Heterodox Macroeconomics

Stockholm, March 23-24 2023

Some disclaimer

All views expressed in this presentation are my own and do not represent the opinions of any entity whatsoever with which I have been, am now, or will be affilated.

Outline I

Outline II

3 Sovereign Government and Fiscal Policy

- Fiscal policy for a sovereign country
- Spending, taxation, deficit

4 Modern Monetary System

- Money creation and Reserves
- Treasury - Central Bank coordination

Macro fundamentals

- Orthodox and Heterodox
- Sectoral balances

Orthodox economics

The Neoclassical Economics (Mainstream)

The study of the allocation of scarce resources among unlimited wants.

- Natural (individualistic) human behaviour
- Individuals are *rational*: maximise own utility under constraints
- Equilibrium: set of *prices* that clear the markets; these prices constitute an invisible hand that leads individuals toward maximum utility
- Trade-off in resources allocation
- Government has secondary or no role

Heterodox economics

The Heterodox Economics

The study of social creation and social distribution of society's resources.

- Social human behaviour: cooperation is key to survival
- Equilibrium: prices reflect many non-rational and non-economic factors
- Resources are socially created and distributed
- The government has a central role

Macroeconomics theories (overview) I

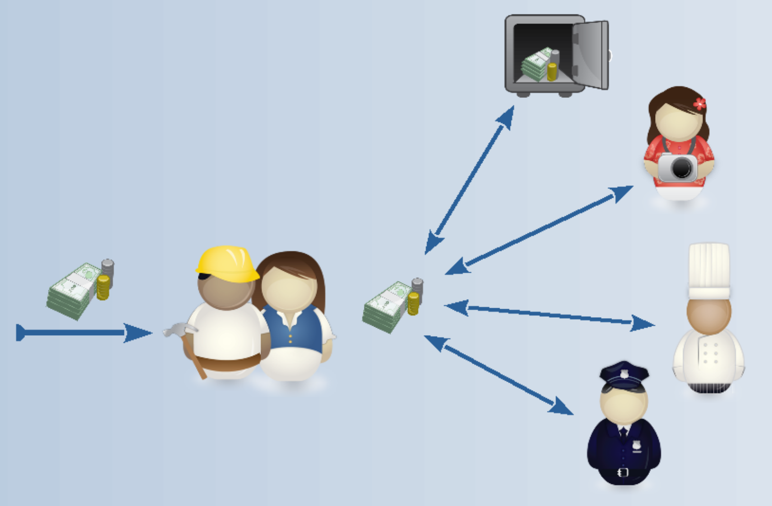
Orthodox macroeconomics

- Neoclassical approach
  - New Classical (Lucas, Phillips, 70s)
  - Real Business Cycle (Chicago, 80s)
  - Supply Side Economics (M. Thatcher, R. Regan)
  - Austrian (F. Hayek, L. von Mises)
- Neoclassical Keynesian
  - New Keynesian (P. Samuelson, R. Solow)
  - New Monetary Consensus (M. Friedman)

Heterodox macroeconomics

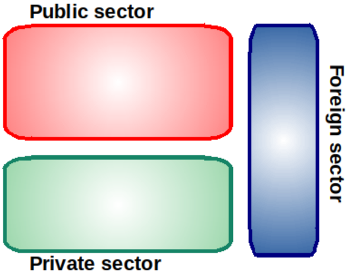
- Institutionalist (T. Veblen, J. K. Galbraith, J. T. Commons)
- Keynes and Post-Keynes (M. Kalecki, J. Robinson, P. Davidson, H. Minsky, J. Kregel)
- Marx Approach (K. Marx, V. Lenin, M. H. Dobb, P. Sweezy)
- Modern Monetary Theory (W. Mosler, R. Wray, S. Kelton)

We and the System



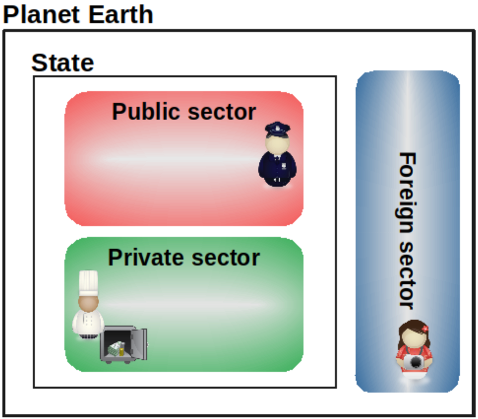
Macroeconomics sectors I

- **Domestic Public**
  - Central government
  - Local government
  - Public authorities/agencies
- **Domestic Private**
  - Households
  - Firms
  - No-Profit organisations
- **Foreign**
  - Import/Export by foreign public and private entities



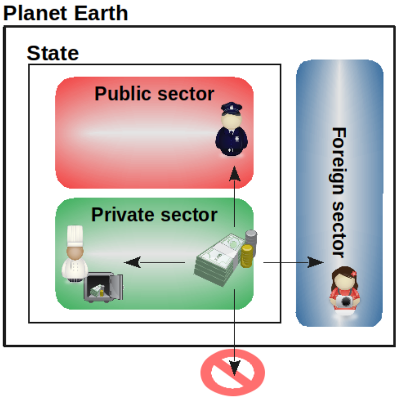
Macroeconomics sectors II

This 3 sectors environment is a **close** system.



This 3 sectors environment is a **close** system.

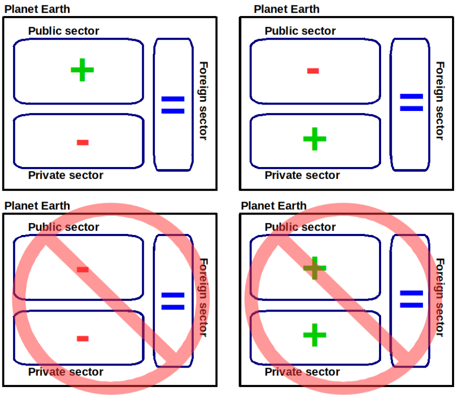
- Everything that moves from one sector has to go to **at least** one of the other two



Macroeconomics sectors IV

This 3 sectors environment is a **close** system.

