Ch 26. Savings, Investment, And the Financial System

Macroeconomics for Students of Accounting, Finance and Digital Applications

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Financial Institutions

The Financial System

financial system the group of institutions in the economy that help to match one person's saving with another person's investment (to move resources from savers to borrowers)

🌎 the two major groups of financial institutions are the **financial markets** and the **financial intermediaries**

⚖ the financial markets are very specific markets which can not be directly accessed by the consumers; they are, essentially, **markets for promises**, requiring sophisticated legislation, supervision and ethical behavior in order to function properly

The Financial Markets

financial markets financial institutions through which savers can directly provide funds to borrowers

the two most important financial markets in the economy are the **bond market** and the **stock market**

both of these markets are, essentially, **markets for promises** that break down if there is no trust between buyers and sellers

The Bond Market

bond a certificate of indebtedness that specifies the obligations of the borrower to the buyer of the bond; a formalized promise that can be traded in bond markets

Tesla, the maker of electric cars, sells bonds in order to get funds to build a new factory in Europe

the bond buyer is a lender (saver) who lends money (principal) to the bond seller (borrower) and expects the get the principal back (plus some interest) by the term date; if the bond buyer does not want to wait until the term date he or she can sell the bond to someone else and get (some!) money immediately

Bond Characteristics

There is enormous variety of bonds that are traded on the bond markets but they all share four major characteristics:

1. **Term to maturity** – the length of time until the final payment has to be made;
2. **Credit risk** – the probability that the borrower will default (fail to pay some of interest or the principal);
3. **Tax treatment** – the way the tax laws treat the interest earned on the bond;
4. **Inflation protection** – whether the future payments of interest and principal are specified in nominal terms or are indexed to a measure of inflation (a sustained increase in the general price level) so that when prices rise, the payments rise proportionately

The Stock Market

stock a claim to ownership in a firm and, therefore, to some of the profits that the firm would make in the future; a formalized promise that can be traded in stock markets

🌎 Tesla, the maker of electric cars, sells shares in order to get funds to build a new factory in Europe

⚖ stocks and bonds are very different, the owner of shares of stock is a part owner of the company, while the owner of a bond is a creditor of the company; compared to bonds, stocks carry greater risk but offer almost unlimited returns

Financial Intermediaries

financial intermediaries financial institutions through which savers can indirectly provide funds to borrowers

two key groups of financial intermediaries are the banks and the mutual funds

the financial intermediaries are supposed to specialize in resolving the asymmetric information problems that plague the financial markets and to lower transaction costs for small savers and borrowers, but they are also susceptible to moral hazard and adverse selection

The Banking System

bank a financial institution which takes in deposits from people who want to save and uses these deposits to make loans to people who want to borrow as well as facilitate exchange in the economy

🌎 the owner of a small auto repair shop who wants to expand his business gets a loan from a bank and uses the funds to buy and equip a bigger shop

⚖ because banks are the major providers of liquidity in the economy they are in a very privileged position in the modern financial system and often get bailed out if their role as intermediaries results in them taking too much risks and incurring too many losses

The Mutual Funds Industry

mutual fund an institution that sells shares to the public and uses the proceeds to buy a portfolio of stocks, bonds, or both stocks and bonds.

Peter, a middle-aged high-school teacher, buy a $500 share in his favorite mutual fund every month, the fund uses the proceeds from many people like Peter to identify hundreds of undervalued companies across the globe and buy stocks issued by them

while economists agree that the cheap diversification is a valid argument for investing in mutual funds, they are rather skeptical about the ability of actively managed mutual funds to profit by identifying and trading undervalued securities

Saving and Investment in the National Income Accounts

Some Important Identities for a Closed Economy

$$\begin{aligned} Y &= C + I + G \\ I &= Y - C - G \\ I &= S \end{aligned}$$

Y - gross domestic product/national **income**

C - **consumption** spending

I - **investment** spending

G - **government** purchases

S - national **saving**, the total **income** in the economy that remains after paying for **consumption** and **government** purchases

