Business Economics 4th edition Mankiw Solutions Manual

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Chapter 1: What is Business Economics?

LEARNING OUTCOMES:

After reading the chapter, students should be able to:

- Explain what businesses do and what economics studies.
- Provide a definition and example of business activity in the public and private sectors.
- Define scarcity.
- Explain the idea of a trade-off and provide at least one example.
- Give a definition of opportunity cost and provide at least three examples relating to individual and business decision making.
- Explain the difference between capitalist and communist economic systems in how they answer the fundamental questions of society.
- Outline how prices direct resources to different economic activities.
- Explain why specialization and trade can improve people's choices.

CONTEXT AND PURPOSE:

Chapter 1 is the first chapter in a three-chapter section ('Part 1: The Economic and Business Environment') that serves as the introduction to the textbook.

Chapter 1 introduces eight key ideas on which the study of economics is based.

Chapter 2 will look at decision making by consumers and producers influencing the allocation of scarce resources.

Chapter 3 outlines what business is and how it has to operate in an environment.

The purpose of Chapter 1 is to layout eight economic ideas that will serve as building blocks for the rest of the text.

Throughout the text, references will be made repeatedly to these eight ideas.

These eight ideas can be grouped into three categories: how people make decisions, how people interact and how the economy works as a whole.

KEY POINTS:

1. The fundamental lessons about **individual decision making** are that people face trade-offs among alternative goals, that the cost of any action is measured in terms of forgone opportunities, that rational people and businesses make decisions by comparing marginal costs and marginal benefits, and that people and businesses change their behaviour in response to the incentives they face.

2. The fundamental lessons about **interactions among people** are that trade can be mutually beneficial, that markets are usually a good way of coordinating trades among people, and that the government can

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potentially improve market outcomes if there is some sort of market failure or if the market outcome is inequitable.

3. The fundamental lessons about **the economy as a whole** are that productivity is the ultimate source of living standards.

CHAPTER OUTLINE:

I. What is Business Economics?

A. People in businesses must make decisions every day and the way in which they make these decisions, and the outcome of those decisions, can be informed by using the models, methods and tools of economics.

B. What is Business?

1. Business activity involves the turning of land, labour and capital (known as 'inputs') into a product or service (known as 'outputs') sold to customers. It is carried out by organizations that set themselves clear aims, one of which, for private organizations, is usually to make a profit.

    a. Definition of **profit**: The reward for taking risk in carrying out business activity.

2. One way to classify businesses is by examining their ownership and primary objectives. .

    a. Definition of **private sector business**: Business activity which is owned, financed and organized by private individuals.

    b. Definition of **public sector organization**: Business activity owned, financed and organized by the state on behalf of the population as a whole.

    c. Definition of **third sector organization**: Business activity owned, financed and organized by private individuals, but with the primary aim of providing needs and not profit making.

3. Business organizations have to make many decisions such as how to add value to the business by investment, recruiting employees, what to do about competitors, when to expand or contract, and how to reduce the negative impact of operations.

4. Types of economic systems

    Two juxtaposing forms are:

    a. **Communist economies**: Systems where resource inputs are largely owned by the state, and exchange and trade are based on social, political and economic motives which may be primarily based on a belief of greater equality.

    b. **Capitalist economies**: Systems where resource inputs are largely owned by private individuals and where the motive for exchange takes place primarily for profit.

C. The Fundamental Questions of Society

1. What products should be produced?

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2. How will products be produced?

3. Who will get the products?

D. What is Economics?

1. Definition of **economics**: The study of how society makes decisions in managing its scarce resources.

2. Definition of **scarcity**: The limited nature of society's resources in relation to wants and needs.

3. Governments get involved and most economies are a mix of private and public ownership, termed **mixed economies**.

II. Some Key Ideas in Economics

A. Idea 1: Decision Making Involves Trade-Offs.

1. How best to use your time.
2. How best to spend your income
3. As a country do we want more capital or more consumer goods?