- One sector **loss** corresponds to a *win* for at least one of the other two



Gross Domestic Product

The output (or the product) of a nation is the Gross Domestic Product:

- **Expenditure approach:** Sum of all expenditures by the different economic sectors
- **Income approach:** Sum of the income earned by all the factors of production

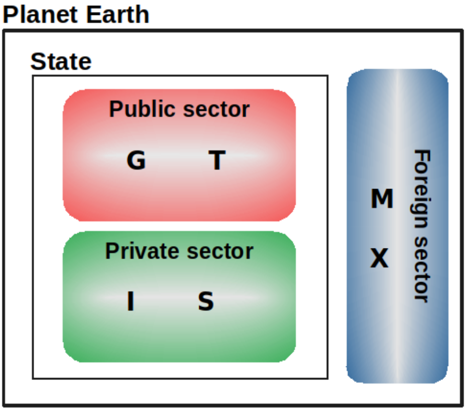
Gross Domestic Product

GDP = C + I + G + X - M ⇒

⇒ **C**onsumption + **I**nvestment + **G**overnment Expenditure + Export - **Im**port

GDP and Macro Sectors I

$$\text{GDP} = \text{C} + \text{I} + \text{G} + \text{X - M} \equiv \text{T - G} + \text{S} - \text{I} + \text{M} - \text{X} = 0$$



GDP and Macro Sectors II

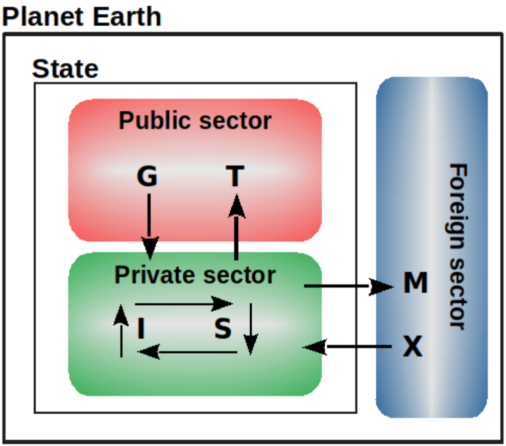
The 3 balance identities:

Domestic Public Balance	$\Rightarrow$ Public Revenue - Public Expenditure $\Rightarrow$ T - G
Domestic Private Balance	$\Rightarrow$ Private Saving - Private Investment $\Rightarrow$ S - I
Foreign Balance	$\Rightarrow$ Import - Export $\Rightarrow$ M - X

$$\Downarrow$$

Government Net Lending	$\Rightarrow$ (G - T)
Private Sector Net Financial Wealth	$\Rightarrow$ (S - I)
Foreign Net Lending	$\Rightarrow$ (X - M)

GDP and Macro Sectors III



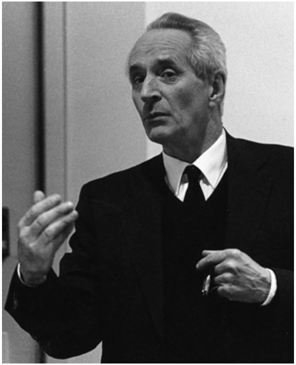
Sectoral Balances and Stock-Flow consistency I

"... Borrowing flows build up as debt stocks."

"... household borrowing must reach 14 percent of G.D.P. by 2010."

"... wildly implausible. More likely, borrowing would level off"

"... foresaw a looming recession but significantly underestimated its depth (2007)"



Wynne Godley

Full article, The New York Times, September 10, 2013:
https://www.levyinstitute.org/publications/embracing-wynne-godley-an-economist-who-modeled-the-crisis

Stock-Flow consistent model

Domestic Private Balance +
Domestic Public Balance +
Foreign Balance = 0

$$\equiv$$

Government Net Lending =
Private Sector Net Financial Wealth +
Foreign Net Lending

$$\equiv$$

$$(G - T) = (S - I) - (X - M)$$

Extract from Business Insider - Goldman's Top Economist Explains The World's Most Important Chart, And His Big Call For The US Economy

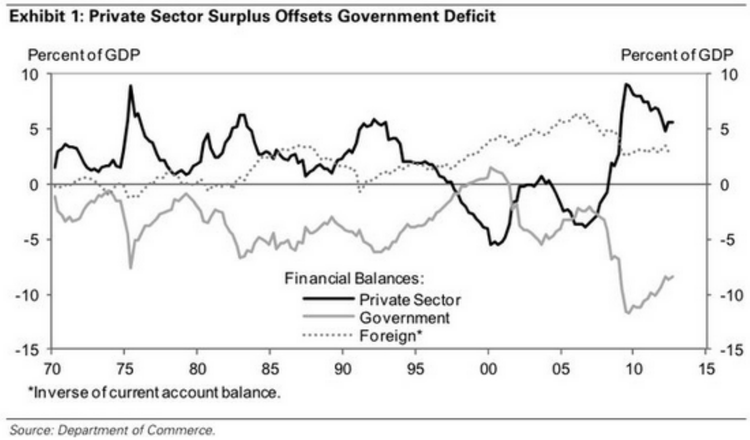
"...every dollar of government deficits has to be offset with private sector surpluses purely from an accounting standpoint, because one sector's income is another sector's spending, so it all has to add up to zero. That's the starting point. It's a truism, basically. Where it goes from being a truism and an accounting identity to an economic relationship is once you recognize that cyclical impulses to the economy depend on desired changes in these sector's financial balances."

