Principles of Money, Banking and Finance
What is money? Forms of money , money creation and historical evolution of money

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Learning objectives

- Understand the properties of money
- Describe the various forms of money
- Understand how is money created in modern economies
- Understand the historical evolution of money forms

Useful glossary on banking and monetary policy.

Session outline

- Financial assets versus real assets
- Properties of money
- Money as an IOU
- Brief overview on the historical evolution of money

Section 1: Forms of money and money creation

Properties of Money

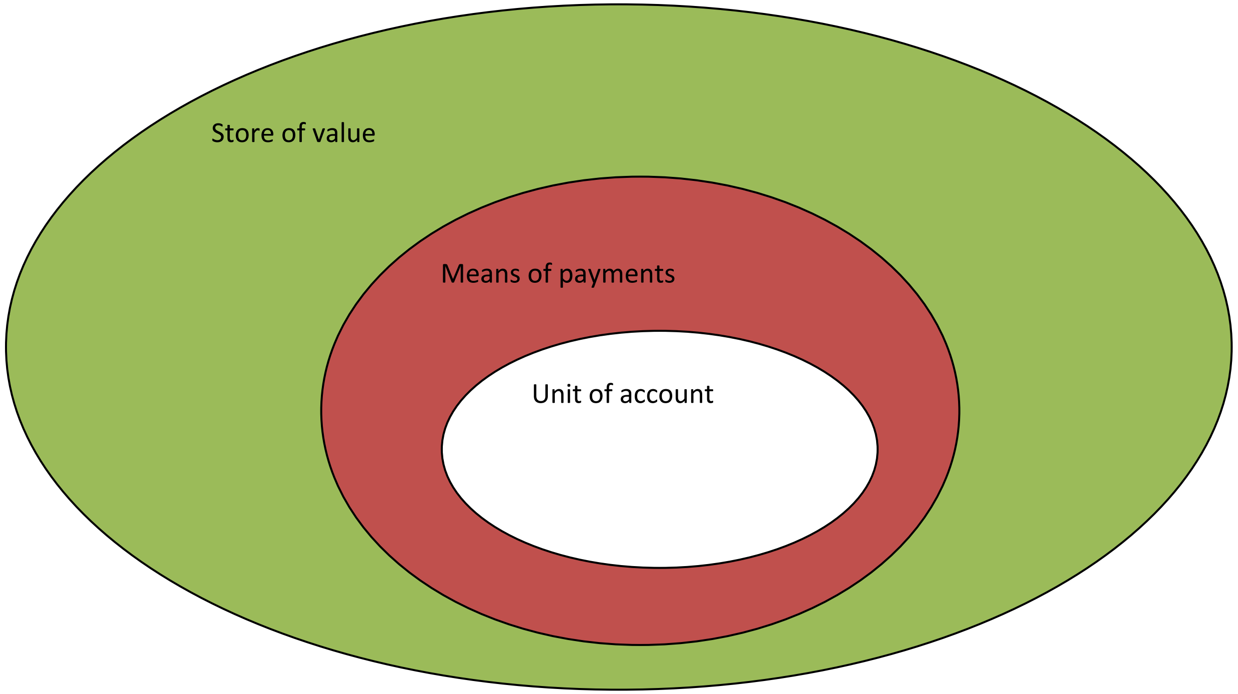
- In everyday language the term “money” is often used as a synonym of total wealth. For example, we say that someone has a lot of money, meaning they have a lot of wealth.
- In modern economic theory money is considered a subset of all assets that one can possess.
- The determination of money holdings falls within the portfolio selection framework. The main advantage of holding money (cash or bank deposits) is **liquidity** and **safety**.
- The concept of liquidity is based on the fact that bank notes and bank accounts can be used at any time to process scheduled or emergency transactions, and therefore provide a form of insurance/hedge against uncertainty. There is zero volatility with respect to the nominal value of a bank deposit (at least for the part covered by a deposit guarantee scheme).
- Economic theory defines money as an asset that can serve at the same time as:

  -unit of account to determine prices (measure & compare value)

  -generally accepted means of payment (facilitates trade & commerce)

  -means of storing purchasing power or wealth (extremely liquid, but subject to inflation risk)

Functions of Money



- To fulfill its various functions, money must have certain properties like durability (able to withstand repeated use), divisibility (divisible to small unit), portability (easily carried and transported)

Real and Financial Assets

- To understand the concept of money, it is useful to define first the concept of an asset. The total assets in the economy are divided into two main categories: **financial assets** and **real assets**.

Financial Assets

- Banknotes
-Bank deposits
-Bonds and stocks

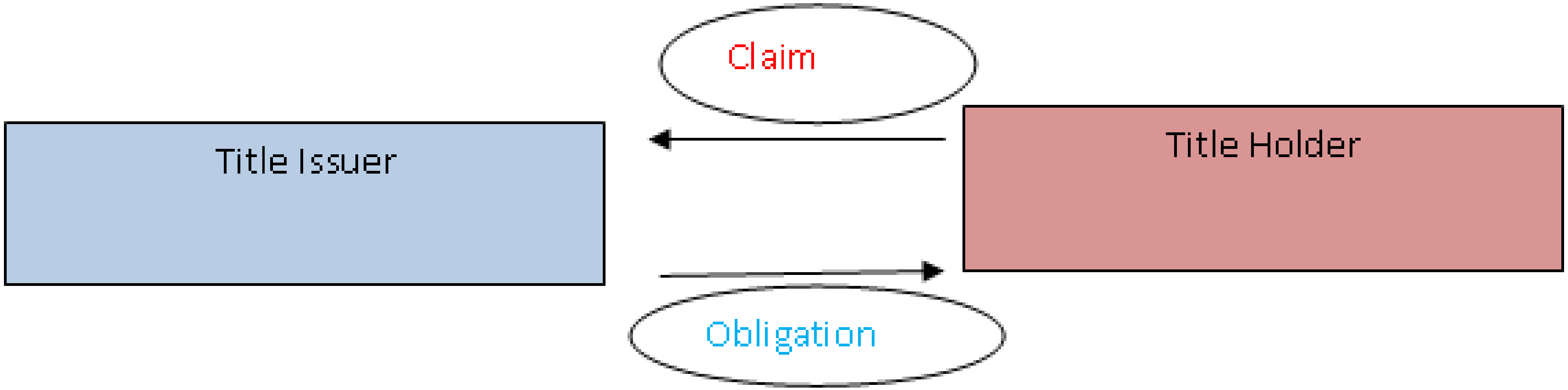
Real Assets

-Real estate
- Machinery
-Commodities

Real and Financial Assets

- Financial assets are securities that incorporate claims against other financial or other real assets. All financial assets have an issuer and a holder. On the issuer's side, the financial asset is a liability and from the perspective of the holder the financial asset is a claim.
- By definition, in a closed economy, the stock of financial assets is equal to the stock of liabilities. It should be emphasized here that the existence of financial assets always implies the existence of real assets while, on the contrary, real assets can exist without financial assets.