   There is a **trade-off** between a higher level of income or a cleaner environment.

   Definition of **trade-off**: the loss of the benefits from a decision to forego or sacrifice one option, balanced against the benefits incurred from the choice made.

B. Idea 2: The Cost of Something is What You Give Up Getting It

1. Making decisions requires individuals to consider the benefits and costs of alternative courses of action.

   An example: If a business stops producing a particular product to free up resources to invest in more successful parts of the business, this could cost them in profit, goodwill, worker and customer loyalty and bad publicity.

   Definition of **opportunity cost**: The cost expressed in terms of the benefits sacrificed of the next best alternative.

C. Idea 3: Rational People and Businesses Think at the Margin

- Definition of **marginal changes**: Small incremental adjustments to a plan of action.

1. Many decisions in life involve incremental decisions: How important is this task? What do I have to do tomorrow? Should I do an extra hour of work before I go home?

2. Firms are interested in marginal costs. Suppose that flying a 200-seat plane from London to Warsaw costs the airline €50,000, which means that the average cost of each seat is €250. Suppose that 24 hours before departure a passenger is willing to pay €200 for a seat. Should the airline sell the seat for €200? In this case, the marginal cost of an additional passenger is very small.

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D. Idea 4: People and Businesses Respond to Incentives

1. People compare the costs and benefits when making decisions.
2. When the price of a good rises, consumers will buy less of it because its cost has risen.
3. When the price of a good rises, producers will allocate more resources to the production of the good because the benefit from producing the good has risen.
4. So, decisions are made by people as consumers and businesses as suppliers. They are also made by governments as policymakers.
5. Sometimes policymakers fail to understand how policies may alter incentives and behaviour. It means there can be **unintended consequences** from decisions.
    a. Example: Introducing cycle helmet laws to reduce head injuries from accidents may have unintended consequences of reducing the number of cyclists, because they do not wish to wear helmets. As a result, society loses the positive health benefits of cycling. There are also other consequences such as less bicycles bought.
6. Case Study: Technology and Decision Making

E. Idea 5: Trade Can Make Everyone Better Off

1. Trade is not like a sports competition where one side gains and the other side loses (a zero-sum game).
2. Consider the trade that takes place for a business to produce a product. Most businesses do not supply their own raw materials, find their own staff, arrange their own insurance, do their own banking, arrange their own security, etc.
3. By trading with others, businesses can buy a greater variety of goods and services at lower costs and therefore (potentially) increase efficiency.
4. Just like businesses benefit from trading with one another, so do countries.
5. This occurs because it allows for specialization in areas that countries do best. The production of these goods can be traded so that citizens are able to enjoy a greater variety of goods and services.

F. Idea 6: Markets Are Usually a Good Way to Organize Economic Activity

The vast majority of countries around the world base their economies on a market system to a greater or lesser degree.

- Definition of **market economy**: An economy that allocates resources through the decentralized decisions of many firms and households as they interact in markets for goods and services.

1. Market prices reflect both the value of a product to consumers and the cost of the resources used to produce it. Therefore, decisions to buy or produce goods and services are made based on the cost to society of providing them. They therefore promote economic well-being.
2. FYI: Adam Smith and the Invisible Hand

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a. Adam Smith's 1776 work suggested that although individuals are motivated by self-interest, an invisible hand guides this self-interest into promoting society's economic well-being.

G. Idea 7: Governments Can Sometimes Improve Market Outcomes

1. Markets are not always perfect.

2. **Property rights**: The exclusive right of an individual, group or organization to determine how a resource is used. A farmer will not grow food if they expect their crop to be stolen, and a restaurant will not serve meals unless it is assured that customers will pay before they leave.

3. Government policy can be most useful when there is market failure. Definition of **market failure**: A situation in which a market left on its own fails to allocate resources efficiently.

