DEG
DEPARTAMENTO
DE ENGENHARIA E GESTÃO
TÉCNICO LISBOA

Introdução à Economia/Introductory Economics

Exercícios

2021/2022, P2

4. Bancos, dinheiro e mercado de crédito; crises financeiras e globalização/Banks, money and the credit market; financial crises and globalization

4.1 Classify the following sentences as True or False. Justify.

a. Wealth does not depend on material possessions, it only depends on the difference between the gross income and depreciation.

False – Wealth is the value of the stock of things owned (assets – debts owned + debts owed to you). The net income depends only on the difference between the gross income and depreciation.

b. The depreciation of an asset is not time dependent.

False – Depreciation is the reduction in the value of a stock of wealth over time.

c. The net income is the maximum number of resources that one can consume without using its wealth.

True – Net income = gross income (it does not depend on wealth) – depreciation.

d. In Economics, investment means saving in financial assets such as stocks and bonds.

False – Although in everyday language this is sometimes referred to as investment, in Economics investment means expenditure on capital goods such as machinery, equipment, and housing.

4.2 Julia intends to buy a new house. She does not have all the necessary money today, but she will have in 5 years' time. The real estate market is unstable, so she does not know whether to buy the house today or in 5 years' time.

a. Describe this trade-off.

This trade-off is based on the opportunity cost, which is the cost of consuming now and not later (or the contrary). The opportunity cost of having more goods now is having less goods in the future. There is not a correct answer to this trade-off, it always depends on several factors such as the interest rate.

b. How can Julia buy the house today?

Borrowing money, which allows her to buy the house at the present, at the cost of having less available money at the future. There is a cost to this action, given by (1+r), where r is the interest rate.

c. If Julia only wants to buy the house in the future, how can she capitalize her money?

If Julia decides to move her consumption to the future, she can either lend money or invest. These actions can help her to get more money in the future because of the interest rates effect.

4.3 Classify the following sentences as True or False. Justify. (Adapted from CORE, The Economy)

a. Liquidity transformation occurs when the banks transform illiquid deposits into liquid loans.

False - Liquidity transformation occurs when the banks transform liquid deposits into illiquid loans.

b. Base money is broad money minus bank money.

True - Broad money is base money created by the central bank plus bank money created by commercial banks.

c. Money is the cash (coins and notes) used as the medium of exchange to purchase goods and services.

False - Money is a medium of exchange used to purchase goods and services, but it can also take the form of cheques and credits, as well as coins and notes.

d. Bank money is the total money in the savers' deposit accounts at the bank.

False - Bank money is the money created by commercial banks when they extend credit to firms and households.

4.4 What is commodity money? What is fiat money? Which kind do we use? (Adapted from Mankiw, Principles of Economics)

Commodity money, such as gold, is money that has intrinsic value: it would be valued even if it was not used as money. Fiat money, such as euro banknotes and coins, is money without intrinsic value: its value is not determined by the material with which it is made. Thus, we use fiat money.

4.5 Throughout history, several banking crises have affected the world. Describe situations that may origin a banking crisis.

Bank runs: situation when all depositors demand their money at once. It may result in bank failure, since banks do not have enough money to cover all the deposits at the same time.

Bad investments: Banks need enough money to cover their net transactions. If they grant several loans that are not repaid, they may run out of money. When banks believe that loans are risky, they may require high interest rates in order to compensate the risk or not lend at all (credit rationing).

4.6 Classify the following sentences as True or False. Justify.

a. The supply of base money is only defined by the demand of the banks.

False – It is defined by the Central Bank.

b. The bank lending rate is defined by the commercial banks.

True – The bank lending rate is the average interest rate charged by commercial banks to firms and households.

c. The central bank's policy rate affects the level of spending in the economy, because households and firms borrow to spend.

True – Higher interest rates decrease consumption, while lower interest rates increase consumption.

d. The default risk is not taken into account in the expected return of the banks' investments.

False – When lending money, banks consider this risk through the interest rate.

4.7 Regarding the principal-agent problem, classify the following sentences as True or False. Justify. (Adapted from CORE, The Economy)

a. The principal–agent problem leads to credit rationing in the loans market.

True - This occurs because some otherwise-viable projects will not be funded owing to the principal–agent problem. In particular, those with few assets or little wealth, who cannot afford to put in equity or provide collateral, will be more likely to be credit rationed because of the principal–agent problem.

b. A principal–agent problem exists in loans due to a positive possibility of the principal not being repaid.

False - A principal–agent problem exists in loans due to the asymmetric information regarding the borrower's effort or the quality of the project.

c. One solution for the principal–agent problem in loans is for the borrower to provide equity.

True - Equity implies that the agent has more to lose if the project fails, reducing the difference in the incentives between the principal and the agent.

d. The principal–agent problem can be resolved by writing a binding contract for the borrower to exert full effort.

False - The principal–agent problem exists because one cannot write a binding contract for full effort.

4.8 Many countries have policies that limit how much interest a moneylender can charge on a loan. (Adapted from CORE, The Economy)

a. Who benefits from the laws and who loses?