Real and Financial Assets



Debt and Equity

- Financial assets are divided into two main categories, depending on the rights they incorporate. The first category is the proof of debt and the second category is the proof of ownership.
- In debt securities, the issuer borrows money from the creditors, with the obligation to repay it along with interest on the basis of periodic payments that last for a specified period of time. Examples of debt securities are government or corporate bonds and treasury bills. Debt securities can be short-term (e.g., bills) or long-term (e.g., bonds).
- A stock share is a financial asset that incorporates ownership rights. In modern capital markets, stock issuers are public limited liability companies and shareholders are the different categories of investors. Unlike creditors, shareholders participate in both profits and losses of the company and have administrative rights.
- Shares are long-term claims against residual cash-flows, such as dividends, and do not have a fixed life. Residual cash-flows are the remaining funds after the repayment of debt securities and other liabilities, and therefore shareholders are always at greater risk of losing their funds than creditors. There are also hybrid financial assets, such as convertible bonds, which incorporate both ownership rights and credit claims.

Balance Sheet

- Assets can be either real goods or financial assets, while liabilities are always financial securities and indicate the sources of financing (equity and debt).

Assets = Liabilities + Equity

Equity = Assets - Liabilities

Economic Unit	
Assets	**Liabilities**
Financial Assets Real Assets	Financial securities

Debt

Equity

Forms of Money

- In **commodity money** a real asset is used as a means of payment. Goods such as salt, or various agricultural products have been used as means of payment. The most common form of commodity money was precious metal coins, such as gold and silver. Commodity money is also referred to as money-good because it incorporates value in itself. That is, the value of money as a means of payment coincides with its commodity value.
- The second category of money consists of **representative money , credit money and fiat money**. Representative money is in the form of a financial asset, but can be converted at any time to a specific amount of real assets (e.g., gold coins). Credit money is a form of money that does not incorporate an explicit claim against real assets.
- **Modern fiat money** is a financial asset that is imposed de jure as the legal means of payment by the State and it is issued by the central bank (banknotes) and commercial banks (deposits).

Representative Money

- The precursor of modern banking is the deposit of coins and the issuance of proof of debt that began in the 16th century in Western Europe. The risk of currency loss due to theft or shipwreck, as well as the general difficulty of transporting them by land or sea, made it difficult to trade between remote areas. To avoid transferring the coins, their owners deposited them in goldsmiths and received paper certificates certifying the deposit.
- These securities were a proof of deposit of the coins and enabled the bearer to present himself to the issuer of the title and to receive the value indicated in coins.

Goldsmiths's balance sheert

Assets	**Liabilities**
Gold/silver coins	Deposit certificates

Credit Money

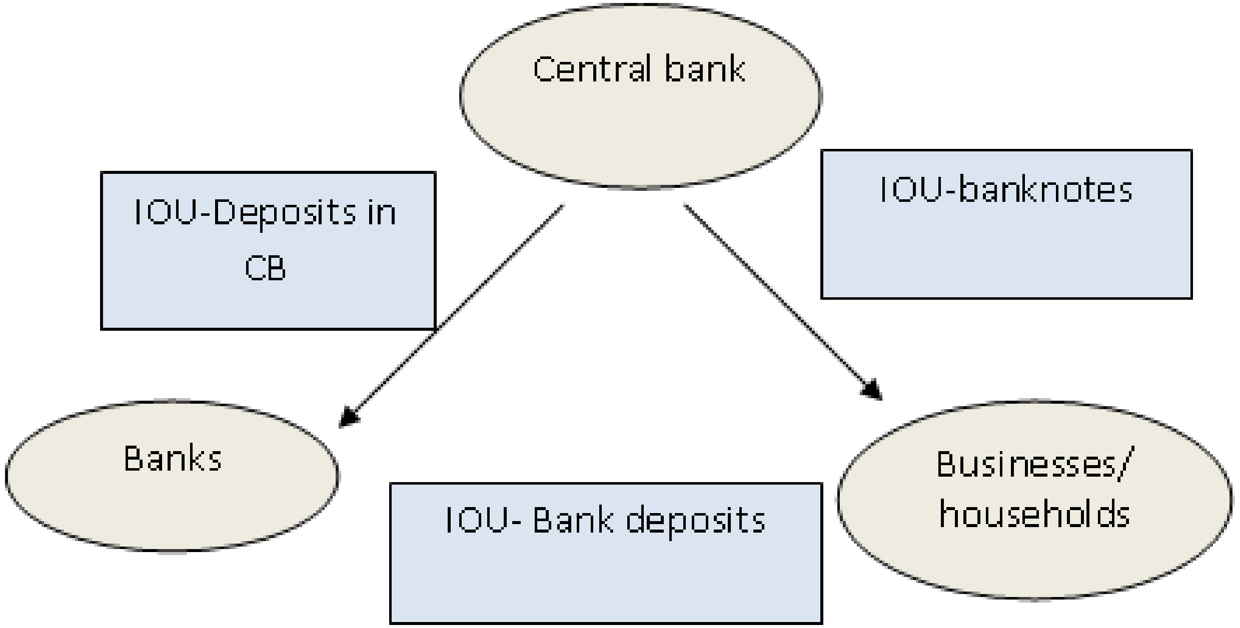
- As the coins stored in their treasuries rarely became immediately demandable, goldsmiths began to lend part of those coins. The borrower was provided with a deposit receipt which he could use to conduct transactions, and the goldsmiths recorded the loan as an asset-side claim. A prerequisite, conditio sine qua non, for the smooth operation of such a system, where money is a financial asset implicitly backed by loan claims, is the existence of "credit", that is, the belief that the loans will be repaid as expected. After all, the word "credit" comes from the Latin word "credo", which means "believe".

