



Economics

for the IB Diploma

2nd Edition



SEAN MALEY
JASON WELKER

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Introduction

This Economics for the IB Diploma 2nd Edition Student Book offers International Baccalaureate (IB) Economics students an inspiring way to learn and prepare for the IB examinations at both higher level (HL) and standard level (SL). It will help you to prepare for your examinations in a thorough and methodical way as it follows the syllabus outline, explaining and expanding on the material in the subject guide.

This book is based specifically on the new IB Economics curriculum (first examinations in May 2022) and emphasises the use of the nine key concepts that run through the course: scarcity, choice, efficiency, equity, economic well-being, sustainability, change, interdependence, and intervention. The book contains the following useful features:

- Relevant learning outcomes identified at the start of each section to help you identify what you need to know at each step.
- HL and SL content clearly distinguished, with all HL exercises and sections clearly marked (all unmarked content is for both HL and SL students).
- Fully referenced tables and coloured diagrams accompanied by clear explanations in the text.
- Practice examination questions at the end of each chapter reflecting the appropriate form and content of questions that you will find in the new exam papers.
- Links to Theory of Knowledge (TOK) conveniently highlighted throughout to help broaden your knowledge and keep you thinking about the wider applications of your learning.
- Two additional chapters offering specific advice on writing the Internal Assessment and preparing for External Assessments such as Papers 1, 2, and 3, and the Extended Essay.
- A full glossary of IB Economics subject-specific terms included at the back of the book, for easy reference.

In addition, the book includes access to an eBook version which contains:

- Links to around 100 author videos, offering clear explanatory lessons on all the essential diagrams and concepts.
- Links to online databases and sources of information (via the 'Research and inquiry' features), enabling you to apply the course concepts and carry out further research.
- Worksheets and revision quizzes for every chapter, providing additional support.

How to use this book

Throughout the book you will see a number of coloured features interspersed within each chapter, providing different information and stimulus.

Learning outcomes

These appear at the start of each section. They contain the learning outcomes for the section you are about to read and set out which aspects of learning will be covered.

Learning outcomes

At the end of this section you will be able to:

- distinguish between positive and **normative economics**
- explain how economists use models, theories, logic, the *ceteris paribus* assumption, empirical evidence, and **refutation** in their analysis of human behaviour.

Case study

Globally inclusive case studies that reference real-world examples (in the same way that Paper 1 requires real-world examples to be at the centre of your discussion).

Case study – cell service providers and oligopoly

America's cell phone service market has been narrowed down to three major providers after the acquisition of Sprint by T-Mobile in spring of 2020. America's Federal Trade Commission initially denied the request to merge, citing the undue market power exerted by a more concentrated market. They also cited T-Mobile's previously aggressive pricing as a source of competitive behaviour that would diminish after the merger. Together, AT&T, Verizon, and T-Mobile now control 98% of the US cell provider market.

Research and inquiry

Highlights areas for further inquiry and research.

Worked example

Examples that show you (in detail) how to work out necessary calculations.

Worked example 6.3

Consider the market for cotton t-shirts. Assume that when the price of blank cotton t-shirts rises by 10%, the quantity supplied increases by 15%. With these values we can easily calculate PES:

$$\begin{aligned} PES &= \frac{\% \Delta Q}{\% \Delta P} \\ &= \frac{15}{10} \\ &= 1.5 \end{aligned}$$

Research and inquiry

To see real-world examples of increased demand from changes in tastes, conduct a news search using the term 'rise in popularity'.

For discussion and debate:

- 1 List five found examples of taste and preferences increasing demand for a product.
- 2 Generate five of your own examples of products that have, for taste reasons, fallen out of favour.

Exercise

In-text exercises to test your knowledge and understanding of that part of the course.

Exercise 7.2

- 1 Identify a common product you use or consume.
- 2 What is the **maximum price** you would pay for that good?
- 3 What is your consumer surplus for that good?
- 4 Draw an equilibrium diagram of the market for the good, indicating consumer and producer surplus.
- 5 Identify the consumer, producer, and community surplus for this market.

Theory of Knowledge

These stimulate thought and consideration of TOK issues as they arise and in context.

Video suggestion

These indicate that a clickable link is available (via your eBook) to one of over 200 author videos. These will help you to review the section of the book you have just read.

Practice exam questions

At the end of each chapter are some practice questions of the style and weight you can expect to find in the examination papers.

Practice exam questions

Paper 1, part (a) questions

1. Explain how economics addresses scarcity by answering the three basic questions of economics. (10 marks)
2. Distinguish, using a diagram, the difference between a curved PPC and a straight-line PPC. (10 marks)
3. Explain how a production possibilities curve helps demonstrate the concepts of scarcity, choice, and opportunity cost. (10 marks)
4. Explain, using a circular flow diagram, how the consumers and producers are interconnected in a free market economy. (10 marks)

You are now ready to start. Good luck with your studies!

Certain individuals depend on particular goods for their very survival, e.g. people with diabetes need insulin to live. If one were to learn that insulin providers were raising their prices ever higher on diabetic patients, would you be obliged to act? This raises a question around the ethics of knowledge: 'How can we know when we should act on what we know?'


TOK

Video suggestion:

You have read about it, now you can review what you have just learned by watching a video by the author!



Simply click here in your eBook for a video on the law of demand.



Introduction to economics

UNIT

1



What is economics?

1

1.1 What are some of the basic concepts in economics?

Learning outcomes

At the end of this section you will be able to:

- explain the social nature of **economics**
- distinguish between the study of **microeconomics** and **macroeconomics**
- explain the nine key concepts of IB Economics
- analyse the concepts of **scarcity**, choice, and **opportunity cost**
- explain the three basic economic questions that must be answered by any economic system
- distinguish between **market**, planned, and mixed economies.