The Identities Rearranged

$$\begin{aligned} S &= Y - C - G \\ S &= (Y - T - C) + (T - G) \\ S &= S_{pr} + S_p \end{aligned}$$

T - the amount that the government collects from households in **taxes** minus the amount it pays back to households in the form of transfer payments (e.g. Social Security and welfare)

S_{pr} - **private saving**, the income that households have left after paying taxes, getting transfer payments and paying for consumption

S_p - **public saving**, the amount of tax revenue that the government has left after paying for its spending

The Budget Balance

budget surplus an excess of tax revenue over government spending

in Q3 2021 the Bulgarian government had a surplus of 647.3 mln euro, amounting to 3% of Bulgaria's GDP for the quarter

a budget surplus is a rare bird, politicians always find it much easier to borrow in order to increase spending rather than to to raise taxes or cut spending in order to repay debt

The Budget Balance

budget deficit a shortfall of tax revenue from government spending

🌎 in Q4 2021 the Bulgarian government had a deficit of 3,306.4 mln euro, amounting to 19.2% of Bulgaria's GDP for the quarter

⚖ for many years the Bulgarian government had the habit of accumulating surpluses during the first three quarters of the year and spending the accumulated funds at the end of the year

The Meaning of Saving and Investment

saving the part of the income that has not been spent

Peter earns more than he spends and deposits his unspent income in a bank or uses it to buy some stocks or a bond from a corporation

according to the macroeconomists who put together the national income accounts, Larry's "investment" is actually "saving", because no physical capital is added to the economy in order to increase the economy's capacity to produce; alternatively, saving can be called "financial investment"

The Meaning of Saving and Investment!

investment the purchase of new capital, such as equipment or buildings; addition to the capital stock of the economy that enhances the economy's ability to provide goods and services

Peter borrows from a bank in order to buy a new house

houses, despite being bought by consumers, are considered investment in macroeconomics because they are fixed structures that provide services to the population for many years

The Meaning of Investment and Speculation!

the failure properly to distinguish between investment and speculation was in large measure responsible for the market excesses of 1928–1929 and the calamities that ensued—as well as, we think, for much continuing confusion in the ideas and policies of would-be investors

Benjamin Graham (1934)

You must never delude yourself into thinking that you're investing when you're speculating.

Benjamin Graham (1949)

The Market for Loanable Funds

The Market for Loanable Funds

market for loanable funds the market in which those who want to save supply funds and those who want to borrow to invest demand funds

Maria is an IT specialist who supplies 10,000 BGN to the market for loanable funds, Ivan is an owner of an IT firm who borrows 10,000 in order to buy new computers

the assumption of a single market for loanable funds where all savers and borrowers interact is gross oversimplification but useful for educational purposes

The Price of Borrowing

nominal interest rate	the monetary return to saving and the monetary cost of borrowing
🌎	if you deposit 100,000 BGN in a bank and the interest rate is 5% per year you will have 5% more money after one year (105,000 BGN)
⚖	having 5% more BGN does not mean that you would be able to buy 5% more goods and services in an year

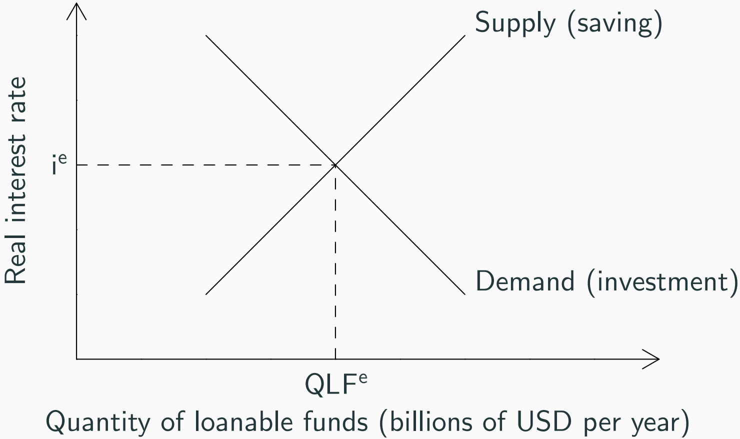
The Real Price of Borrowing

real interest rate the real return to saving and the real cost of borrowing

🌎 if you deposit 100,000 BGN in a bank, the interest rate is 5% per year, and the inflation rate is 15% per year, you will have 5% more money after one year (105,000 BGN) but your purchasing power would have decreased by about 10%!