4. Definition of **externality**: The uncompensated impact of one person's actions on the well-being of a bystander or third party.

5. Definition of **market power**: The ability of a single economic actor (or small group of actors) to have a substantial influence on market prices.

6. Definition of **economic growth:** the increase in the amount of goods and services in an economy over a period of time.

H. Idea 8: An Economy's Standard of Living Depends on Its Ability to Produce Goods and Services

1. Definition of **economic growth**: The increase in the amount of goods and services produced by a country over a period of time.

2. Definition of **standard of living**: A measure of welfare based on the amount of goods and services a person's income can buy.

3. Definition of **gross domestic product (GDP)**: The market value of all final goods and services produced within a country in a given period of time.

4. Definition of **gross domestic product (GDP) per head**: The market value of all final goods and services produced within a country in a given period of time divided by the population of a country to give a per capita figure.

5. The explanation for differences in living standards between nations lies in differences in productivity.

    a. Definition of **productivity**: The quantity of goods and services produced from each hour of a worker's or another factor of production's time.

    b. Higher productivity tends to correlate with a higher standard of living.

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c. The relationship between productivity and living standards has a strong impact on public policy, especially in relation to education and technology.

III. In the News: The Business of Music Festivals

The article looks at the future of the festival market in the UK against the backdrop of rising costs, supply chain issues and increased ticket prices caused by the Covid-19 pandemic and the war in Ukraine.

SOLUTIONS TO TEXT PROBLEMS:

Self-Test

1. Someone must have given up some alternative use of resources if a lunch is to be made available. Even if someone else pays for the lunch that I consume, we could point out that I have given up some time to consume it.

2. In short, yes. If the risk of driving fast is reduced then people may drive faster because the marginal benefit of driving fast exceeds the marginal cost.

Case Study

1. – If the firm's costs were greater than its revenues then a rational business decision would be to cut costs.

   - If the firm's costs are greater than its revenues then the firm is making a loss.

   - The decision is rational because by cutting its costs so that these fall below the firm's revenues then the firm will be returning to profitability.

2. – Software developers do implicitly consider the opportunity cost of taking decisions.

   - This is because the purpose of AI is to gather and analyse data and producing outputs which can be used by decision makers in making decisions.

   - By improving AI programs, software developers implicitly improve the efficiency with which data is gathered and analysed.

   - Therefore, implicitly software developers do take into account the opportunity cost of making decisions.

3. – While AI is more efficient at gathering data through analysis of consumer behaviour for example, it should not replace humans as the ultimate decision makers using the output it produces.

   - This is because AI does not have the correct balance of cognition and emotions which human beings have in order to make subjective value-based decisions.

   - AI is more likely if left to itself of making decisions which are only objective. In other words without emotions and just intelligence AI is unlikely to be able to make subjective value-based decisions.

In the News

1. A music festival can be described as a business. This is because the audience are the customers, and the performers are the suppliers as are the organisers of the festival. The organisers of the festival will incur costs in setting up and running the festival for its duration. These costs will be both fixed costs such as renting the stage or large tent in which the performers will perform from as well as variable costs. The latter will be associated with the

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provision of food and seating for the audience. The organizers will generate revenue by charging and entry fee for members of the audience. If revenues are greater than costs then the organizers will make a profit. The organisation of a festival can be by the government, or it can be by a firm. In the case of the former the organisation will fall into the public sector but in the case of the latter it will fall into the private sector.

2. In considering which artists to book to headline their event there are a number of trade-offs which the festival organizers will have to consider. One trade-off will be the popularity of the artist versus their fee. The more popular an artist is the higher the fee the organizers will have to pay which will reduce their profits. Secondly, the festival organizers will have to consider the trade-off between the timing of the festival and the availability of artists. In this case, in selecting the timing of the festival the organizers will first need to check the availability of the artists. Finally, the festival organizers may have to consider the trade-off between the timing of the festival and the timing of the year when most people will be available to attend. In this case, the festival organizers my need to look at dates when there are extended holidays due to bank holidays or over the summer period when parents are likely to take time off to be with their children and when universities will be closed.