Look around you. What do you see? Are there tall buildings made of steel? Paved roads and parking lots? Shopping malls? Fields of crops awaiting harvest? Homes built of wood, brick, and glass? Factories producing goods for consumers? Perhaps you see a thick forest or a view of hills stretching to the distance. Or do you see school buildings? Now ask yourself, how did things get to be this way?

There are many ways to attempt to answer these questions. Biologists tell a story of evolution based on natural selection. Physicists answer difficult questions by studying the elemental forces of nature that shaped our universe over billions of years, while mathematicians observe the quantifiable variables of our lives and seek to understand our world through numbers. Every field of science views the world through a lens shaped by its own tools and methodologies. Economics is no different.

Economics is a social science devoted to solving the problems posed by **scarcity**. Our existence on Earth is defined by limited resources and the seemingly unlimited wants, or **demands**, on those resources. For example, a central question in some societies is how much food can be responsibly grown in a given area, when resources like water and fertile soil are diminishing. Scarcity nearly always forces us to make **choices** between competing priorities, such as the perceived choice between **economic growth** and **sustainability**. Economics hopes to inform that choice-making to help societies get the most out of their resources.

Relatedly, a central goal of economics is to seek out **efficiency** wherever possible. Given scarce resources, a growing population and its wants, extracting the highest possible value from those resources is a top priority. However, the pursuit of economic efficiency does not guarantee a relatively equal access to resources. Economists also argue that **equity** should be considered a priority alongside or against pure efficiency. Are resources allocated without bias or prejudice? As the gap between the rich and poor in many countries continues grow, questions of equity are raised.

Economics also tries to widen its focus to broader measures of **economic well-being**, rather than purely monetary success. As such, factors of daily life such as the overall health, safety, and security of a country's population are now taken into account.





How is economics a social science?

A **social science** is a field of academic scholarship that examines the interactions between humans, our institutions, our organisations, and the natural and social environment we inhabit. A distinguishing feature of economics is human interdependence, which focuses on how people interact with each other to improve their economic well-being. Individually and in groups, humans are influenced and enabled by their values and their natural surroundings. This web of motivation poses a challenge to economists seeking a degree of certainty about causal relationships.

As a social science, economic theories are based on logic and empirical data, using models to represent and analyse this complex reality. Physical sciences work somewhat differently, and an understanding of the basic distinction may be useful. Physical sciences seek clear comparisons between an independent variable and its effect on other variables with control group testing. **Social sciences** seek the same controlled environment but this process is complicated by the many possible motivations and causal factors for human behaviour.

Testing the effectiveness of an idea like **universal basic income** (UBI) (the provision of direct cash payments to citizens as a form of poverty relief), for example, is complicated by other factors that may also influence the control group at the same time, such as political, regional, or group-specific issues. Social scientists nevertheless try to approximate control conditions using comparative data sets and statistical analysis. Because individual and collective motivations and behaviours are complex and diverse, understanding them entails the interaction of a variety of disciplines such as philosophy, politics, history, and psychology. Awards for economics have increasingly gone to research that blends economics with one of these other disciplines.



Adding another layer of complexity is the dynamic nature of economics. With physical sciences one can isolate a variable and examine its properties with a reasonable expectation that those properties are stable or may change in predictable ways. However, the events under study in economics are subject to change, possibly in real time. A surge in consumer confidence, for example, may have many causes and can just as quickly drop should events change.

What is the difference between microeconomics and macroeconomics?

Economics is broadly divided into two categories of study, **microeconomics** and **macroeconomics**. Microeconomics is the study of specific markets, such as the market for goods and services, as well as the market for **labour**. It examines the motivations and general rules of behaviour guiding buyers and sellers in these markets, and includes the concepts of **supply**, demand, and **equilibrium** prices. While microeconomics assumes a free market system that uses prices to help allocate resources, it also attempts to account for failure of the free market, where government corrections are required.

Macroeconomics centres on national economies as a whole, with a focus on the overall performance of a national economy. The health of an economy is measured using concepts such as national economic growth, employment levels, and price level stability. Discussions of inflation rates, **unemployment rates**, and **income** distribution are common.

A major focus of this branch of economics is understanding the role governments play in the management of the national economy using the tools of fiscal and **monetary policy**. Macroeconomics, too, seeks to work out useful theories and reliable rules to guide policy making, with the hope of achieving greater national prosperity.

The key concepts of IB Economics

Throughout this book, you will focus on real-world economic issues through the lens of nine key concepts.

Concept	Main idea
Scarcity	Scarcity refers to the limited availability of economic resources relative to society's unlimited demand for goods and services. Economics is the study of how to make the best possible use of scarce or limited resources to satisfy unlimited human needs and wants.
Choice	Since not all needs and wants can be satisfied, economic decision makers continually make choices between competing alternatives. Economics studies the consequences of these choices, one of which is the 'opportunity cost', where certain needs and wants go unsatisfied because resources have been allocated elsewhere.
Efficiency	Efficiency is a quantifiable concept, determined by the ratio of useful output to total input. Allocative efficiency refers to making the best possible use of scarce resources to produce the optimum combinations of goods and services, thus minimising resource waste.
Equity	Equity refers to the idea of fairness. Fairness means different things to different people and might not be the same as equality. In economics, the term 'inequity' may apply to the distribution of income, wealth , or human opportunity. It is an issue both within and between societies. How far markets and governments can or should create greater equity or equality in an economy is an area of much debate.
Economic well-being	Economic well-being relates to the prosperity and quality of life enjoyed by members of an economy. It includes: <ul style="list-style-type: none"> • present and future financial security • the ability to meet basic needs • the ability to make economic choices and so achieve personal satisfaction. Economic well-being varies greatly within and across nations.
Sustainability	Sustainability in economics is about meeting the needs of the present generation without compromising the ability of future generations to meet their needs. The current generation's economic activities can create harmful environmental outcomes, such as resource depletion or degradation, that will negatively affect future generations. This concept is becoming increasingly important in economic analysis.