Goldsmiths's balance sheet after the loan provision

Assets	Liabilities
Gold/silver coins + Loan (100)	Deposit Receipts + Deposit Receipt (100)

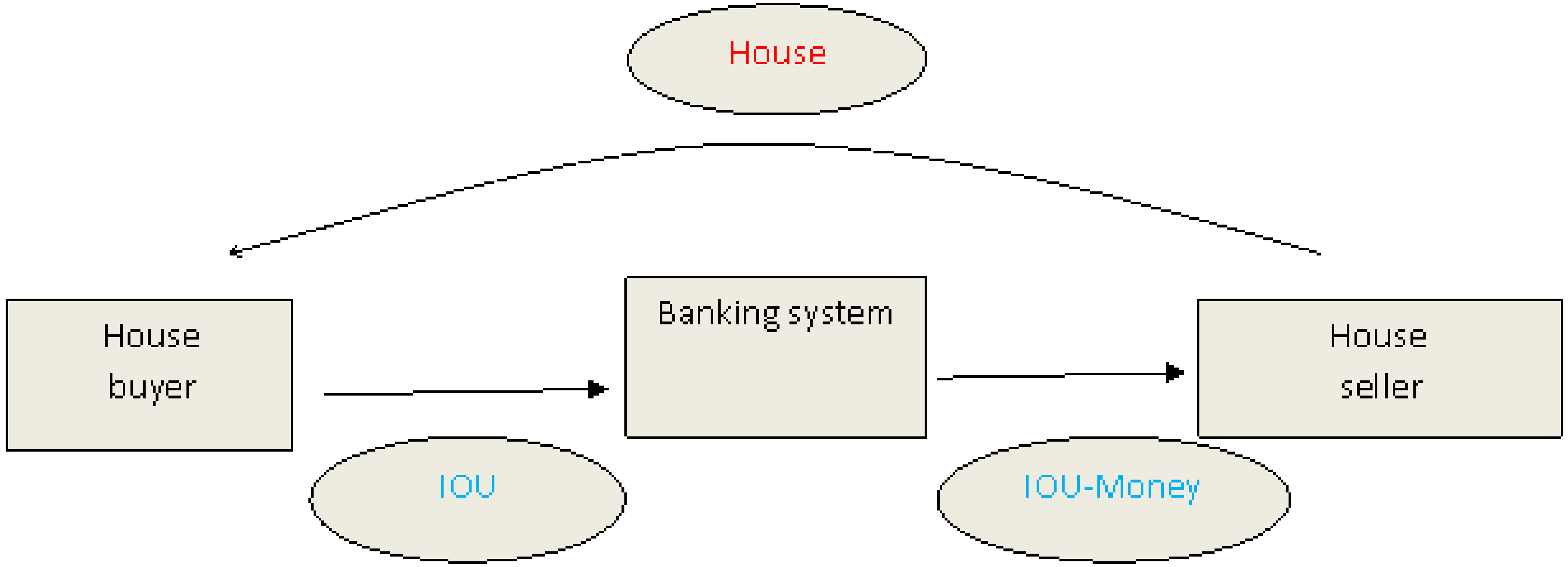
Modern Money is an IOU

- Modern money is a form of debt/IOU and is recorded as a liability/asset on the balance sheets of the private sector and the central bank. Banknotes and reserves (commercial banks' deposits with the CB) are IOUs/obligations of the central bank to the private sector. Deposits are an IOU/obligation of banks to households and businesses. Most of the modern money is in the form of bank deposits, i.e., IOUs of the banking system.



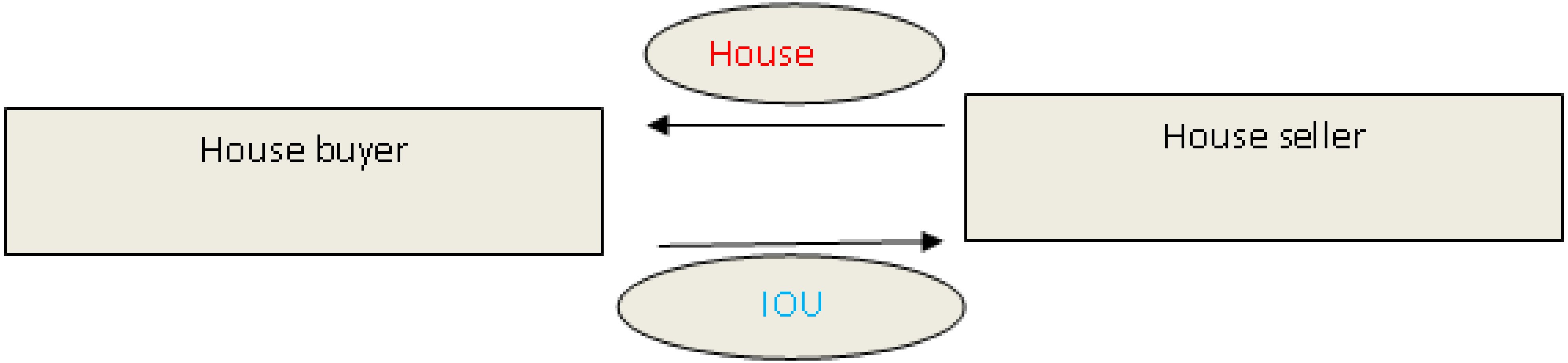
Loans Create Deposits

- Bank deposits are endogenously created through the banking system each time a bank provides a new loan. A borrower who takes out a mortgage creates an IOU / obligation to the bank. The bank credits the borrower's account with an amount (IOU-money), which is equal to the value of the loan, and then the borrower buys the home. When the purchase of the property is completed, the buyer's account is debited and the seller's account is credited, respectively. The bank's IOU functions as money because it is generally accepted as a means of payment. It is lending that creates the deposits, not the other way around.