⚖ rational people should consider the real interest rate when they make decisions relating to saving and borrowing but this requires forming of expectations about inflation

The Market for Loanable Funds



Determinants of the Demand for Loanable Funds

The (real) interest rate affects the quantity of loanable funds demanded (movement along the demand curve).

Any other factor that affects the willingness and ability of firms (and households) to invest would result in a shift of the demand curve for loanable funds. For example,

- expected profitability of investments (e.g. the railway system building in the United States, Bulgaria's accession to the European Union);
- government policies (e.g. investment income tax credit, subsidies)

Determinants of the Supply for Loanable Funds

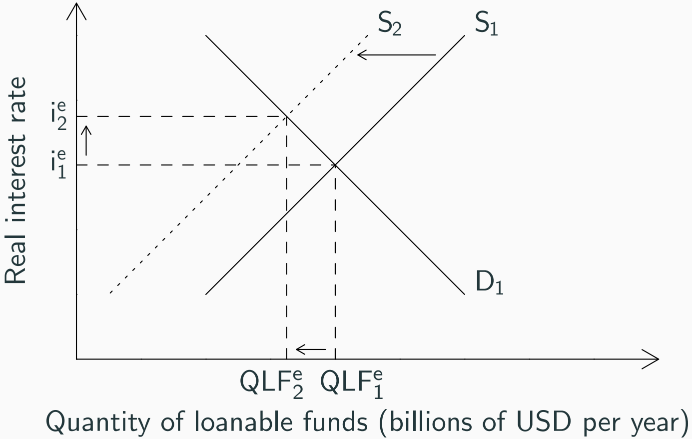
The (real) interest rate affects the quantity of loanable funds supplied (movement along the supply curve).

Any other factor that affects the willingness and ability of firms (and households) to save would result in a shift of the supply curve for loanable funds. For example,

- cultural and institutional changes (e.g. South Korea versus USA, financial system development)
- government deficits or surpluses (through the effect on public savings)
- government social and tax policies (indirect taxes tend to discourage consumption, generous social safety net tends to discourage personal saving)
- the monetary policy of the central bank (how likely is it to monetize the government debt?)

