONOMICS



KEYNES

- ▶ *Treatise on Money* (1931)
 - ▶ **Means of payment**
 - ▶ Creation of credit money by banks
 - ▶ “Endogenous money”
 - ▶ Also Wicksell, Hayek, Schumpeter and others
- ▶ *General Theory* (1936)
 - ▶ **Store of value**
 - ▶ Uncertainty
 - ▶ Liquidity preference
 - ▶ Underemployment equilibrium
 - ▶ Motives: precautionary, transactions and speculative
- ▶ “1937 papers” (1937)
 - ▶ Added the ‘finance motive’ - back to **means of payment**

FUNDAMENTAL UNCERTAINTY

- ▶ Originates with Keynes' theory of probability: *Treatise on Probability*, 1921
- ▶ Economic systems are “non-ergodic”
- ▶ Distinction between sampling values from a known probability distribution and an intrinsically unknowable future
- ▶ Risk versus uncertainty
- ▶ So how do people form expectations and decide on actions? Conventions and “animal spirits”
- ▶ Important implications for decision-making on consumption, saving and investment

Is our expectation of rain, when we start out for a walk, always more likely than not, or less likely than not, or as likely as not? I am prepared to argue that on some occasions none of these alternatives hold, and that it will be an arbitrary matter to decide for or against the umbrella. If the barometer is high, but the clouds are black, it is not always rational that one should prevail over the other in our minds, or even that we should balance them, though it will be rational to allow caprice to determine us and to waste no time on the debate.

— Keynes, *Treatise on Probability*

MONEY IN THE *General Theory*

- ▶ A way to cope with **uncertainty**
- ▶ Liquid **store of value**
- ▶ Theory of **liquidity preference**
- ▶ Greater uncertainty → increased demand for money
- ▶ Compare with (neo)classical view: why would an optimising agent hold a store of value with no return?

*Money, it is well known, serves two principal purposes. By acting as a money of account it facilitates exchange without its being necessary that it should ever itself come into the picture as a substantive object. In this respect it is a convenience which is devoid of significance or real influence. In the second place, it is a store of wealth. So we are told, without a smile on the face. But in the world of the classical economy, what an insane use to put it! For it is a recognized characteristic of money as a store of wealth that it is barren; whereas practically every other form of storing wealth yields some interest or profit. **Why should anyone outside a lunatic asylum wish to use money as a store of wealth?***

— Keynes, “The General Theory of Employment” (1936)

LIQUIDITY PREFERENCE

- ▶ Classical view: investment and saving equalised by the rate of interest; Say's Law; Quantity Theory of Money;
- ▶ Keynes overturns this real theory of the rate of interest
- ▶ Liquidity preference: choice between holding money (liquid) and other assets (illiquid)
- ▶ Rate of interest determined not only by **saving** decisions but also by **liquidity preference**
- ▶ Increase in uncertainty → increase in demand for money → increase in the rate of interest
- ▶ Can be counteracted by government action to increase the supply of money
- ▶ Liquidity → maturity transformation → banking ...

ENDOGENOUS MONEY

The process by which banks create money is so simple the mind is repelled. With something so important, a deeper mystery seems only decent.

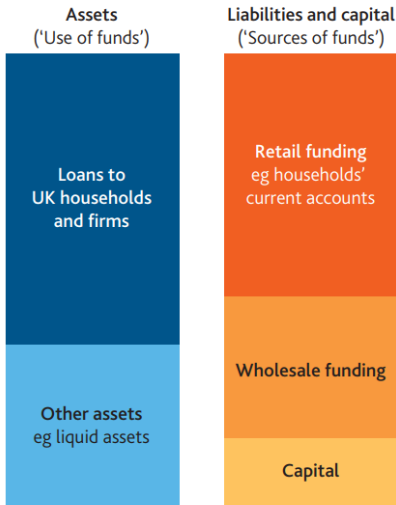
J. K. Galbraith (1975)

- ▶ The Radcliffe Report (1959)
- ▶ Kaldor (1960), Moore, *Horizontalists and Verticalists: The Macroeconomics of Credit Money*, (1988).
- ▶ Graziani, Minsky, Chick, Godley, Lavoie,
- ▶ Bank of England, 2014

What performs the service of money is money

(Schumpeter, *Treatise on Money*, p. 244)

Figure 1 A stylised bank balance sheet



<http://www.bankofengland.co.uk/publications/Documents/quarterlybulletin/2013/qb130302.pdf>

BANK BALANCE SHEET

Assets	Liabilities
Reserves	Deposits
Treasuries	
Loans	

BANK BALANCE SHEET

Assets	Liabilities
Reserves	Deposits +1
Treasuries	
Loans + 1	

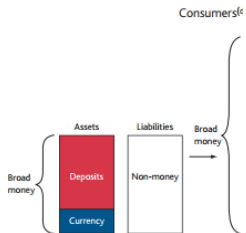
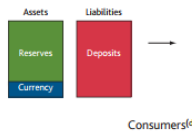
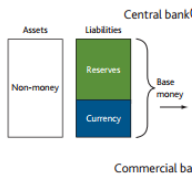
BANK BALANCE SHEET