Privately issued IOUs

- Without the intermediation of the banking system, the buyer would have to issue an IOU of his own which the seller of the property would be willing to accept.
- «Everyone can create money, the problem is to get it accepted». (Minsky 1986)



Bank A provides a new loan. The house seller holds a bank account with Bank B

Bank provides a new loan

Bank A	
Assets	Liabilities
Reserves Loans +100 Government bonds	Deposits +100 Bonds Equity

Bank A	
Assets	Liabilities
Reserves -100 Loans Government bonds	Deposits-100 Bonds Equity

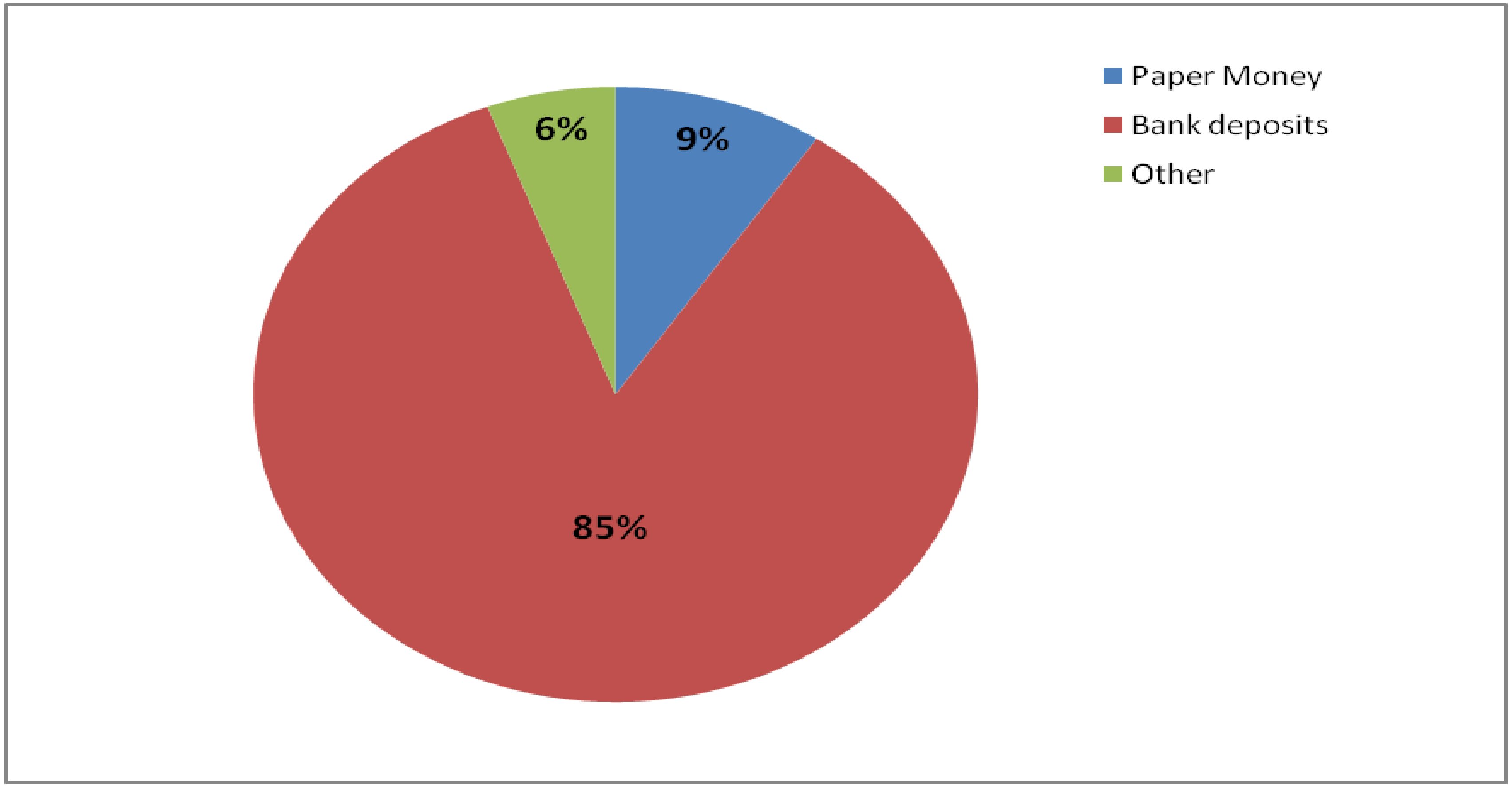
Bank B	
Assets	Liabilities
Reserves +100 Loans Government bonds	Deposits +100 Bonds Equity

Central Bank	
Assets	Liabilities
Government bonds Other assets	Banknotes Bank A reserves -100 Bank B reserves +100 Government account Equity