Change	Economic theory focuses not on the <i>level</i> of the variables it investigates, but on their <i>change</i> from one situation to another. Empirically, the world that is studied by economists is always subject to continuous and profound change at institutional, structural, technological, economic, and social levels.
Interdependence	Individuals, communities, and nations are not self-sufficient. In a highly interdependent economic world, decisions by consumers, companies, households , workers, and governments generate many, often unintended, economic consequences for others. An awareness of this is essential when conducting economic analysis.
Intervention	Intervention in economics usually refers to government involvement in the workings of markets where those markets fail to achieve societal goals such as equity, economic well-being, or sustainability. In the real world, there is often disagreement among economists and policymakers on the need for, and extent of, government intervention.

What is the problem of choice?

As we are about to look at, a lack of resources compels humans at all levels to make decisions about how to allocate resources. Be it time, effort, or **money**, we all make choices about what is important to us. Economics seeks to enhance the economic well-being by clarifying and guiding those choices.

What is scarcity?

Scarcity is defined as the state of having unlimited wants and limited resources.

Scarce resources are those things, both natural and manufactured, that are used in the production of the goods and services that humans consume to survive and to enjoy life. The problem with scarcity is that while resources are finite, the wants and needs of humans are infinite. There are simply not enough resources available in the world to satisfy the limitless wants of the world's people. Over time, scarcity is intensified by the natural human desire for more material wealth, safety, and comfort. In doing so, humans use up more and more of the world's limited resources.

How is scarcity related to sustainability?

The problem of sustainability is brought into focus by increasing scarcity. For example, the scarcity of **land** resources for human farming has led more and more territory to be converted from natural use to agricultural use. This increased demand or want for food growing space is in conflict with sustainable production because soil erosion and deforestation contribute to environmental degradation. With the alarm over climate change, there are calls for economics, in its role of clarifying the **choices** around **resource allocation**, to play a part in developing sustainable systems that solve scarcity.

What are the factors of production?

Humans provide for their basic needs by combining what economists call the '**factors of production**' into goods and services. All are required for the production of any good or service that might be exchanged in an economy.



Land

Land resources are those things that are 'gifts of nature'. The soil in which we grow food is scarce because fertile land is in limited supply but there is a huge desire for the food that is grown in such land. Wood is a scarce resource because ultimately all wood comes from trees, which are grown on scarce land. Minerals such as copper and tin, and resources such as oil, coal, gas, and uranium are scarce. These materials are all used to produce energy and other things we desire but they are all in limited supply and the supplies do not renew themselves.

Labour

Labour refers to the human resources used in the production of goods and services. In a world of nearly 8 billion people, it may sound silly to say labour is scarce, but it most certainly is. Labour is the human work, both physical and intellectual, that contributes to the production of goods and services. Some types of labour are more scarce than others. For example, factory workers are desirable in huge numbers in some parts of the world. In China and India, they are not very limited but are greatly desired, therefore they are scarce. Medical doctors are desired in all parts of the world, but they are more limited in number than people able to work in factories. Therefore, doctors are scarce relative to factory workers.

Capital

Capital refers to the tools and technologies that are used to produce the goods and services we desire. The word 'capital' is also sometimes used to refer to the money that individuals and businesses need to acquire the tools and technologies of production. More and better tools enhance the production of all types of goods and services but the amount of capital in the world is limited, so capital is a scarce resource.

Entrepreneurship

Entrepreneurship can be defined as the innovation and creativity applied in the production of goods and services. By combining the other three factors into desirable goods and services, this creativity and innovation have contributed more to improvements in the well-being of the world's people than any other resource. The physical scarcity of land, labour, and capital does not necessarily apply to human ingenuity, which can be renewed and developed through training and education. The basic economic problem of scarcity has led to the development of various economic systems and their methods for allocating the resources of land, labour, and capital, and distributing the output produced.

What is opportunity cost?

Every economic decision involves costs. The opportunity cost is what must be given up in order to undertake any activity or economic exchange, specifically the next best alternative to the use of the money or time. Opportunity costs are not necessarily monetary; rather, when you buy something, the opportunity cost is what you could have done with the money you spent on that thing. Even non-monetary exchanges involve opportunity costs, as you might have chosen to do something different with your time.



For example, think about your decision to sign up for this economics class. You could have studied several other subjects: geography, history, psychology, perhaps business. Your decision to study economics was your choice of how to use the scarce resource of time during your last two years in school. The cost of your decision is the foregone opportunity to study one of the other subjects, and all the skills and knowledge you would have learned had you chosen another subject.

You may be saying to yourself: 'No, the cost of me taking economics is the tuition fees or taxes my parents are paying to support my education at this school.' That is also true. But in economics, we define costs as more than just the monetary expenses involved in an economic transaction. The *opportunity cost* is the *opportunity lost* when making a decision of how to use our scarce resources, whether it is time, money, labour, land, or capital.