Jan Hatzius - Chief economist of global investment research at Goldman Sachs

Full interview at Business Insider:

http://www.businessinsider.com/goldmans-jan-hatzius-on-sectoral-balances-
r=US&IR=T&IR=T

Sectoral Balances and Stock-Flow consistency IV



Goldman Sachs

Sectoral Balances and Stock-Flow consistency V

Basic accounting principles:

- **One's Financial Asset is someone else's Financial Liability:**
  For every financial asset there must be an offsetting financial liability
- **Net financial wealth of the private sector (Inside Wealth) is zero:**
  The private sector can only accumulate through Outside Wealth
- **Private Net Wealth = Private Real Asset Value:**
  After offsetting financial assets and liabilities what is left it the Real economy
- **Net Private Financial Wealth = Public Debt:**
  Outside wealth provided by the Public sector allows the accumulation of (Private) financial wealth
- **Foreign Liabilities are Domestic Financial Assets:**
  The foreign sector is a source of Outside wealth

Sectoral Balances and Stock-Flow consistency VI

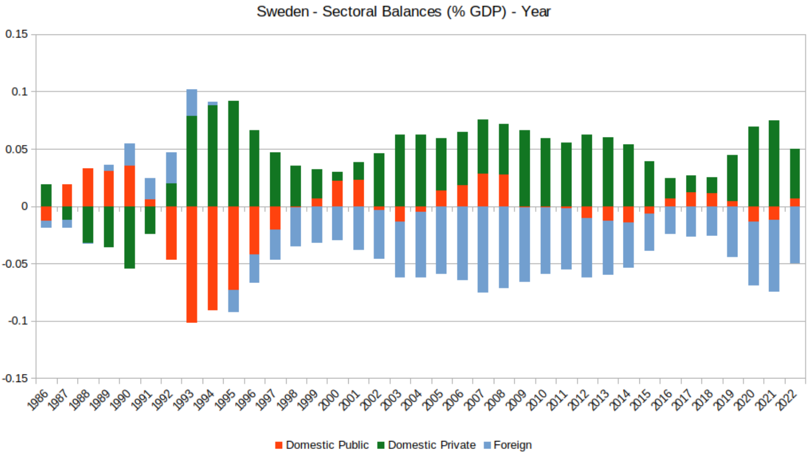
Flow		Stock
Balance Surplus	$\Rightarrow$ Saving Flow	$\Rightarrow$ Financial Wealth accumulation
Balance Deficit	$\Rightarrow$ Indebtedness Flow	$\Rightarrow$ Financial Wealth reduction

If one sector runs a surplus, at least one other sector must run a deficit.

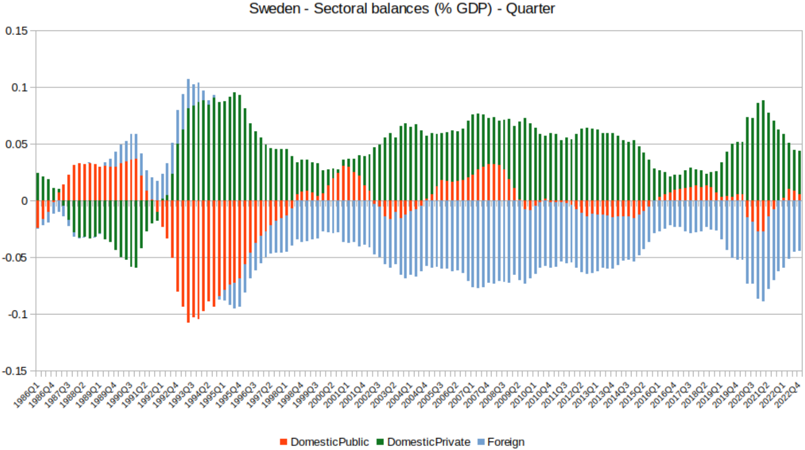
How can a sector run a deficit?

- Run down accumulated financial assets $\rightarrow$ Dissaving
- Acquire new IOU $\rightarrow$ Borrowing

Sweden - Sectoral Balances I



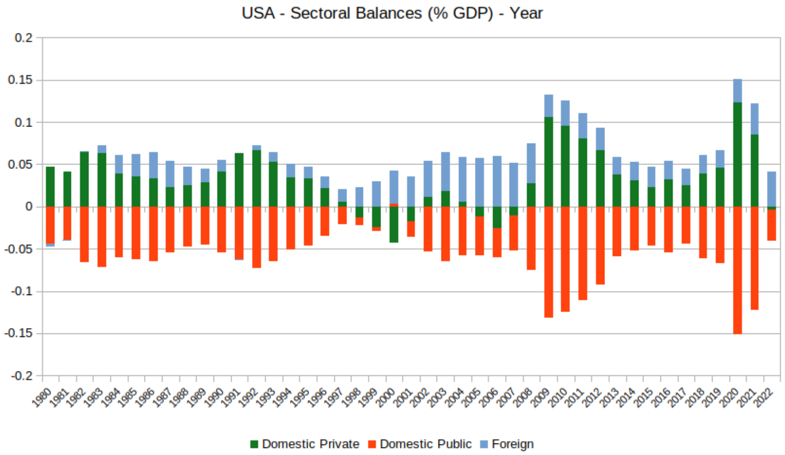
Sweden - Sectoral Balances II



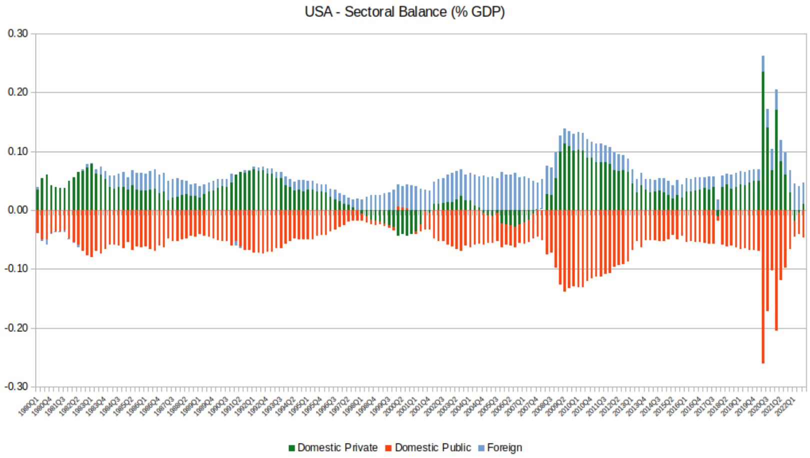
Heterodox Macroeconomics

- Outline
- Macro fundamentals
- Money Theories and Regimes
- Sovereign Government and Fiscal Policy
- Modern Monetary System
- Financial Stability
- References

USA - Sectoral Balances I



USA - Sectoral Balances II



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Monopoly under a Budget Surplus regime
No money outflows from the Bank.