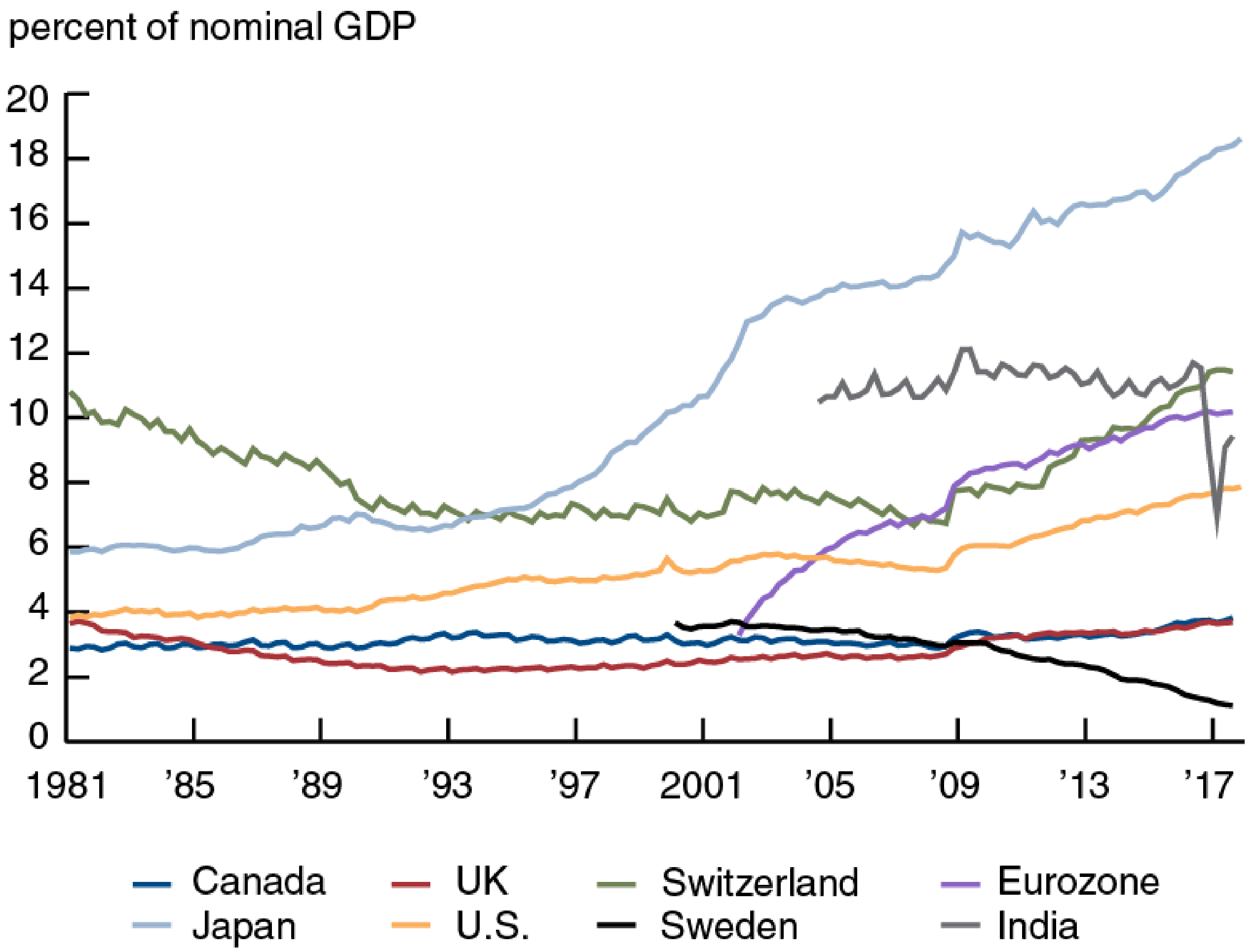
Measuring Money -Eurozone data

Definitions of euro area monetary aggregates			
Liabilities[1]	**M1**	**M2**	**M3**
Currency in circulation	X	X	X
Overnight deposits	X	X	X
Deposits with an agreed maturity of up to 2 years		X	X
Deposits redeemable at notice of up to 3 months		X	X
Repurchase agreements			X