3. Opportunity cost is the cost of the next best alternative foregone. In this case, in deciding to go to the festival an individual must forego the consumption of another good or service or just forego undertaking another activity. However, in 2022 the economic climate was not good. This was particularly because of the increasing levels of inflation. In other words, the cost of electricity and groceries were going up. With wages remaining static this meant that people had less purchasing power. With the money in their hands they could afford to buy fewer goods. In order to fight inflation the Bank of England was also increasing the bank base rate. As a result people were paying more money on their mortgages. The high levels of inflation and increasing interest rates meant that households experienced falling real incomes and falling disposable incomes. Therefore, if in such circumstances a decision was taken to go to the festival, this would involve purchasing an expensive ticket. The opportunity cost would be high.

4. The festival industry is reported to be worth around £1.76 billion (€2.04 billion) to the UK economy and around 85,000 jobs are related to the industry. But whether the government should be more involved in supporting the industry and in which way would be dependent on an individual's political views. Those whose political beliefs lie to the right of the political spectrum may believe that the best way in which the government could support the festival industry is to ensure that the festival organization market is competitive. However, those whose political beliefs lie to the left of the political spectrum may believe that the best way for the government to support the festival industry is to give it subsidies. However, given the state of the government's and the country's finances this may prove to be unsustainable in the long run.

5. The business arguments of asking artists and their agents to lower their fees would be that it would lower the costs for the festival organizers and thereby increase their profits. These profits could then be used for investment in the festival organization business, for example by building an app or providing artists with better facilities while they stay and perform at the festival. Furthermore, the added advantage of the increase in profits for the festival organizers would be that they would be able to invite more artists to perform at the festival. This would allow for a very diverse offering of artists for people coming to the festival, which could encourage more people to come.

Questions for Review

1. Trade-offs for a washing machine manufacturer might include whether to produce washing machines rather than dishwashers. They might consider whether to invest in more labour or new tools and equipment. They might also consider ethical trade-offs, such as the negative effect that production has on the environment.
2. The opportunity cost to the business of investing €55,000 into a new IT accounting system represents the rate of return should the €55,000 have been used by putting the money into a different investment such as one earning interest in a bank.
3. The construction business has an aim to make a profit. It will look at the marginal cost and gain of each house built. For example, building one house might cost €200,000 but the market price might be €180,000 so it would not be worth building. The cost of adding a second house might be €190,000 and the third €180,000 and so on. Building six houses should allow the company to break-even, but an additional house would produce a €10,000 profit and so on. However, building the tenth house might mean adding extra

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infrastructure and the costs of this could well outweigh the benefits.

4. Policymakers need to think about incentives so they can understand how people will respond to the policies they put in place. The example of introducing a compulsory cycle helmet law shows that policy actions can have quite unintended consequences.
5. Generally, the benefits from trade outweigh the costs, but there are some losers as well as winners. Some countries will erect barriers to trade such as using tariffs, quotas or subsidies as a means of protecting domestic businesses, since barriers to trade result in prices of imports rising, so making domestic producers more competitive. This will have an effect of reducing imports which all other things being equal, helps with the balance of payments. Sometimes trade barriers are erected for reasons of national security or to prevent dumping of goods from other countries. It may also be a retaliatory measure, which implies that in general trade barriers are a bad thing.
6. Trade a between people and trade between countries can improve everyone's welfare. Businesses gain by specialising in doing what they are best at. By trading with others, businesses can buy cheaper or better goods and services and increase their own efficiency. Some groups may lose out, such as those with a specific skill that is no longer in demand in a country because it imports products made using that skill.
7. The 'invisible hand' of the marketplace represents the idea that even though individuals and firms are all acting in their own self-interest, prices and the marketplace guide them to do what is good for society as a whole.
8. The two main causes of market failure are externalities and market power. An externality is the impact of one person's actions on the well-being of a bystander, such as the effect of pollution from a firm's production or the effect on their neighbours of someone painting their fence or trimming their hedge. Market power refers to the ability of a single economic agent (or small group of economic agents) to unduly influence market prices, as would be the case in a town with only one taxi company or in a country with only one cable television company.
9. Productivity measures how much can be produced from a factor of production time such as how much output per worker. An increase in productivity helps reduce business costs because more output is derived from the same factor of production, e.g. each worker is producing more. The business is more efficient if productivity is raised.
10. Productivity is important because a country's standard of living depends on its ability to produce goods and services. The greater a country's productivity (the amount of goods and services produced from each hour of a worker's time), the greater will be its standard of living.