- Remove all Chance / Community Chest cards that allow a player to receive money from the Bank.
- Pay 200$ when passing Go instead of receiving them.

There will be only the same amount of money flowing around the players.
New money is created only by indebetness.
The game won't last longer...

Money and Money Things

- Money Theories
- Money and Money Things
- Money Regimes

The Evolution Of Money: Key features

Traditional view	**Modern Money view**
money is a natural invention of people society	money arises from the centre as a constitutional project
it arises from exchanges of private actors	it is a legal institution
it is a commodity (gold) or a convention (bank notes)	it is a debit or a credit
the government has a secondary role, technical service	the government has a primary role, issuing power

For the past 4000 years, at least, we have had Modern Money.
(J. M. Keynes, "A Treatise on Money ", 1930)

What is Money?

Money is a creature of the State

Government IOUs denominated in the national currency.

Fundamentals features of Money:

- Creation
- Acceptance
- Redemption

Why is Money accepted?

Why does the private sector accept the currency issued by the government?
The government currency is accepted because it can be used in exchange for something...

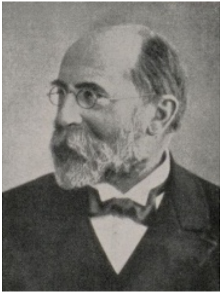
What backs up *modern money* (sovereign money)?

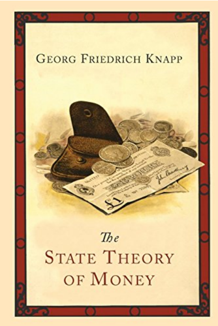
- Reserves of metal
- Reserves of foreign currencies
- Nothing (**Fiat**)
  - Legal tender laws
  - Tax liabilities

Taxes drive money!

Chartalism I

Georg Friedrich Knapp: "The State Theory of Money" (1924)





Money has no intrinsic value (in contrast to Metallism), it is accepted because it can be used in tax payments.

Chartalism II

- **Alfred Mitchell-Innes:** "Credit Theory of Money" (1914), integration State Theory of Money and Credit Theory of Money
- **Johan M. Keynes:** "A Treatise on Money" (1930), money and money-of-account
- **Hyman Minsky:** "Stabilizing an Unstable Economy" (1986), Endogeneity of money
- **Abba Lerner:** "Money as a Creature of the State" (1947), Functional Finance
- **Geoffrey Ingham:** "The Nature of Money" (2004), Credit Money and capitalism development
- **Charles Goodhart:** "Two concepts of money: implications for the analysis of optimal currency areas" (1998), *One nation one currency*

Chartal Money

The Central Government has a central role in the creation of Chartal money:

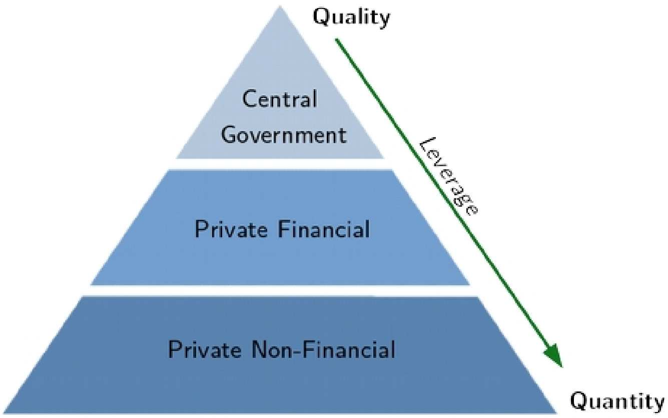
1. It *chooses* a Money of Account
2. It *imposes* a tax liability (in the same account)
3. It *issues* a currency that becomes the social unit of account
4. The currency is the government's *liability* (IOU)
5. The government accepts the currency for tax payments
6. Domestic stocks and flows are denominated in the national currency

Money and Money Things I

Money $\rightarrow$ IOUs issued by the Central Government
Money Things $\rightarrow$ IOUs issued by the Non-Government sector

- Government IOUs are not convertible.
- Private IOUs are convertible to government IOUs.
- **Leveraging** $\rightarrow$ small amount of government IOUs (Money) generates a wide range of Private IOUs (Money Things).
- Central Bank is the *Lender of Last Resort*.

Money and Money Things II



Clearing example:

Money - Government IOU

Person 1

Assets		NW & Liabilities	
Checking Account	£200	Net worth	£200

Company 1

Assets		NW & Liabilities	
Goods	£1,000	Net worth	£1,000

Person 1 settles using Government IOUs - Money

Person 1

Assets		NW & Liabilities	
Checking Account	£100	Net worth	£100
Goods	£100		

Company 1

Assets		NW & Liabilities	
Goods	£900	Net worth	£1,000
Cash	£100		

Clearing example:

Money Things - Private Financial IOU

Person 1

Assets		NW & Liabilities	
Checking Account	£200	Net worth	£200

Company 1

Assets		NW & Liabilities	
Goods	£1,000	Net worth	£1,000

Person 1 settles using Bank Transfer - Money Thing

Person 1

Assets		NW & Liabilities	
Checking Account	£100	Net worth	£100
Goods	£100		

Company 1

Assets		NW & Liabilities	
Goods	£900	Net worth	£1,000
Checking Account	£100		

Clearing example:

Money Things - Private Non-Financial IOU

Person 1

Assets		NW & Liabilities	
Checking Account	£200	Net worth	£200

Company 1

Assets		NW & Liabilities	
Goods	£1,000	Net worth	£1,000

Person 1 settles issuing a debit - Money Thing

Person 1

Assets		NW & Liabilities	
Checking Account	£200	Net worth	£200
Goods	£100	Debit	£100

Company 1

Assets		NW & Liabilities	
Goods	£900	Net worth	£1,000
Credit	£100		

Monetary regimes

Pegged exchange rate:
A country promises to redeem its currency for a commodity (usually gold) or another currency at a fixed exchange rate.