To choose one item in place of another in this way is to make a **trade-off**, a sacrifice of one thing to get another. We face these kinds of trade-offs every day of our lives. On a Friday night, you may face several trade-offs: you can go to a movie with friends at the cost of playing video games with your sister, for example, if that is your next favourite alternative.

The problem of scarcity and the need for choice gives rise to another fundamental reality faced by individuals everywhere: the reality that nothing is free. In answering the basic economic questions, choices must be made and those choices inevitably involve costs, since resources are scarce.

What is a free good versus an economic good?

A **free good** is something that is so abundant that it can easily satisfy our unlimited wants for it. In other words, it has zero, or nearly zero, economic costs. It is difficult to imagine a free good except perhaps on a local or regional basis. For coastal cities, salt water is essentially free. For desert residents, sand is essentially free. However, industrialisation has made resources like clean air and clean water less free and more scarce in the last 150 years. This leads to the conclusion that to produce nearly anything is to incur some cost, specifically an opportunity cost. Finally, there's an old adage that says that 'there is no such thing as a free lunch'. Which is to say that even something that is free to you, like a gift, has incurred a cost to someone else. Nearly all goods are therefore considered **economic goods**, goods which have some cost to society. The lack of free goods again presses the point of scarcity in human existence and the need to make choices about how to use the Earth's resources.

What are the basic economic questions?

The existence of scarcity in our world also gives rise to some basic economic questions that any society must answer with its own economic system. They do so to improve their economic well-being, influenced by their values and enabled by their natural surroundings. Some economic systems rely on customs and traditions to answer these questions, some rely on the commands of a central authority or government, and some rely on free exchanges between individuals in a market system. Regardless of whether it is governed by tradition, planned, or exchanges in the marketplace (see Chapter 2), there are three basic economic questions that any economic system must address.



What should be produced?

This is the decision to prioritise one type of output relative to another, and will reflect a society's choices. Should society's scarce resources (land, labour, and capital) be used to grow food, make clothes, toys, and tools, or should they be used to provide services such as healthcare, entertainment, and haircuts? *What* a particular economy should produce is one of the basic questions an economic system should answer. An economy based on tradition may answer 'produce what has always been produced: food for survival'.

A wartime economy may use resources for armaments. A centrally **planned economy** may choose to produce whatever the government decides is most crucial to meeting society's needs, while a market economy leaves the answer up to the interactions between the supply and the demand of self-interested consumers and producers.

How should it be produced?

This is the choice of production methods. Should production be labour intensive or capital intensive? Should robots replace workers whenever possible or should workers be a protected resource? To what extent will technological innovation affect the way things are produced? Economic systems must address the question of how society's output will be produced. Whatever the system, economists see economic efficiency as a primary goal.

For whom should it be produced?

This is answered by the distribution of resources throughout the economy. In other words, who gets what, and how is that determined? Is this decided by prior access to family wealth or is social movement possible? Do social relationships take precedence over education and skill levels? What roles do identity characteristics like gender, ethnicity, race, and religion play in the allocation of resources? Are levels of **consumption** based on social standing? Gender or age? Race or religion? Or should output be allocated fairly across all sections of society? The distribution of a society's income studies the issue of equity in resource allocation in more detail.

The basic economic questions arise from the basic economic problem of scarcity.

Once we recognise that scarcity exists, we must confront these questions in order to determine how to deal with the problem of scarcity in our allocation of resources and the goods and services they are used to produce.

What models exist to answer the basic economic questions?

The two types of economic system are the free market and the planned economy. Free markets, in their purest form, exclude any government action, and in fact allow for no functioning government at all. Planned economies, by contrast, use total state control of the factors of production, which can functionally lead to state control in many other aspects of life as well.

Each system has benefits and flaws. Mixed economies try to resolve the drawbacks of each by combining their approaches in a way that suits their priorities. As stated in the conceptual understandings at the start of this chapter, debates exist in economics regarding the potential conflicts between economic growth and equity and between free markets and government intervention. This is because the free market view of the



future assumes constant economic growth to satisfy human needs, and ignores growing income inequality and other **market failures**, as well as general resource scarcity. People who think inequality and scarcity threaten the general well-being of all argue that smart intervention is needed for economies to organise for long-term sustainability.

What is a free market economy?

A **free market economy** is a system of resource allocation dependent on the private ownership of the factors of production and on the free exchange of goods and services in a price system. Private buyers and sellers satisfy their wants by paying for each other's products in a free exchange.

What should be produced is determined by the market itself. Sellers seek to satisfy the desires of buyers, and determine what to produce based on what generates the highest prices. The price system guides how goods are produced as well. High prices indicate scarcity and firms will move to produce those goods that bring higher prices. Low prices suggest abundance, and firms will be slow to produce these goods. In a free market system, the private owners of land, labour, and capital, including entrepreneurs, receive the benefits of the system in accordance with their value in the free market.

One of the founders of modern economics, Adam Smith, wrote in the 1770s that the 'market' (a place where buyers and sellers meet to engage in exchanges with one another) was the most efficient means for allocating scarce resources. It therefore led to the greatest amount of benefit for the largest number of people, especially when it was left free of government control.

With regard to markets, Smith advocated a **laissez-faire** approach to the government's management of the nation's economic activity. 'Laissez-faire' is a French term that translates as 'let it be'. A government, said Smith, should let an economy be free, since individual agents in a free market will interact in a manner that results in outcomes beneficial for both the individual and society. Smith believed that freedom and the pursuit of self-gain would not lead to chaos and anarchy, but to a socially beneficial outcome whereby society's wants and needs are satisfied by the 'invisible hand' of the market rather than an iron fist.