Case Studies

The Effect of the Budget Deficit on Interest Rates



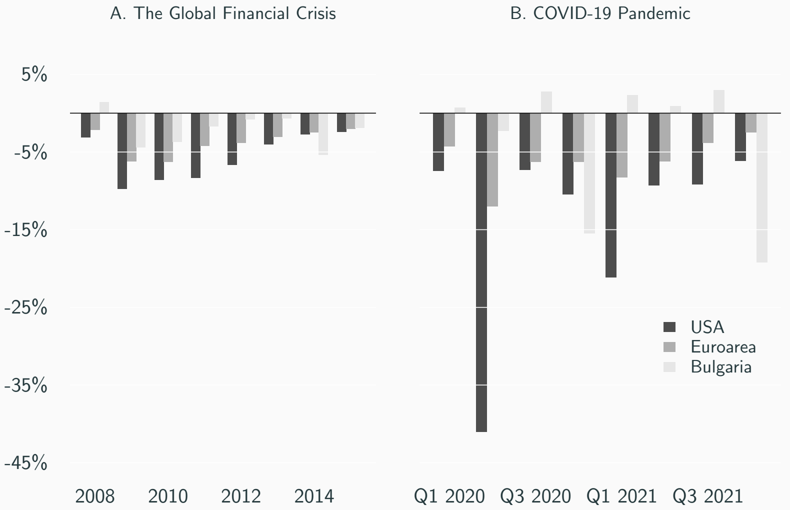
Crowding Out

crowding out a decrease in investment that results from government borrowing

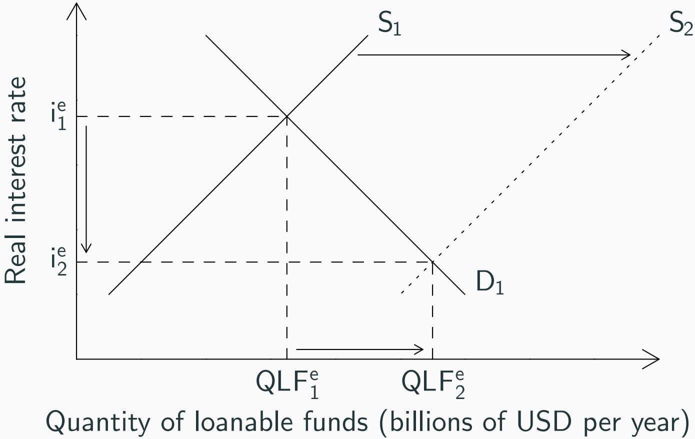
🌎 crowding out is rarely seen nowadays since the central banks tend to monetize the deficit but with the monetary tightening that started in the beginning of 2022 we may be seeing more and more of it

⚖ crowding out can, in theory, be avoided if the new debt is "monetized", but this carries the risk of accelerating inflation

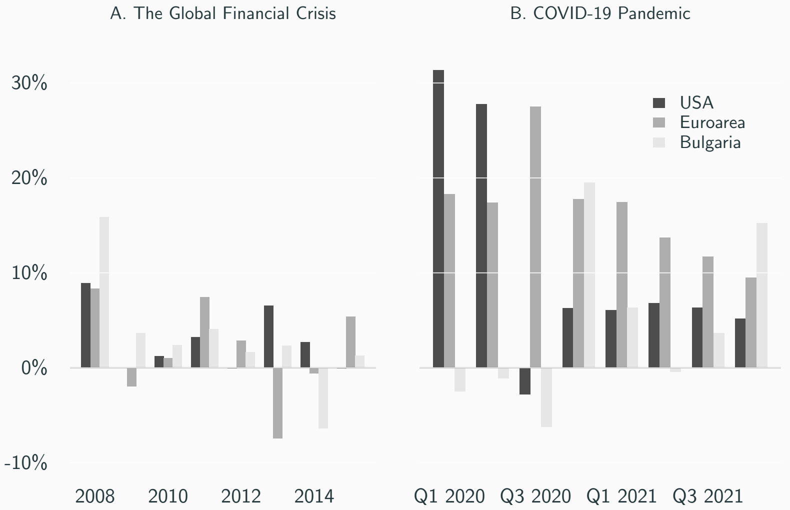
Government Budget Balance During Two Major Crises



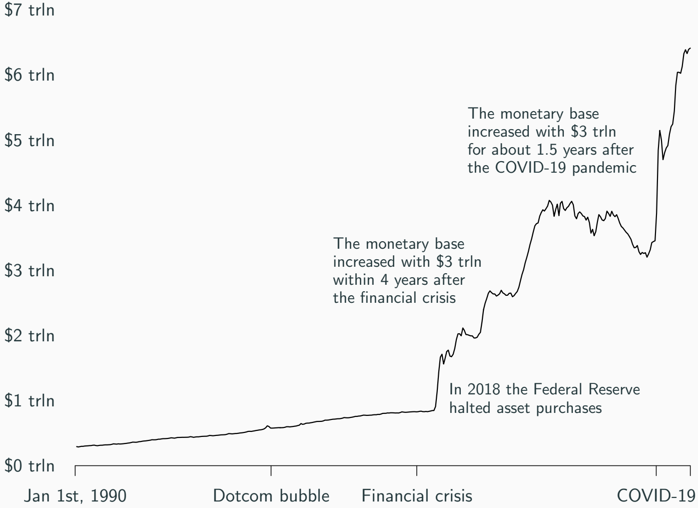
The Effect of Debt Monetisation on Interest Rates