Money market fund shares/units			X
Debt securities issued with a maturity of up to 2 years			X

Measuring Money -Eurozone data



Understanding the Demand for Currency (paper money)



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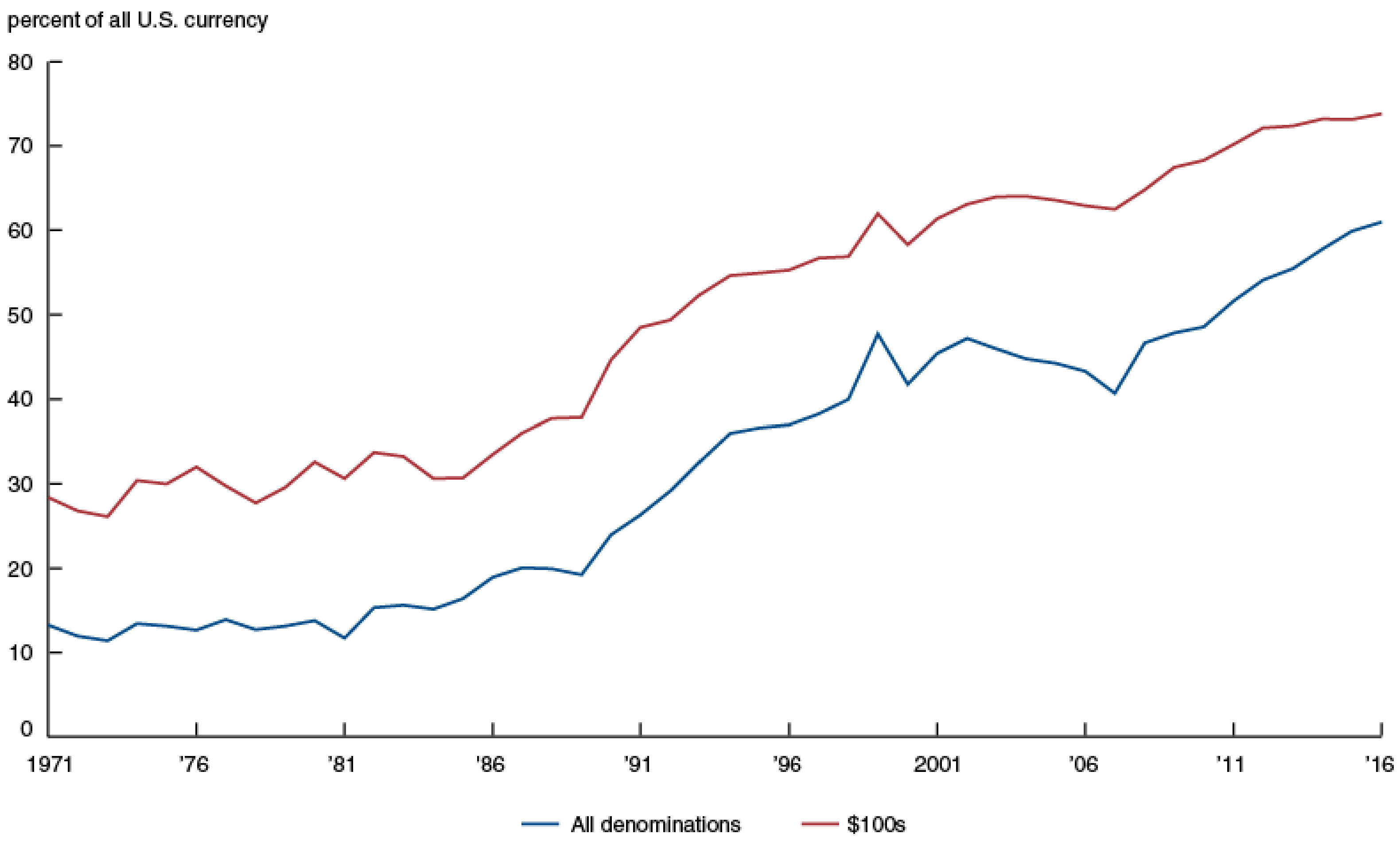
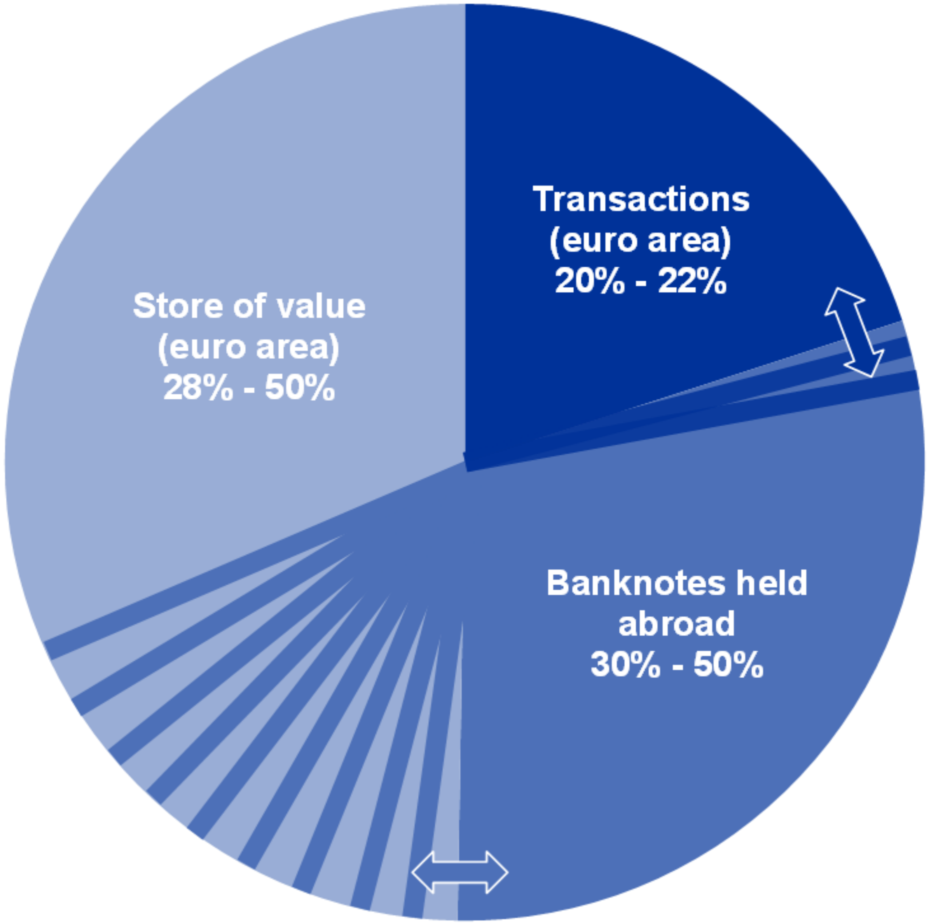