Managed exchange rate:
A country promises to redeem its currency at a floating exchange rate which is contained in a fixed exchange rate band.

Floating rate:
A country does not promise to redeem its currency at a fixed exchange rate.

Monetary regimes and Policy Space

Floating rate:

- Most policy space
- No default risk on its own currency
- Unlimited spending possibility
- Inflation and depreciation arbitrary

Managed float:

- Less policy space
- Spending can affect exchange rate

Pegged exchange rate:

- Least policy space
- Spending constrained by exchange rate
- Default risk greater than 0.

Countries and monetary regimes

Floating rate	Managed exchange rate	Pegged exchange rate
United States of America	China	Euro countries*
United Kingdom	Switzerland	Saudi Arabia
Sweden	Singapore	United Arab Emirates
Japan		Denmark
Norway		Hong Kong
Iceland		Many African countries
Mexico		
Canada		
Russia		
India		
Euroland*		

Sovereign Government and Fiscal Policy

- Fiscal policy for a *sovereign* country
- Spending, taxation, deficit

Sovereignty and Money I

Sovereignty scale

Full Sovereign country:
A country whose central government **issues** its own *unpegged* and *non-convertible* currency which is used as *domestic unit of account*.

Sovereign Country:
A country whose central government **issues** its own currency which is used as *domestic unit of account*.

Non-Sovereign Country:
A country whose central government **uses** as *domestic unit of account* a currency issued by a foreign entity.

Sovereignty and Money II

Issuer vs User

Central Government	$\Rightarrow$ Issuer
Private Sector (households and companies)	$\Rightarrow$ Users
Local Governments	$\Rightarrow$ False Users

Wrong approach to Sovereign Countries

- Spending
  - Government has budget constraints, like households and firms
  - Government spending must be funded through taxation or borrowing (bond sales)
  - Spending comes after taxation
- Taxation
  - Taxes finance government spending
  - Taxation has to come before spending
- Deficit
  - Government deficit is the private sector burden
  - Deficit drives interest rates up, takes away private saving and generates inflation
  - Today's deficit is the future generations' burden

Correct approach to Sovereign Countries

- Spending
  - The government can always afford to buy what is on sale in its own unit of account
  - As the sole manufacturer of currency the government can never become insolvent
  - Spending comes before taxation
- Taxation
  - Taxes cannot finance government spending
  - Taxation occurs after spending
  - Taxes exists for a monetary purpose not for financing (same applies for bond sales)
- Deficit
  - Government deficit is the private sector net wealth
  - Today's deficit are the future generations' savings

Spending and Taxation I

Spending is the process through which the Central Government introduces **liquidity** in the system.

It **spends money into existence** by crediting bank **reserves** (printing money or **keystroke**).

The money comes from **nothing**, it cannot come from taxation or other financing vectors (like treasury bonds sales), the government simply creates it.

Ben Bernanke interviewed by Scott Pelley: *Bernanke explains where the money came from for the 2008 bailouts of the banks. It's not taxpayer's money, they just printed it.* https://www.youtube.com/watch?v=U_bjDAZazWU

Spending and Taxation II

As the **sole manufacturer** of money, the Sovereign Government can never run out of money and never become **insolvent** on liabilities denominated in its money of account (national currency).
$\Rightarrow$ **default probability** of the government on an exposure denominated in **domestic currency** is **zero**.

Alan Greenspan vs Paul Ryan on USA solvency:
https://www.youtube.com/watch?v=DNCZHAQnfGU

From the St. Louis Fed:
"As the sole manufacturer of dollars, whose debt is denominated in dollars, the U.S. government can never become insolvent, i.e., unable to pay its bills. In this sense, the government is not dependent on credit markets to remain operational."

Spending and Taxation III

Taxation cannot precede spending: money is made available to the private sector by the government spending.

The government introduces money in the private sector (spending) and only successively it may, eventually, drain some of this money (taxation).

The private sector cannot pay any taxes if it haven't received any money yet!

The Role of Taxation

Taxation is primarly a monetary operation and not a financing source for a sovereign government.

Real purposes of taxation:

1. **Taxes drive money**: taxation ensures a demand for the national currency
2. Control of inflation
3. Reallocation of national wealth
4. Constrain over-accumulation of wealth

Taxes drive money

The imposition by the government of a **tax liability** to be paid in the national currency ensures a demand for this currency.
The key link between **Taxation** and **Money Demand** is **Unemployment**.

Spending
$\Rightarrow$ **Taxation**
$\Rightarrow$ **Unemployment**
$\Rightarrow$ **Money Demand**

$\Downarrow$

Interactive Example...

Government Borrowing

Link between the Central Bank interest rate target and the government spending:

1. Government deficit spending adds extra reserves to the banking system
2. Interest rate declines (under the CB target) as the quantity of reserves increases
3. Government drains excess reserves by selling securities → Borrowing
4. Interest rate re-aligns with the Central Bank target

Government borrowing is a monetary operation (support interest rate) and not a financing (fiscal) operation.

About inflation I

Mainstream view			Modern Money view		
Inflation	$\Rightarrow$	Demand side	Inflation	$\Rightarrow$	Supply side
Stagnation	$\Rightarrow$	Supply side	Stagnation	$\Rightarrow$	Demand side

- Weimar
- Zimbawe
- Usa 70s
- USA/Europe 2022

About inflation II

About the latest inflation?