Problems and Applications

1. a. An entrepreneur deciding whether to borrow some start-up capital from a bank or raise the funds through borrowing from friends and relations faces a trade-off between ease of access to funds and the cost of repaying them. Each alternative source of capital will have its benefits and disadvantages that will need to be weighed up. For example, a bank may have a high interest rate on repayments and have tough rules on eligibility. A trade-off of borrowing money from family and friends could be the danger of 'mixing business and pleasure' and the ensuing complications. Another trade-off for raising capital might be giving up equity in the business in exchange for investment. Equally, starting up a new business will mean they must give up on other opportunities. That is, the real cost of starting a new business is the opportunity cost in terms of what they must give up in order to achieve it. Might their time and money be better spent on an alternative enterprise?

   b. For a member of the government deciding how much to spend on new military hardware for the defence industry, the trade-off is between investing in the military hardware as opposed to other areas, or making tax cuts. If money is spent on the military hardware, that may mean less spending on national healthcare or on the police force. Or, instead of spending more money on the military, taxes could be reduced.

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c. When a company chief executive decides whether to invest in more efficient heating for the company's headquarters, they must consider the trade-off between the cost of the original investment (in the short run) and the longer term benefits of saving on heating bills. Also by investing in new heating the CEO must consider other areas of the business that won't receive investment as a result. Would there be a more profitable way of investing in the company? Are there other branch locations of the business that might also need their heating systems upgrading that should be prioritized instead? There is also the environmental trade-off between investing in a 'greener' more efficient system at the expense of investing in areas that directly lead to greater profits such as new production equipment or staff.

d. In deciding how whether to accept the offer of extra shifts, the hotel worker faces a trade-off between the additional wages they will earn as a result compared to other things they could do with their time, such as relaxing or studying.

2. a. The opportunity cost of seeing a football match includes the monetary cost of admission plus the time cost. The time cost depends on what else you might do with that time; if it's working on the weekend at your job, the time cost is the money you could have earned. When the benefits of something are psychological, such as going to the football match, it isn't easy to compare benefits to costs to determine if it's worth doing. But there are two ways to think about the benefits. One is to compare going to the match with what you would do in its place. If you didn't go, would you buy something like a new team football shirt? In this scenario, you also have to consider the benefits of helping your boss out. While you will miss watching the football, you will gain considerable favour with your boss by making the sacrifice.

b. Even if you aren't getting paid additional wages for working on the weekend, the long term benefits of impressing your boss might outweigh the short term loss of missing the match. You might also be able to take off additional holiday at another time as a result.

3. The business knows that by putting the money in a bank it will safely earn €400. The business will need to estimate the expected increase in profits if the fund was reinvested in the business to perhaps improve marketing or buy new more efficient equipment.