Understanding the Demand for Currency (paper money)- EURO AREA



Section 2: Short History of Money

"Money, like certain other essential elements in civilization, is a far more ancient institution than we were taught to believe some few years ago. Its origins are lost in the mists when the ice was melting, and may well stretch into the paradisiac intervals in human history of the inter-glacial periods, when the weather was delightful and the mind free to be fertile of new ideas – in the islands of the Hesperides or Atlantis or some Eden of Central Asia" (Keynes 1930).

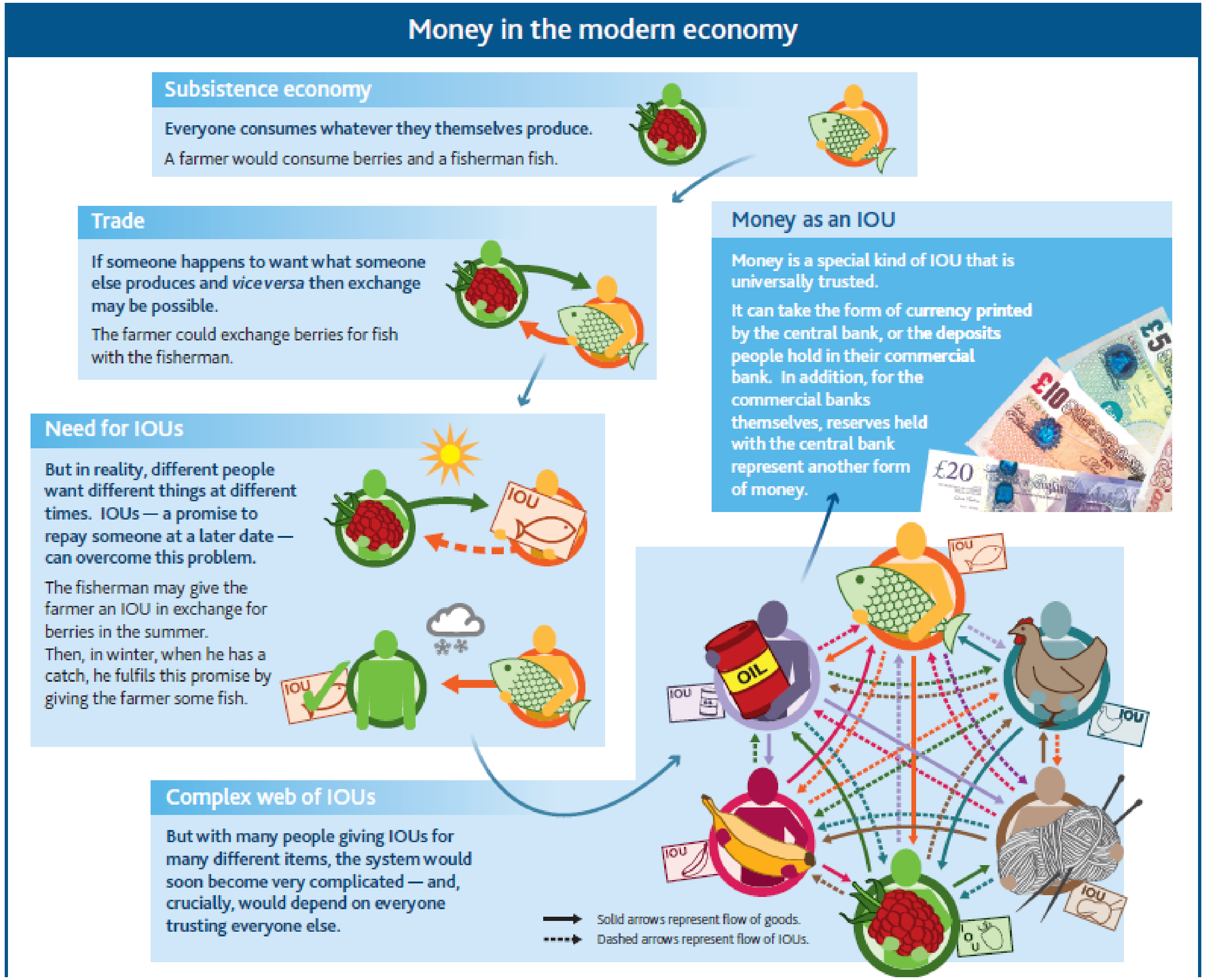
Short History of Money

- The prevailing view in economic theory is that money, in the form of commodities (e.g., currency of precious metals), was discovered to overcome the difficulties of barter (e.g., double coincidence).
- The orthodox approach to the origin and historical evolution of money claims that in primitive societies trading was by barter, gradually the various coins made of precious metals (commodity-money) started to emerge and in its final stage of historical evolution money took the form of credit money (money as a financial asset).
- Although this approach is commonly cited in almost all economic theory textbooks as an almost self-evident historical event, it contradicts much evidence from the field of sociology and anthropology.
- No example of a barter economy, pure and simple, has ever been described, let alone the emergence from it of money," wrote the Cambridge anthropology professor Caroline Humphrey in a 1985 paper.
- According to archaeological findings from ancient Mesopotamia and ancient Egypt, money did not first appear in the form of a commodity, but in **the form of debt**, that is, as a financial security, engraved on clay objects.

Short History of Money

- In ancient Mesopotamia and Egypt, royal palaces and temples were used as safe storage warehouses for grain and other agricultural products. Those who stored them, received a receipt of deposit of the goods engraved on clay, which they could use to pay taxes or transfer them to third parties for processing transactions.
- In addition, transactions were made directly with the credit system and their settlement was taking place at the time of the harvest.
- Concerning the use of coins, there are studies claiming that precious metal coins were originally introduced to pay mercenaries because money in the form of IOU was extremely difficult to be accepted due to the uncertainty about the final outcome of the war.
- The modern monetary system emerged as a result of the process of integrating money/ credit of private traders with state money. This process began in the Middle Ages and was completed in the 19th century.
- Traders' private securities, such as bills of exchange used in international trade, were gradually converted from payment instruments into short-term IOUs, which could be transferred to third parties.
- The possibility of the free transfer of private securities led to their disconnection from a specific creditor-debtor relationship and that led to the emergence of the banking system and the financing of large-scale investments.

Short History of Money

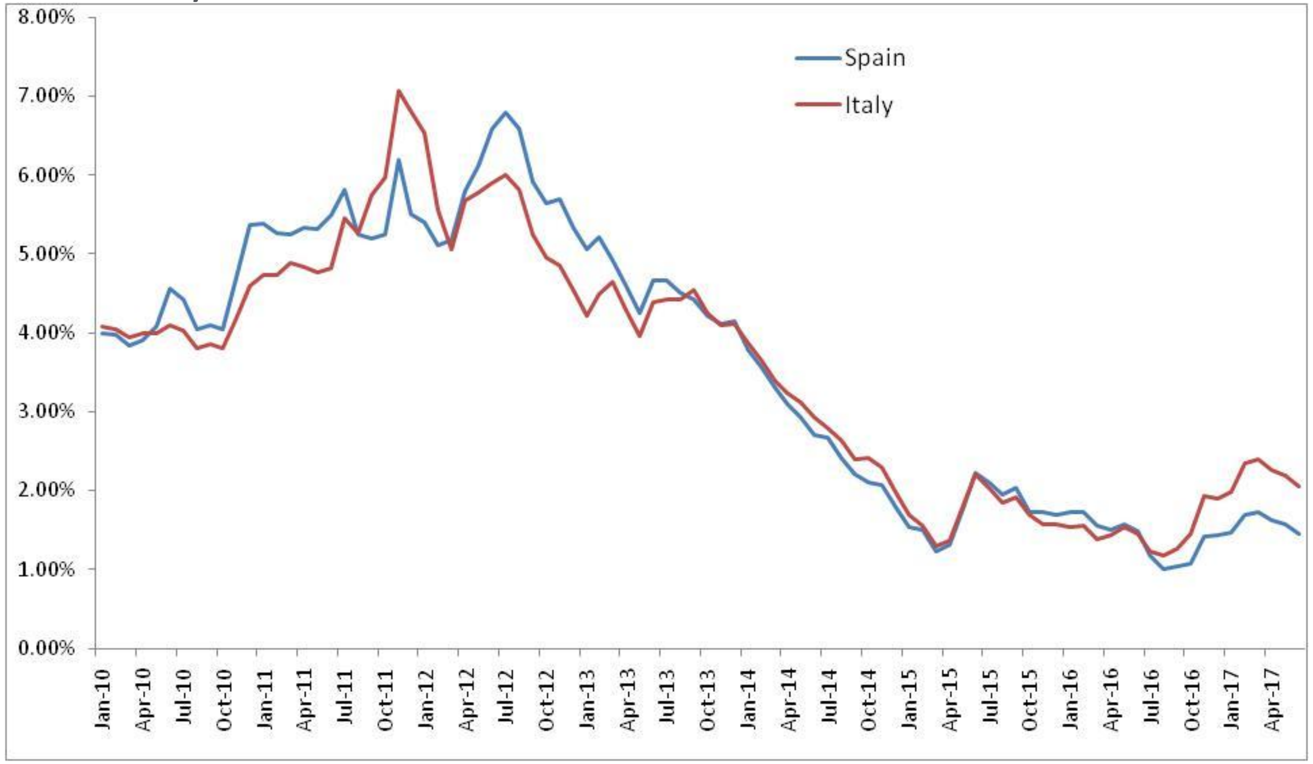


State Theories of Money (a.k.a. "Chartalism")

- Money does not emerge spontaneously from market forces and business people, but is imposed by the State. The State has the power to impose various forms of money, as an official means of payment, because of its power to levy and collect taxes. That is, the value of money is guaranteed because the State recognizes it as the only legal means of payments for paying taxes, and as the legal means of payment for the settlement of public and private debts.
- It therefore imposes it de jury as a commonly accepted means of payment. The Greek word for currency is "nomisma", which is etymologically derived from the word "nomos" (law in English).
- The one-dollar banknote reads "This note is legal tender for all debts, public and private."
- Of course, the de jury enforcement does not always ensure the de facto acceptance of money.
- There are historical examples (e.g., periods of hyperinflation) where citizens lost confidence in official legal money and used as means of payment and store of value foreign currencies or real goods (e.g., gold).