Supply chain disruption

- Covid-19 disruptions
  - Careless response
  - China 0-Covid policy
  - Just-in-time production flaws
  - Neoliberal supply chain disrupted
- Nato-Russia war
  - Raw materials price

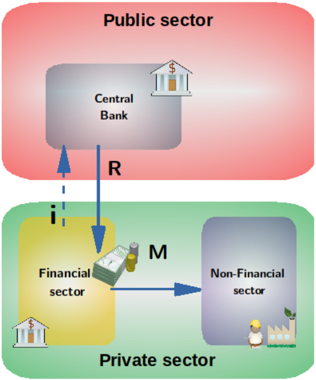
- Oil, Food, Shelter and raw materials
- Price gauging and rising markups
- No evidence of Wage-Price spiral
- Raising rates counterproductive: affect supply but not demand, cost feed-through, devaluate banks assets, interest income

Modern Monetary System

- Money creation and Reserves
- Treasury - Central Bank coordination

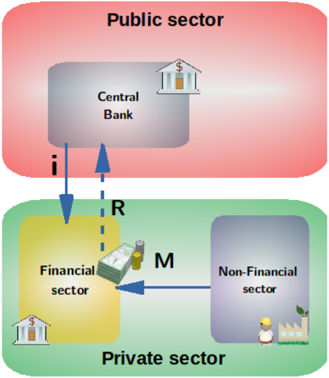
Money and Interest Rate I

	Fixed exchange regime *Ex. gold standard.*
M	Quantity of money is *limited*
R	The quantity of reserves is *fixed*, determined by the Central Bank
I	Interest rate is determined by the *market* competing for a fixed amount of available reserves
	Exogenous money $\rightarrow$ **Verticalism**



Money and Interest Rate II

	Floating exchange regime *Ex. fiat currency*
M	Quantity of money is *unlimited*
R	Quantity of reserves determined by the market, Central Bank *accommodates* the demand for reserves
I	Interest rate fixed by the *Central Bank*
	Endogenous money $\rightarrow$ **Horizontalism**



The Monetary Base: Definition

Central Bank balance sheet

Assets	*Liabilities & Net Worth*
A1: Credit market instruments	**L1**: Vault cash and cash in circulation
A2: Loans to domestic banks	**L2**: Reserves balances
A3: Gold, foreign exchange and SDR certificates	**L3**: Checking account due to Treasury and Banknotes held by Treasury
A4: Treasury currency	**L4**: Checking account due to Foreigners and other Banknotes held by Foreigners and others
A5: Other assets	**L5**: Other liabilities

Monetary Base

$$L_1 + L_2 = A_1 + A_2 + A_3 + A_4 + A_5 - L_3 - L_4 - L_5$$

The Monetary Base: Changes

Creation of monetary base:

Increase in Central Bank assets → Central Bank buys a treasury bond from a private bank.

Assets variations	Liabilities & Net Worth variations
$\Delta A_1 = +100$ Treasury bond	$\Delta L_2 = +100$ Reserves

Destruction of monetary base:

Increase in Central Bank liabilities → Private actor pays due taxes.

Assets variations	Liabilities & Net Worth variations
	$\Delta L_2 = -100$ Reserves $\Delta L_3 = +100$ Treasury account

The balance sheet of a bank

Assets	*Liabilities & Net Worth*
Loans	Checking accounts
Securities	Saving accounts
Reserve balances	Other liabilities
Other assets	Net Worth

Checking and Saving accounts are the **money things** or banks IOUs.
Reserve balances are *deposit accounts* at the Central Bank (**L2**: Reserves balances).

Banks and Money Creation - Simple

Bank X opens its business and no banking activities have performed yet.

Bank X Initial balance sheet

Assets	Liabilities & Net Worth
Equipment $= 500$	Net Worth $= 500$

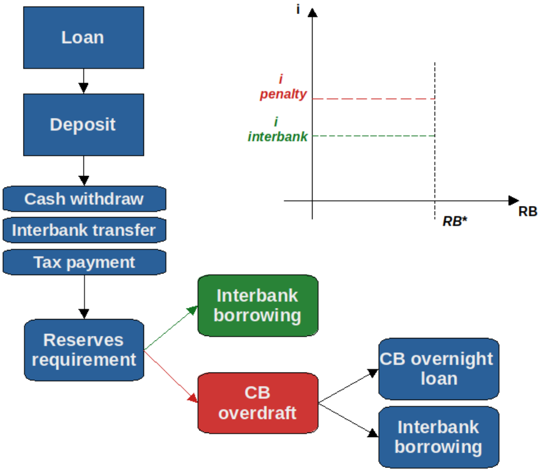
The bank obtains its first customer, company One, which would like to borrow 500 to finance a new machinery.

Bank X balance sheet

Assets	Liabilities & Net Worth
Equipment $= 500$ Loan to company One $= 500$	Net Worth $= 500$ Checking account of company One $= 500$

Bank X created 500 of money things.

Banks and Money Creation - Functioning I



Banks and Money Creation - Functioning II

Reserve balances do NOT affect banks ability to make loans.

Constraints:

1. Borrower crediworthines
2. Profitability (customer deposits vs interbank/CB borrowing)
3. Capital requirements

The Money Multiplier - theory

Reserve balances according to the Money Multiplier model $\Rightarrow$ *reserve balances finance banks balance sheet expansion by increasing the Excess Reserves.*

$$M = m * MB$$

$$\uparrow\ RB \rightarrow \uparrow\ ER \rightarrow\ Loans\ \& Deposits\ \uparrow$$

$$\Rightarrow\ Credit\ Expansion$$

1. The Central Bank increases the supply of reserve balances
2. Banks excess reserves increase
3. Banks can create more loans (and deposits).

This is how it works in theory..

The Money Multiplier - real world

but in the real world...

The money multiplier (m) works the other way around.

$$\Rightarrow \ \ \textit{Credit Expansion}$$
$$Loans \ \rightarrow \ Deposits \ \rightarrow \uparrow RB$$
$$MB = M/m$$

1. Banks create Loans which create Deposits independent of reserve positions
2. Banks acquire reserves in the *money market* if:
   - Banks have reserve requirements to meet
   - Banks have to settle a payment (interbank settlement)
   - Cash withdraw
3. The Central Bank accommodates the demand of reserves whatever this is

Example on interbank settlement $\Downarrow$

Banks and Money Creation - Reserves I

The case of interbank settlements:
company One pays 500 to the supplier of the new machinery which has a bank account in another bank, Bank Y.

Bank X balance sheet

Assets	Liabilities & Net Worth
	Checking account company One = -500 Reserves due to bank Y = +500

Bank Y balance sheet

Assets	Liabilities & Net Worth
Claim on Bank X Reserves = +500	Checking account supplier = +500

Banks and Money Creation - Reserves II

Bank X needs to acquire reserves in order to settle its debt with Bank Y.
The reserves are obtained from the Central Bank.