Assets	Liabilities
Reserves	Deposits +10
Treasuries	
Loans + 10	

BANK BALANCE SHEET

Assets	Liabilities
Reserves	Deposits +100000000
Treasuries	
Loans + 100000000	

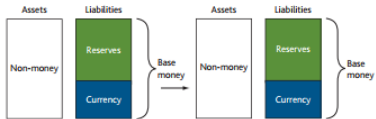
Before loans are made



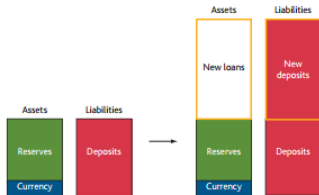
Before loans are made

After loans are made

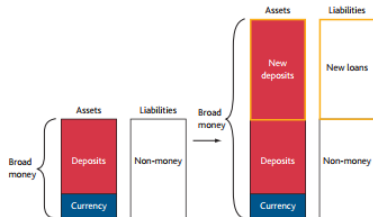
Central bank^(b)



Commercial banks^(d)



Consumers^(d)



House buyer		House seller	
Assets	Liabilities	Assets	Liabilities
<div style="background-color: red; color: white; padding: 5px;">Deposits</div> <div style="background-color: blue; color: white; padding: 5px;">Currency</div>	<div style="background-color: white; padding: 5px;">Non-money</div>	<div style="background-color: white; padding: 5px;">Non-money (house)</div> <div style="background-color: red; color: white; padding: 5px;">Deposits</div> <div style="background-color: blue; color: white; padding: 5px;">Currency</div>	<div style="background-color: white; padding: 5px;">Non-money</div>

Balance sheets before the loan is made.

Changes to the balance sheets of the house

Buyer's bank		Seller's bank	
Assets	Liabilities	Assets	Liabilities
<div style="background-color: green; color: white; padding: 5px;">Reserves</div> <div style="background-color: blue; color: white; padding: 5px;">Currency</div>	<div style="background-color: red; color: white; padding: 5px;">Deposits</div>	<div style="background-color: green; color: white; padding: 5px;">Reserves</div> <div style="background-color: blue; color: white; padding: 5px;">Currency</div>	<div style="background-color: red; color: white; padding: 5px;">Deposits</div>

Balance sheets before the loan is made.

House buyer

Assets

Liabilities

New deposit

New loan

Deposits

Non-money

Currency

House seller

Assets

Liabilities

Non-money
(house)

Deposits

Currency

Non-money

The house buyer takes out a mortgage...

Buyer and seller's banks

Buyer's bank

Assets

Liabilities

New loan

New deposit

Reserves

Deposits

Currency

Seller's bank

Assets

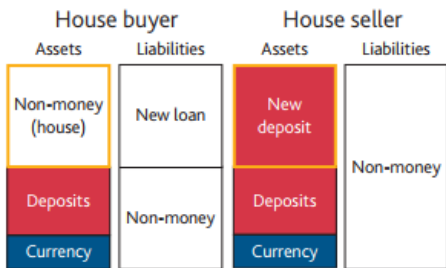
Liabilities

Reserves

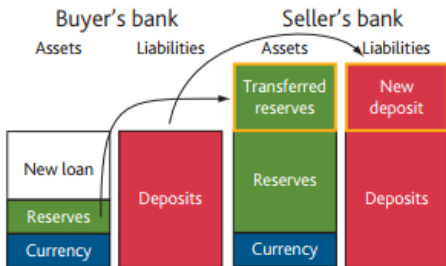
Deposits

Currency

The mortgage lender creates new deposits...



...and uses its new deposits to pay the house seller.



...which are transferred to the seller's bank, along with reserves, which the buyer's bank uses to settle the transaction.

Source for previous figures:

[http://www.bankofengland.co.uk/publications/Documents/
quarterlybulletin/2014/qb14q1prereleasemoneycreation.pdf](http://www.bankofengland.co.uk/publications/Documents/quarterlybulletin/2014/qb14q1prereleasemoneycreation.pdf)

ENDOGENOUS MONEY

- ▶ Money as **means of payment** is created **ex nihilo** by the private banking system
- ▶ **Lending creates deposits:** Banks do not “take deposits and lend them on”; Canan’s (1921) “Cloakroom rule”
- ▶ **Access to money** – bank credit – provides a pre-emptive strike on the resources of society

ENDOGENOUS MONEY

- ▶ Loans create deposits
- ▶ A decision to **save or lend** by the **ultimate creditor** is **not required** for borrowing to take place
- ▶ Firms borrowing to invest don't need to issue bonds – can escape liquidity preference of households
- ▶ Investment causes saving
- ▶ New bank lending → new deposits → spending on new capital investment → increased savings
- ▶ What if new bank lending isn't used for capital investment but for mortgage lending or consumption credit?