4. Cutting losses would mean throwing away €20 million in investment already made. An extra €4 million investment would bring the total up to €24 million with an expected sales of £12 million and therefore the total loss would be €12 million instead of €20 million.
The fact that you've already sunk €20 million isn't relevant to your decision anymore, since that money is gone. What matters now is the chance to earn profits at the margin. If you spend another €4 million and can generate sales of €12 million, you'll earn €8 million in marginal profit, so you should do so. In fact, you'd pay up to €12 million to complete development; any more than that, and you won't be increasing profit at the margin.

5. Team member 1 hasn't accounted for the extra cost that maybe associated with increased production. Team member 2 has mentioned lower average costs, but nothing on sales. Team member 3 has looked at both marginal costs and marginal revenues. A firm wants to maximize its profits, so it needs to examine both costs and revenues. So team member 3 is right- it's best to examine whether the extra revenue would exceed the extra costs. Team member 3 is the only one who is thinking at the margin.

6. Increased trade has brought greater benefits to countries and individuals, but also means we have greater interdependence. Something going wrong in one country can have knock on effects in other countries. It might be that some countries have weak regulations on externalities or have poor controls on monopoly power and unethical business practices. It means the market in such circumstances risk failing. In these cases governments could intervene to have control or regulation over such markets. Government intervention in the market may also be very important during crises such as Covid-19 during which the worldwide lockdowns imposed by governments meant that global and national supply chains were

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disrupted and demand was being curtailed or shifted online.

7. Being a central planner is tough!

   a. To produce the right amount of food by the right farmers and deliver them to the right people requires an enormous amount of information. You need to know about production techniques and costs in the farming industry and about the quality of the land and climate in different regions.

   b. You need to know each person's food tastes and needs. If you make the wrong decisions, you'll be producing too much food of one type and not enough of another.

   c. Your decisions about how much food to produce carry over to other decisions. You have to make the right number of farming equipment and transport to the markets. The probability of making mistakes is very high. You will also be faced with tough choices about the food industry compared to other parts of the economy. If you produce more food, you'll have fewer resources for making other products. So, all decisions about the economy influence your decisions about food production. You may wish to leave it to the free market to allocate resources.

8. a. Efficiency. The market failure comes from the effective monopoly power of gas companies.

   b. Efficiency. The market failure might come from advertisers being dishonest and distorting the market.

   c. Equity.

9.

   a. If all students had free access to higher education, much more of society's resources would be devoted to providing higher education than is now the case. Would that be efficient? You might think efficiency would increase by providing free higher education. But more likely, if the government mandated increased spending on higher education, the economy would be less efficient because it would give people more education than they would choose to pay for. From the point of view of equity, if underprivileged people are less likely to pay to go to university, then providing free higher education would represent an improvement. Each person would have a more even slice of the economic pie, though the pie would consist of more higher education and less of other goods.

   b. If businesses provided at least six months' pas as a redundancy payment to enable those affected time to find a new job, this would not be an efficient use of resources from the business's perspective. From the point of view of equity, it would be a positive outcome for those made redundant, but could have a negative impact on those still in the business such as lower wages.

   c. If businesses paid more into workers' pension schemes, this would have a notable impact on other areas of investment. So, from the perspective of a business this wouldn't be considered an efficient use of funds. From the point of view of equity, it would be a positive outcome for workers, but could have a negative impact on the business as this money couldn't be invested elsewhere to improve profits or higher base salaries.

10.

   a. Democratic countries have free elections and may vote either for a government that favours more public ownership or one that favours more private ownership. Alternatively, some countries are ruled by dictatorships which make this decision on behalf of the country's population.

   b. Economic belief systems tend to lie somewhere on a continuum between two extremes. One extreme is that the state should have no role in the economy and it should all be left to individual decisions of producers and consumers. At the other extreme, in command economies, the issue of scarcity and the allocation of resources is taken up by the state. Democratic countries tend to have

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mixed economies somewhere between these two extremes.

c. This is a value judgement and so responses should refer to issues like the profit motive for advocates of private ownership, or providing for needs of the third sector, or being equable and fair and dealing with market failures for government operated organizations.

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