'Whoever offers to another a bargain of any kind, proposes to do this. Give me that which I want, and you shall have this which you want, is the meaning of every such offer; and it is in this manner that we obtain from one another the far greater part of those good offices which we stand in need of. It is not from the benevolence of the butcher, the brewer, or the baker that we expect our dinner, but from their regard to their own self-interest. We address ourselves, not to their humanity but to their self-love, and never talk to them of our own necessities but of their advantages.'

Adam Smith, *The Wealth of Nations*, 1776

The idea that individuals pursuing their self-interest could end up contributing to the well-being of others was rooted in Smith's moral philosophy that humans' personal happiness partly is based on the well-being of those around them, that people are **interdependent** to some degree. Smith believed that in a complex society made up of thousands or millions of individuals whose interests do not always overlap,



▲
Statue of Adam Smith on the Royal Mile in Edinburgh

an economy governed by tradition or command could not possibly achieve a more beneficial outcome for the greatest number of people than a system in which individuals are able to pursue their own self-interest.

Freedom of **choice** was a fundamental basis for Smith's economic and social philosophy, and to this day freedom remains a key characteristic of the economics we study and of the policies that economic theory helps shape in both national and international economies. Most economies combine elements of the free market with some degree of government intervention – these are mixed economies. The degree to which government is involved varies greatly between countries, and is a central point of argument in each country's politics.

Advantages of a free market economy

- People are relatively free within the market system to choose from a variety of jobs or businesses, and to choose how they produce and for whom.
- When the market fosters competition, firms have the incentive to innovate, improve products, and increase efficiency.
- Consumers tend to dominate because consumers vote with their purchases. Markets respond quickly to consumer preferences to gain more profit.
- In an open system that depends on self-interest, the price system sends more accurate information about the scarcity of resources to buyers and sellers.

Disadvantages of a free market economy

- Markets can become dominated by monopoly or **oligopoly** interests that stifle competition and raise prices for all.
- **Public goods** (such as national defence and streetlights) will not be produced because the free market cannot provide them profitably.
- **Demerit goods** (goods that have harmful effects on society such as pollution and tobacco) will be overproduced.
- **Merit goods** (goods that have positive effects on society such as vaccines and education) will be underproduced.
- Extreme gaps between the few rich and many poor develop and have negative social effects.

What is a planned economy?

A planned economy answers the basic questions with the central government making all the decisions. In their extremes, they are sometimes referred to as command economies, suggestive of the control the government exerts over the lives of its citizens. The specific answers as to *what* to produce will vary from country to country, depending on its own priorities, but at the discretion of the government. The government may choose to prioritise capital goods over consumer goods, or military goods over consumption. Likewise, the method, or *how* to produce, will be determined by the authorities. Decisions about the labour market (who gets what jobs), capital market (which firms get machinery, which do not), and land use (which resources will be developed) all happen under central planning. Entrepreneurship, to the extent that it can flourish at all, does so within the limits of state control. It is the state also, who determines *to whom* production is distributed. The state sets **wages** and prices and so completely allocates incomes and wealth.

The most noted planned systems were implemented in Mao's China, Stalin's Soviet Union, the Democratic People's Republic of Korea (North Korea) and Castro's Cuba. In each case, these leaders sought to move the economy of their country from an agricultural base to an industrial and manufacturing base. The mechanism used to pursue this goal involved total control of the nation's resources by the government.

Typically, a planned economy requires state ownership of the factors of production and is guided by the principles of socialism – the notion that society should be organised to the benefit of all its citizens. These principles place the objective of equality above that of efficiency. Socialist economies aim to achieve fairness within society by allocating resources and output based on the common needs of humans rather than the individual pursuit of self-interest that underlies market economies. Private ownership of factors of production is therefore abolished. All agricultural and industrial output is appropriated by the central government and is reallocated among the nation's people in what is intended to be a fair and equitable manner.



Because of the lack of individual **property rights** and the incentive to achieve maximum efficiency in the use of resources (which characterise private ownership), the planned economies of the 20th century eventually became highly and notoriously inefficient. Ultimately, they were unable to provide their nations' people with the basic necessities for a healthy and happy existence. Both Russia (the core of the former Soviet Union) and China eventually abandoned the planned system of economic management. Of the notable Cold War command systems, only Cuba and North Korea have remained fundamentally planned economies.



The failure of planned economies to achieve sustainable and meaningful improvements in the well-being of their people can be tied to the lack of an effective mechanism for determining the most efficient allocation of society's scarce resources. Central planners, it turned out, were too prone to making mistakes in their determination of what was best for society. Massive inefficiencies and high levels of corruption emerged as producers in the economy focused less on producing quality products that society truly demanded, and more on meeting the strict production targets passed down from the central government.

An economic system that does not appropriately harness incentives towards achieving efficiency in production will eventually collapse under the mounting inefficiencies that emerge while attempting to manage the activities of millions of individuals across the nation. This helps explain why the prominently planned economies of the 20th century failed to thrive and why most of them eventually adopted some market-based economic reforms granting individual ownership of property and encouraging the pursuit of self-interest.

Advantages of a planned economy

- Countries that value equity can provide resources to the poor, ensuring basic housing, income, and healthcare.
- Countries that emphasise full equality can minimise income gaps by paying equalised wages across the labour market.
- The state can establish priorities and move the economy in their direction. For example, the priority could be to move from an agricultural economy to an industrialised one, as the Soviet Union did under Stalin in the 1930s.