State Theories of Money (a.k.a. “Chartalism”)

- In 2012 Eurozone was on the brink of collapse. Bond yields in Spain and Italy had reached historical highs. In a July 2012 speech, ECB Governor Mario Draghi said he would do "whatever it takes" to preserve monetary union stability. The market interpreted the Governor's statement as a guarantee that the ECB would act as a lender of last resort and buy, as the euro issuer, any amount of government bonds deemed necessary.



Modern Money

- Modern money, in the form of a financial asset, is an important innovation in economic history, which presupposes the existence of a specific legal, social and institutional framework as money incorporates legally established relationships between debtors and creditors.

  The ECB's website states that:

  Modern economies, including the euro area, are based on fiat money. This is money that is declared legal tender and issued by a central bank but, unlike representative money, cannot be converted into, for example, a fixed weight of gold. It has no intrinsic value – the paper used for banknotes is in principle worthless – yet is still accepted in exchange for goods and services because people trust the central bank to keep the value of money stable over time. If central banks were to fail in this endeavour, fiat money would lose its general acceptability as a medium of exchange and its attractiveness as a store of value.”

History of the Modern International Monetary System

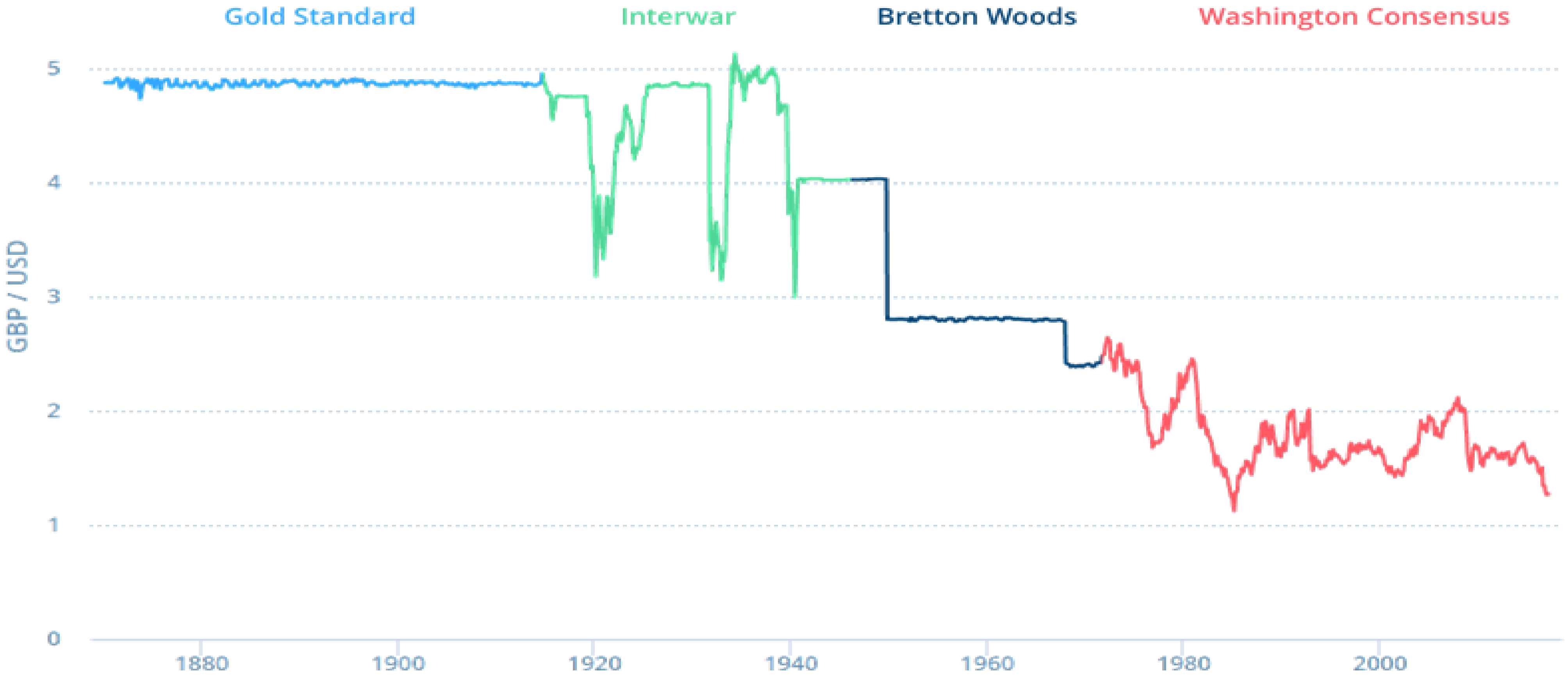


Figure: Exchange rate, dollars per one pound

Conclusions

Conclusions

- Money is an asset with certain functions and properties
- Modern money is a form of an IOU
- Money is created through the provision of credit
- Money first emerged in the form of debt

Further reading

Further reading

- Dotsis G., IOU, Money, Banking and Cryptocurrencies, lecture notes.
- Ryan-Collins et al. (2011): Where Does Money Come From?, Chapters 1and 2
- McLeay, M., Radia, A., Ryland, T. (2014α), “Money in the Modern Economy: An Introduction”, Bank of England Quarterly Bulletin 54 (1) 4-13.

Further reading (optional)

- Goodhart, C.A.E. (1998), "The Two Concepts of Money: Implications for the Analysis of Optimal Currency Areas", European Journal of Political Economy 14 (3) 407-432
- Graeber, D. (2011), *Debt: The First 5000 Years*, New York: Melville House Publishers.
- Wray, L.R. (2012), Introduction to an Alternative History of Money, Working paper No.717, Levy Economics Institute.

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