THE MONETARY CIRCUIT

- ▶ Analysis in the *General Theory* appears to rely on the assumption of a fixed, **exogenous** money supply
- ▶ Not the case in the *Treatise on Money* and 1937 papers.
- ▶ **Theory of the monetary** circuit developed by Graziani, Lavoie and others.
- ▶ The productive process logically begins with the **granting of credit** to capitalists by firms.
- ▶ Firms use **newly created money** to hire workers.
- ▶ Workers spend wages on consumption and **choose how to save**
- ▶ **Initial and final** finance.

“INSIDE” AND “OUTSIDE” MONEY

- ▶ **Inside money:** bank deposits - liabilities of commercial/private banks
- ▶ **Outside money:** cash and reserves - liabilities of central bank/monetary authority
- ▶ **Central bank** sets rate of interest on **outside money**, supplies reserves
- ▶ **Commercial banks** set rate of interest on **inside money**, supply deposits
- ▶ What determines rates of interest and willingness to supply in each case? Debate within PK econ: **horizontalism** vs **structuralism**.
- ▶ Money is **hierachical**: what looks like **money** (means of payment) at one level looks like **credit** at another
- ▶ Households and firms settle using **bank deposits**; banks settle using **central bank reserves**;

FINANCE

- ▶ *General Theory* interpreted as a theory of short run (underemployment) equilibrium.
- ▶ Uses an (incomplete) mixture of **stocks** (money supply, bonds) and **flows** (consumption, saving, investment).
- ▶ **Minsky**: this interpretation is **incorrect**. *GT* was incomplete but points towards a theory of **business cycles**.
- ▶ Missing link is **finance**.

MINSKY

- ▶ All economic agents operate as cash in, cash out units.
- ▶ Importance of balance sheets:
 - ▶ Past financial decisions lead to current cash obligations.
 - ▶ Current financial decisions lead to future cash obligations.
 - ▶ But the future is unknowable: **uncertainty**
- ▶ “Speculation cannot be avoided – to decide is to take a bet” Minsky, *John Maynard Keynes* (1974)
- ▶ Financial structures and processes matter.
- ▶ These are **institutionally and historically specific**. (See also: Chick, “Stages of Banking”)
- ▶ Minsky develops a theory of financially-driven cycles
- ▶ Money has central role. Banks finance **financial speculation**; **Liquidity preference** can cause financial collapse

HETERODOX MONETARY THEORY NOW

- ▶ Many of key assertions shown to be correct.
- ▶ Bank of England now accepts the endogenous money view.
- ▶ Widely accepted that financial structure matters.
- ▶ Important implications and applications:
 - ▶ Quantitative easing etc
 - ▶ Secular stagnation
 - ▶ Income and wealth inequality
 - ▶ Household debt
 - ▶ Cross-border capital flows
 - ▶ Shadow banking system
 - ▶ Fintech, digital currencies, crypto

CRYPTO, BLOCKCHAIN, BITCOIN, LIBRA ...

- ▶ Blockchain: a way to overcome trust issue
- ▶ Bitcoin
 - ▶ Hugely inefficient
 - ▶ Price volatility
 - ▶ Very limited use as means of payment
- ▶ Libra
 - ▶ Facebook payment system
 - ▶ Owned by group of stakeholders
 - ▶ “Stablecoin”
 - ▶ Pegged to basket of currencies
 - ▶ 100% reserve backed

A MONETARY THEORY OF PRODUCTION

Accordingly I believe that the next task is to work out in some detail a monetary theory of production, to supplement the real-exchange theories which we already possess. At any rate that is the task on which I am now occupying myself, in some confidence that I am not wasting my time.

J. M. Keynes, 1933

COMPARISON WITH CONVENTIONAL WISDOM

- ▶ **MK I: Monetarism:** central bank controls “inside” money directly because of stable **multiplier relationship** with “outside” money.
- ▶ In the long run, output and employment are determined on the **supply side**
- ▶ Economy moves towards **full employment equilibrium** in the long-run
- ▶ **Quantity Theory of Money**, money supply determines prices
- ▶ CB should adjust **quantity of reserves** (outside money) to fix monetary aggregates and therefore **inflation**.

COMPARISON WITH CONVENTIONAL WISDOM

- ▶ **MK II: New Consensus.** Replaced monetarism, retained several key assumptions, conclusions
- ▶ In the long run, output and employment are determined by the **supply side**
- ▶ The economy tends towards full employment equilibrium in the long-run
- ▶ Central bank sets **price of money** - rate of interest
- ▶ This is a **real** rate of interest. There is **no money** in the benchmark models.
- ▶ **Natural rate of interest** determined by loanable funds model..
- ▶ Money, banks, credit, finance etc. all **absent** from benchmark DSGE model.
- ▶ Assumed irrelevant because of **arbitrage** by rational actors in markets. Can “safely” be ignored.