Disadvantages of a planned economy

- The incentives for innovation and entrepreneurship are greatly reduced because the system rewards individual productivity poorly.
- Organising an economy is complex. Routine decisions about resource allocation in one market, such as how much wood to allocate to paper production, are very difficult to balance across a whole country.
- State control eliminates competition, and so removes the incentive to find efficiency, lower costs, and improve products.
- Citizens have little freedom of choice in their work, housing, or where they live because the government determines all three.

Case study – central planning's worst disaster?

In 1949, the People's Republic of China emerged from the Chinese Civil War, after Mao's Communist Party of China defeated Chang Kai-Shek's Nationalist army in a decades-long conflict. The new state was founded on the principles of Marxist-Leninist socialism, which held wide appeal to a very poor and agrarian population. After consolidating power over the course of the 1950s, Mao declared that China must make the great leap to an industrial economy in 1958. This programme, called the Great Leap Forward was to follow the Stalinist drive to industrialise in the 1930s by collectivising agriculture and using the **surplus** food to power production in heavy industry. Hundreds of thousands of government officials fanned out across the country to direct the plans. Mao tried to mobilise the population in a way similar to the days of the Revolution, and ordered village communes to produce steel in backyard furnaces. Peasants threw every kind of wooden household object to heat the furnace and all kinds of metal equipment into the furnaces, to be melted into steel. The result was massive inefficiency. The metal produced was a pig iron that needed refining by large smelting plants the country did not have. Worse, countryside peasants spent so much time on the furnaces they neglected their crops. The result was one of the worst famines in history, killing between 30 and 50 million people. One lesson among the many tragedies of this period was the wilful ignorance of scarcity and value, something that markets provide and central planners rarely can capture without market signals.



◀ Backyard furnaces in China during the Great Leap Forward era

Research and inquiry

How would you categorise your own country's economy? Is it closer to a free market economy or is it more planned? Some ways to check: Ask if the country's higher education system is free to students? Is healthcare provided by a single government entity? Are taxes perceived to be relatively high, compared to similar countries? Are the largest companies owned by the government? Another way is to look up the 'government spending as a percentage of GDP'. (GDP being **gross domestic product**, or the size of the overall economy.)

Prepare to discuss your results with those in your class to compare the degree of government intervention in your country's economy.

What is a mixed economy?

A **mixed economy**, as the name suggests, seeks to combine aspects of planned and market economies to suit a country's needs. All countries, unofficially if not officially, have mixed economies in that they combine private and public control of some resources. A mixed economy may have a strong private sector for goods and services, with workers earning varied salaries, firms choosing who their workers are, and allocating resources based on their profitability. That country may also have government provision in other sectors, such as health care, national defence, and education. It may also have a strong social safety net to reduce **poverty** and help the unemployed. These government interventions would be paid for by taxing firms and individuals. Mixed economies rely on cultural and political influence to decide the appropriate place and degree of intervention, and where markets should be free.

Advantages of a mixed economy

- Solutions to market failures can be managed on a case by case basis, not bound to ideology.
- Governments can use tax **revenues** earned through its market system to support underproduced merit goods like education and healthcare.
- Governments can provide popular goods and services but also limit demerit goods.
- A balance of dynamic market forces and government support can increase overall well-being.

Disadvantages of a mixed economy

- There is a potential for social division over the allocation of resources and tax rates.
- There can be political conflict over the role of the government in regulating production and consumption.

1.2 The production possibilities curve model (PPC)**Learning outcomes**

At the end of this section you will be able to:

- explain, using a PPC diagram, how the **production possibilities curve** (production possibilities frontier) model may be used to show the concepts of scarcity and choice
- using a PPC diagram, show and explain a situation of unemployed resources and inefficiency
- using a PPC diagram, demonstrate the concept of trade-offs and opportunity cost
- explain how a PPC may demonstrate the idea of increasing and constant opportunity costs.

The existence of scarcity and the reality that every economic decision involves trade-offs and costs can be illustrated in what will be the first of many economics models you will learn about in this course. The production possibilities curve (PPC) is a model

economists use to demonstrate the fundamental economic concepts you have been reading about so far (Figure 1.1).

The PPC model makes several assumptions:

- the amount of resources (land, labour, capital, entrepreneurship) is static
- the level of technology is also held constant
- an economy produces only two goods (capital or consumer goods, for example)
- any point on the PPC line represents the full use of all resources and technology, and is therefore economically efficient
- points inside the curve are levels of output that are inefficient, not using all resources available
- points outside the curve are impossible unless conditions change
- to change from one point on the curve to another point on the curve is to reallocate resources, increasing output of one good at the expense, or opportunity cost, of another
- changing preferred outputs along the efficient PPC line are shown by movements along the PPC
- movements along the PPC will demonstrate the trade-offs between production of one good in terms of another, or how much of one good is lost when producing more of the other good
- constant opportunity cost PPCs are shown by straight-line PPC
- increasing opportunity cost PPCs are shown by a curved, bowed-out PPC.

A kind of personal PPC can be used to demonstrate some of these basic concepts. The PPC in Figure 1.1 illustrates the trade-off Sarah faces in deciding how to use her 10 hours of free time each week. She can spend her free time doing one of two things, playing or working.