Bank X balance sheet

Assets	Liabilities & Net Worth
Reserves $= +500$	Debt to Central Bank $= +500$

Central Bank balance sheet

Assets	Liabilities & Net Worth
Reserve loan to Bank X $= +500$	Reserves $= +500$

Banks and Money Creation - Reserves III

Once the reserves are obtained, Bank X settles the debt with Bank Y.

Bank X balance sheet

Assets	Liabilities & Net Worth
Reserves = -500	Reserves due to Bank Y = -500

Bank Y balance sheet

Assets	Liabilities & Net Worth
Claim on Bank X = -500	
Reserves = +500	

Banks and Money Creation - Reserves IV

Final position of Bank X, Bank Y and the Central Bank.

Bank X balance sheet

Assets	Liabilities & Net Worth
Equipment = 500	Debt to Central Bank = 500
Loan to One = 500	Net Worth = 500

Bank Y balance sheet

Assets	Liabilities & Net Worth
Reserves = 500	Checking account supplier = 500

Central Bank balance sheet

Assets	Liabilities & Net Worth
Reserves Loan to Bank X = 500	Reserves = 500

Banking and Reserves

- Banks use reserve balances to settle payments (consistently high GDP % in modern economy)
- The Central Bank sets an interest rate target
- The Central Bank has to accommodate the demand for reserves in order to guarantee the correct functioning of the payment system (both intra-day and overnight)
- Reserve requirements do not affect supply/demand of reserve balances
- Interbank lending does not change the total amount of reserves, it just changes the distribution of reserves
- Only the Central Bank can increase (or decrease) the amount of reserves at macro level.

The Central Bank has no control over the quantity of reserves, it controls only the price.

Treasury and Central Bank coordination: Balanced budget I

Step 1 → Government buys asset from the private sector:

Government		Private Banks		Private Company	
Assets	Liabilities	Assets	Liabilities	Assets	Liabilities
+ Truck	+ Reserves	+Reserves	+DD	+DD	+Tax liability
+Tax liability	+Net worth			-Truck	-Net worth

Step 2 → Private sector pays tax liability:

Government		Private Banks		Private company	
Assets	Liabilities	Assets	Liabilities	Assets	Liabilities
-Tax liability	-Reserves	-Reserves	-DD	-DD	-Tax liability

Treasury and Central Bank coordination: Balanced budget II

Final position:

Government	
Assets	Liabilities
+Truck	+Net worth

Private company	
Assets	Liabilities
-Truck	-Net worth

In the case of a balanced budget, the government simply transfers, using the monetary system, resources from the private sector to the public.
The government increases its assets and the private company decreases its net worth.

Treasury and Central Bank coordination: Deficit Spending I

Step 1 → Government buys asset from the private sector:

Government	
Assets	Liabilities
+ Truck	+ Reserves

Private Banks	
Assets	Liabilities
+Reserves	+DD

Private Company	
Assets	Liabilities
+DD	
-Truck	

Step 2 → Government sells bond (to hit overnight interest rate target - monetary policy):

Government	
Assets	Liabilities
	-Reserves
	+Bond

Private Bank	
Assets	Liabilities
-Reserves	
+Bond	

Final Position:

Government	
Assets	Liabilities
+ Truck	+ Bond

Private Bank	
Assets	Liabilities
+Bond	+DD

Private Company	
Assets	Liabilities
+DD	
-Truck	

The government increases its assets but the *deficit spending* allows a net financial assets to be created and accumulated by the private sector.

Treasury and Central Bank coordination: Deficit Spending - One constraint I

Constraint: Requirement to sell the bond before deficit spending

Step 1 → Government sells bond before spending:

Government	
Assets	Liabilities
+ DD	+ Bond

Private Bank	
Assets	Liabilities
+Bond	+ DD Government

Step 2 → Government buys asset from the private sector:

Government	
Assets	Liabilities
-DD	
+Truck	

Private Bank	
Assets	Liabilities
	-DD Gov.
	+DD Priv.

Private Company	
Assets	Liabilities
-Truck	
+DD	

Treasury and Central Bank coordination: Deficit Spending - One constraint II

Final Position:

Government	
Assets	Liabilities
+ Truck	+ Bond

Private Bank	
Assets	Liabilities
+Bond	+DD

Private Company	
Assets	Liabilities
+DD -Truck	

Same conclusion as for the case without constraint...

Further constraint: Government can only write checks on its account at the central bank

Step 1 → Treasury uses its central bank account:

Treasury	
Assets	Liabilities
+ DD Private Bank	+Bond

Private Bank	
Assets	Liabilities
+Bond	+ DD Treasury

Step 2 → Treasury moves deposit to central bank account:

Treasury	
Assets	Liabilities
-DD Priv. bank	
+DD Cent. Bank	

Central Bank	
Assets	Liabilities
Loan. Res.	
	+DD Treasury

Private Bank	
Assets	Liabilities
	-DD Treasury
	+Borr. Res.

Step 1 → Treasury buys asset from the private sector:

Treasury	
Assets	Liabilities
-DD	
+Truck	

Central Bank	
Assets	Liabilities
- Loan. Res.	- DD Treasury

Private Bank	
Assets	Liabilities
	+DD
	-Borrowed Res.

Private Company	
Assets	Liabilities
+DD	
-Truck	

Treasury and Central Bank coordination: Deficit Spending - Two constraints III

Final Position:

Government	
Assets	Liabilities
+ Truck	+ Bond

Private Bank	
Assets	Liabilities
+Bond	+DD

Private Company	
Assets	Liabilities
+DD	
-Truck	

Same conclusion as for the case without constraint and with 1 constraint...

Financial Stability

- Financial Instability Hypothesis
- The road to the Global Financial Crisis

Capitalism and Innovation

Capitalism is a Money production process (Karl Marx)

$$M - C - M'$$

The process starts with **M**oney which is exploited to produce a **C**ommodity, in order to generate more **M**oney.

Karl Marx

Historical evolution of Capitalism

Capitalism Innovates!