Monetary Expansion During the Two Crises



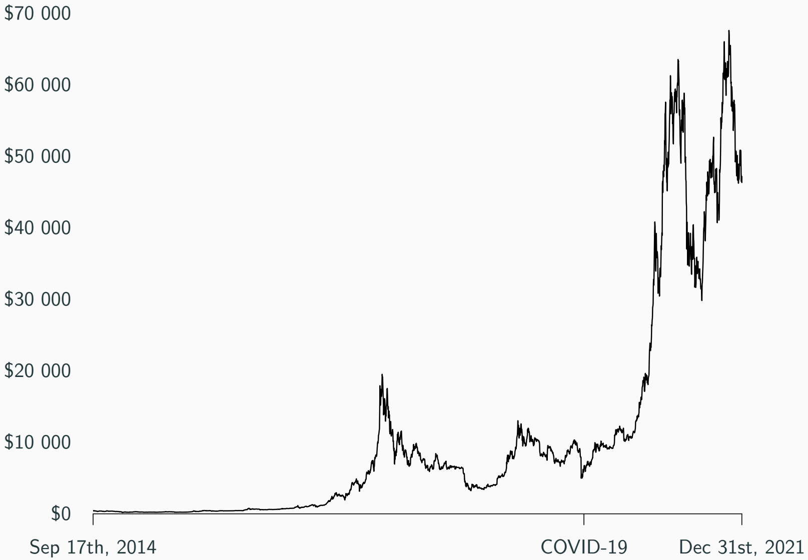
Monetary Base Increases in USA



Walter Bagehot on Speculation In Search of Higher Return

> *John Bull... can stand a great deal, but he cannot stand two per cent... People won't take 2 per cent; they won't bear a loss of income. Instead of that dreadful event, they invest their careful savings in something impossible — a canal to Kamchatka, a railway to Watchet, a plan for animating the Dead Sea, a corporation for shipping skates to the Torrid Zone.*
>
> Walter Bagehot(1852)

Bitcoin Price (USD)



Keynes and Lenin on Inflation

Lenin is said to have declared that the best way to destroy the capitalist system was to debauch the currency. By a continuing process of inflation, governments can confiscate, secretly and unobserved, an important part of the wealth of their citizens. By this method they not only confiscate, but they confiscate arbitrarily; and, while the process impoverishes many, it actually enriches some.

John Maynard Keynes (1919)

Sam Bankman-Fried & Caroline Ellison

The Meaning of Saving and Investment!

The sight of this arbitrary rearrangement of riches strikes not only at security, but at confidence in the equity of the existing distribution of wealth. Those to whom the system brings windfalls, beyond their deserts and even beyond their expectations or desires, become "profiteers," who are the object of the hatred of the bourgeoisie, whom the inflationism has impoverished, not less than of the proletariat.

John Maynard Keynes (1919)

The Meaning of Saving and Investment!

As the inflation proceeds and the real value of the currency fluctuates wildly from month to month, all permanent relations between debtors and creditors, which form the ultimate foundation of capitalism, become so utterly disordered as to be almost meaningless; and the process of wealth-getting degenerates into a gamble and a lottery.

John Maynard Keynes (1919)

Key Takeaways

By now YOU should have:

- learned the importance of the financial system for accumulation of capital (produced factors of production) and hence long-term economic growth and development;
- understood how the return on YOUR savings or the cost of YOUR borrowing is determined in the market for loanable funds through a complex interaction of individual behavior and government policies;
- realized that some of YOUR savings might have been invested in financial assets that produce a negative real rate of return, causing the purchasing power of YOUR savings to diminish over time

Thank you!