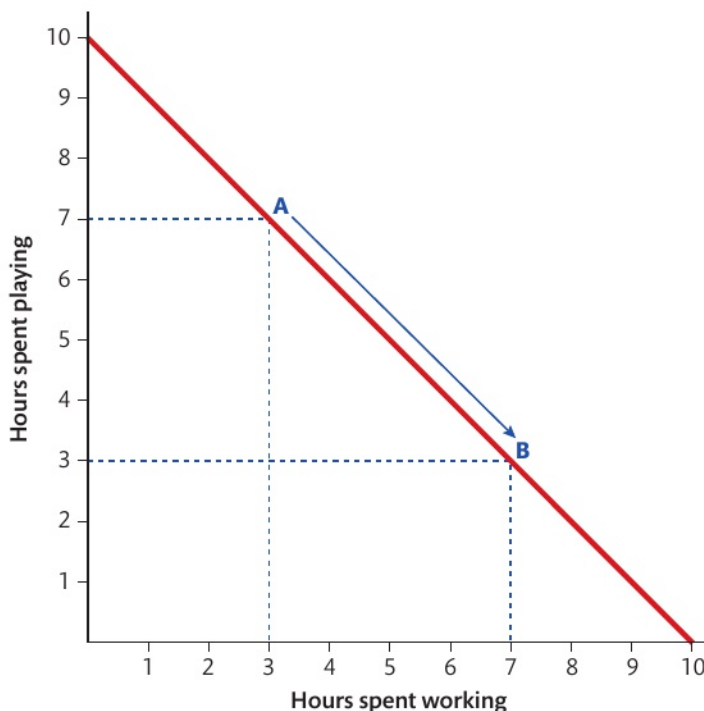


Figure 1.1 Sarah's production possibilities curve

Assume that point A represents Sarah's decision in week 1, when she allocates seven hours to play and three hours to work. Her decision to allocate her limited time in this manner involves an opportunity cost, which is the benefit she would have gained from spending more time working and less time playing.

Assume that point B represents Sarah's decision in week 2, when she has decided to spend seven hours working and only three hours playing. The opportunity cost of working four additional hours is the four fewer hours she gets to spend playing and all the enjoyment she foregoes as a result of her decision.

This simple PPC demonstrates several concepts fundamental to economics.

- **Scarcity.** Because resources are scarce, there is a limit to the amount of production or consumption an individual (or a nation) can undertake. Time is the scarce resource in Figure 1.1. With only ten hours of free time, Sarah must decide how to allocate her time among competing activities.
- **Trade-offs and choices.** The two axes in a PPC represent two trade-offs faced by an individual, firm, government, or society. The axes may represent any economic activity that can be undertaken by an individual, firm, or nation in the employment of its scarce resources. Because we face trade-offs, we must make choices, which involve costs.
- **Opportunity cost.** Nothing is free. More time playing comes at the expense of the benefits from time spent working. Likewise, a nation that chooses to produce a certain good faces costs in the form of the other goods that could have been produced with the same resources.

The law of increasing opportunity cost

More commonly, the PPC is used to illustrate a nation faced with a decision regarding what types of goods to use its scarce resources to produce. The PPC in Figure 1.2 assumes that Country I can produce two goods – pizzas and robots.

The law of increasing opportunity cost explains why the PPC is bowed outwards from the origin. The law says that as the output of a particular product increases, the opportunity cost of producing additional units rises.

Varied resources: Country I's PPC in Figure 1.2 has a convex shape (it bows out from the origin). The reason for this lies in differences in the production of pizzas and robots. Pizzas and robots require very different resources in their production. Pizzas are land intensive (large amounts of land are needed to grow the ingredients). Pizzas also require a particular type of labour and capital: farmers and cooks need not have advanced degrees and extensive expertise in engineering to grow ingredients and make pizzas. The land and labour resources required to make robots are very different than those for pizza. The type of labour needed is highly skilled and educated. Because Country I's land, capital, and labour resources are not equally suitable to making either robots or pizzas, the opportunity cost of increasing production of robots increases in terms of pizzas the more robots are produced.

Increasing opportunity costs to production are shown by the country losing larger amounts of one good as it tries to increase production of another. For example, as this country increases output of robots, it gives up more and more units of pizza each time. Notice, for instance, that when robot production increases from 300 to 400 units, the