Commercial capitalism

- First industrial revolution
- Financing of inventories

Finance capitalism

- Third industrial revolution
- Corporations
- Cartels/Trusts
- Deregulation

FRAGILITY

Managerial capitalism

- Big government
- Deficit spending
- Highly regulated financial market

STABILITY

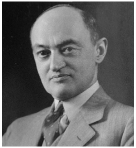
Money manager capitalism

- Small government
- Tight fiscal policy
- Securitisation, globalisation
- Self-supervision
- Deregulation

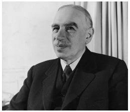
FRAGILITY

Financial stability studies

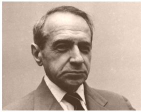
Hyman Minsky
Financial instability hypothesis



Joseph Shumpeter
Innovation and economic development

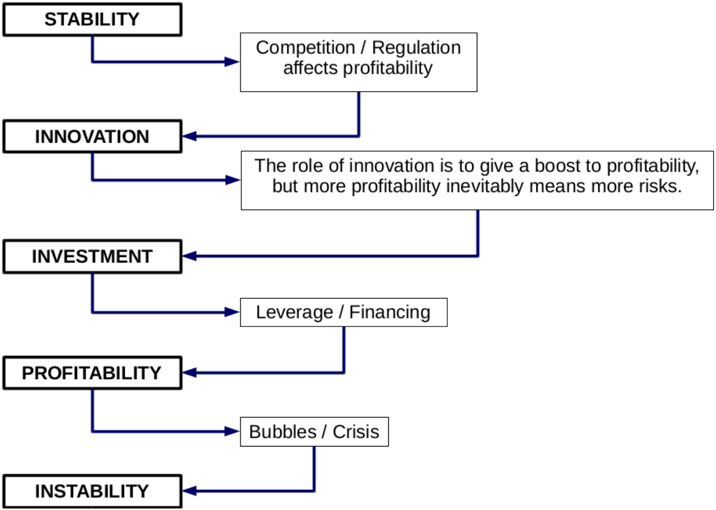


John M. Keynes
Role of government in economic stability



Michal Kalecki
Link between aggregate profits and investment

Financial Instability Hypothesis



From deregulation to destabilising regulation

Micro-regulation:

- Basel
  - Market risk requirement internally calculated to link Capital and Risk
  - Banks pressure towards development of own models
  - Extension to Credit Risk
  - More advanced internal model to take over regulation
- Perverse Incentive set up by higher capital requirements:
  - Competitive pressures force banks with higher capital ratios to seek higher returns in order to increase Return On Equities;
  - Given that risk weightings do not eliminate the higher net returns to overly risky assets, all things equal, banks with more capital need higher returns and thus riskier positions.
- Short term prospective, no protection against systemic crisis.

Macro-regulation:

- Capital ratios (micro-regulation) offer short term stability Fiscal policy is the main stabiliser
  - Contain profit volatility, long term stability
  - Government intervention against Unexpected Losses generated by major systemic financial crisis.
- Tighten coordination between Financial and Real economy
  - Discrepancy between growth of banks assets and the growth of nominal GDP brings fragility
- Introduce Diversity in regulation and supervision.

Macro effects of the wrong policies

Financial instability

- Micro vs macro stability
- Financial Instability Hypothesis

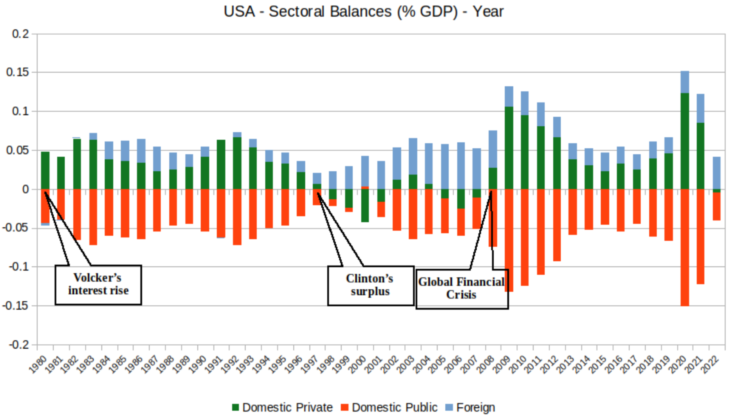
Global financial crisis (2007)

- Volcker interest rate rise (80's)
- Clinton budget surplus (1996)

Private sector distress

- Wrong price of credit.

Government Deficit - USA Sectorial Balances and the Global Financial Crisis



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References VIII

Heterodox Macroeconomics

Outline
Macro fundamentals
Money Theories and Regimes
Sovereign Government and Fiscal Policy
Modern Monetary System
Financial Stability
References

Video materials:

MMT vs. Austrian School Debate
https://www.youtube.com/watch?v=cUTLCDBONok

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Modern Money & Public Purpose 2: Governments Are Not Households
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Modern Money & Public Purpose 6: Fiscal vs. Monetary Policy
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Modern Money & Public Purpose 7: Financial Reform
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Modern Money & Public Purpose 8: Economic Rights
https://www.youtube.com/watch?v=-3uWDnLVPv8

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Lecture 2: Post-War Macroeconomics
https://www.youtube.com/watch?v=2E0u2PsjSsU

Lecture 3: Introduction to Minsky: Foundations in Early Work
https://www.youtube.com/watch?v=6xUmUVXGL0A

Lecture 4: Minsky's Development of an Alternative Approach
https://www.youtube.com/watch?v=zdvp5aEW_Z0

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Lecture 5: Heterodox approaches to Theory and Policy (Part 1)
`https://www.youtube.com/watch?v=yVW3ff5XFt0`

Lecture 5: Heterodox approaches to Theory and Policy (Part 2)
`https://www.youtube.com/watch?v=d3-w0gwkve8`

Lecture 6: Stabilizing an Unstable Economy
`https://www.youtube.com/watch?v=SFf95BVx9Qw`

Lecture 7: Towards a New Paradigm. Reconstruction of Macroeconomic Theory and Policy
`https://www.youtube.com/watch?v=KoBnwfokW5Q`