Limits on the interest rate are a prevalent form of restriction. They could benefit poorer members of society (or those who suffer negative income shocks) by allowing them to borrow at lower rates, and this would allow them to smooth consumption. They would also help individuals to avoid accumulating huge amounts of debt. Banks and lenders would lose out if the restrictions were binding. The policy could result in an increase in credit exclusion.

b. What are likely to be the long-term effects of such laws?

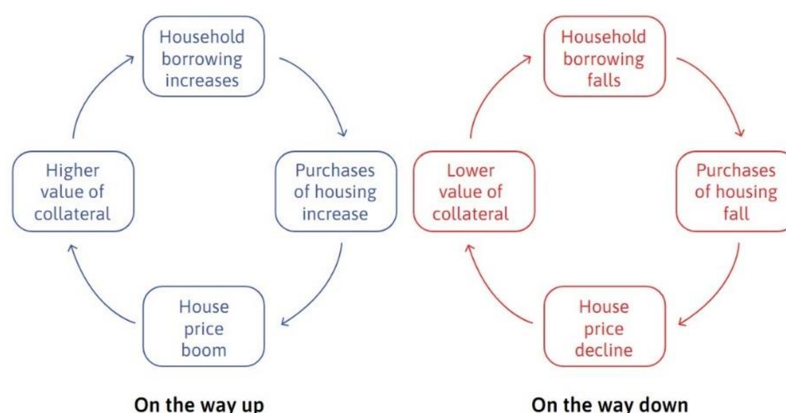
Banks and lenders (especially those who are only willing to lend under high interest rates) may be induced either to leave the industry or move elsewhere, reducing the supply of loans available. In such conditions, lenders may prioritise borrowers with high collateral and security, which could prevent low-income groups from borrowing. Such reductions could also cause reductions in investment in various industries. It may also be that more innovative, and thus risky, investments get crowded out.

4.9 Why don't banks hold 100 percent reserves? (Adapted from Mankiw, Principles of Economics)

Banks do not hold 100% reserves because it is more profitable to use the reserves to make loans, which earn interest, instead of leaving the money as reserves, which earn no interest.

4.10 The 2008 financial crisis was mostly provoked by the subprime housing crisis. (Adapted from CORE, The Economy)

a. Explain the housing boom (on both sides: price increase and price decrease).



a. When households borrow to buy a house, this is a secured or collateralized loan. As part of the mortgage agreement, the bank can take possession of the house if the borrower does not keep up repayments. Collateral plays an important role in sustaining a house price boom. When the house price goes up—driven, for example, by beliefs that a further price rise will occur—this increases the value of the household's collateral. Using this higher collateral, households can increase their borrowing, and move up the housing ladder to a better property. This, in turn, pushes up house prices further and sustains the bubble, because the banks extend more credit based on the higher collateral. Increased borrowing, made possible by the rise in the value of the collateral, is spent on goods and services as well as on housing.

However, when house prices decline (people start to believe that prices will drop, then they start selling their houses. If Q increases, P decreases), the value of collateral decreases, resulting in households borrowing less (they see their actives value decrease). Because of that, the purchase of houses falls (their net worth decreases). Simultaneously, households spend less on goods and services. Furthermore, a great part of the American households was poor, they had

difficulties paying their liabilities. Hence, with the decrease of their collateral value, they could not pay their mortgages.

b. How did it impact the financial sector?

b. Some financial instruments widely used by the banks were based on the premise that mortgages were paid. With the decrease in the house prices, households could not pay their mortgages, resulting in less money for banks and financial investors. The banks had a significant part of their actives in financial instruments based on mortgages, that saw their value drop after households started to default (without money to pay their liabilities). This created a domino effect that spread all around the world financial system.

Rising house prices in the US in the 2000s were driven by the behaviour of lenders (banks), encouraged by government policy, to extend loans to poorer households. They were able to fund these subprime loans by packaging them into financial derivatives, which banks and financial institutions across the world were eager to buy. Rising house prices created the belief that prices would continue to rise, which shifted the demand curve for housing further to the right by providing households with access to loans based on housing collateral.

4.11 Globalization may result in an unbalanced distribution of the mutual gains from exchange (poorer vs richer economies). What can Governments do to protect their local economies? (Adapted from CORE, The Economy)

Protectionist policies allow Governments to limit international trade. These policies reduce the competition within the country since exports decrease. Examples of these policies:

Imposition of tariffs: Taxes on imports that effectively discriminate against goods produced in other countries.

Immigration policies: Governments regulate the movement of people between nations in a way that would not be possible (or acceptable) within most nations.

Capital controls: Limits on the ability of individuals or firms to transfer financial assets among countries.

Monetary policies: They affect the exchange rate, and so alter the relative prices of imported and exported goods.

4.12 International trade creates gains mostly because of specialization. Explain why. (Adapted from CORE, The Economy)

Countries differ in their supply factors of production (skills), technologies, institutions, policies, environments. If some of these characteristics are specific to a certain country, it can use economies of scale and conglomeration (the cost reductions that firms may enjoy when they are located close to other firms in the same or related industries) to become specialized in the production of a certain product. This specialization results in competitive advantages (lower price and/or higher quality). It is this price/quality difference that creates incentives for

countries to buy abroad instead of producing, resulting in an increase of gains from international trade.