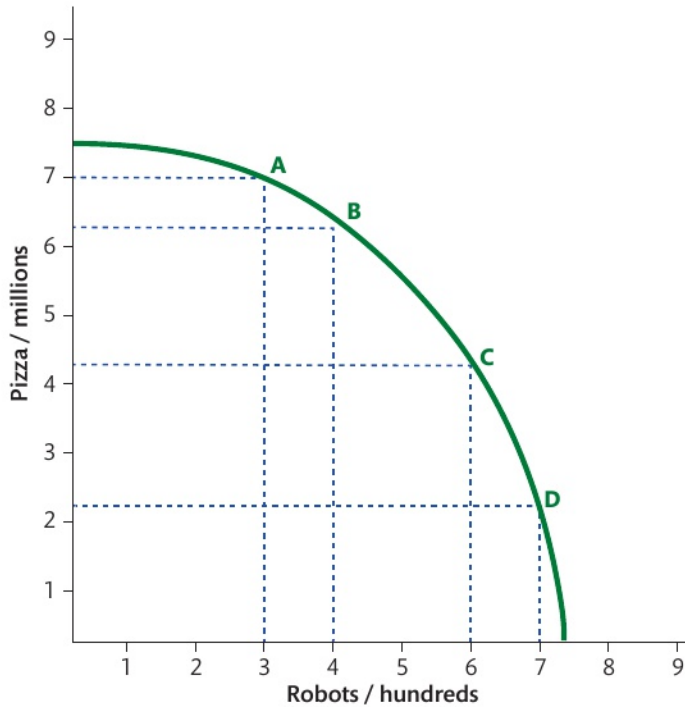


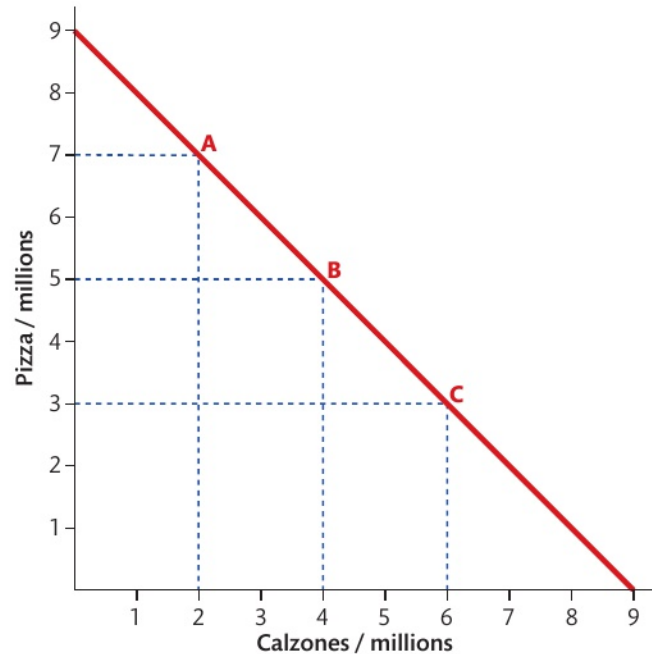
Figure 1.2 The increasing cost PPC bows outwards due to the very different resources involved

cost of the additional 100 robots is just under one million pizzas (since pizza production falls from 7 million to a little over 6 million). But as robot production increases, however, from 600 to 700 units, the additional 100 robots costs Country I around *two* million pizzas (since pizza output falls from around 4 million to 2 million pizzas).

Why did the opportunity costs double for the same increase in output? Why did Country I have to give up twice as many pizzas to increase robot production by 100 units from 600 to 700 than it did to increase production by the same one hundred units two levels before, from 300 to 400? The explanation lies in the fact that as Country I started making robots (between 100 and 400) only the resources best suited for robot design and production were employed. Electrical engineers and highly educated technicians who had been employed in the pizza industry quit making pizzas (which they were never any good at anyway) and started making robots. The land, labour, and capital that was best for making pizzas remained employed in the pizza industry, and at first Country I was able to switch over to the production of robots at a relatively low cost.



Figure 1.3 The constant-cost PPC derives from the one to one trade-off between pizza and calzones



However, as robot production intensified, resources were increasingly moved out of pizza production, and into the robot industry. This meant switching resources that were well-suited to pizza making and forcing them into robot making. Accordingly, to produce 700 robots, highly skilled pizza makers and land better suited for growing wheat and flour and tomatoes and dairy cows had to be shifted into robot production. The cost of robots in terms of pizzas increases the more robots Country I produces. Because costs increase with each interval of output, the law of increasing opportunity costs is at work.

Constant-cost PPCs

Similar resources: Not all PPCs are bowed outwards. If the two goods represented in a PPC are very similar in their production, requiring similar types of labour, capital, and land resources to produce, then the PPC for the two products is a straight line, such as Country I's PPC for pizzas and calzones (Figure 1.3). A calzone is basically a pizza folded in half. Therefore, the opportunity cost of one calzone is always only one pizza, so the PPC is a constant sloping curve, and the trade-off is always one to one. Real-world examples of similar resources used in the production of two goods include the growing of corn and wheat, or the production of smartphones and tablet computers.

Efficiency, inefficiency, and economic growth

The PPC can also be used to illustrate the economic concepts of efficiency, inefficiency, and economic growth. Look now at Figure 1.4. Points A, B, C, and D are all on the curve; at each of these points Country I is producing some combination of goods and using its existing resources (land, labour, capital, and entrepreneurship) efficiently. This means that nearly every person of working age who wants a job has a job, the land that can be used for production of pizza ingredients and robot components is being used and the nation's existing capital (factory equipment, ovens, and other tools) is operating

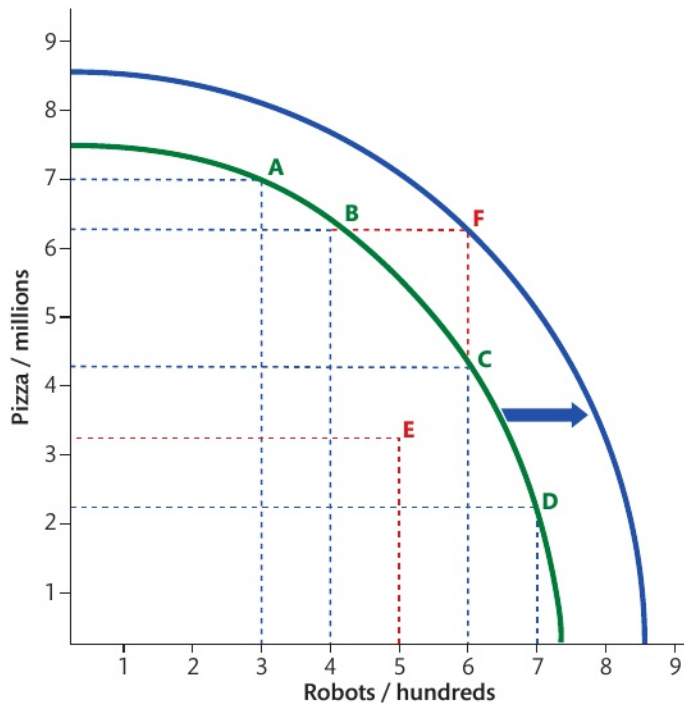


Figure 1.4 Points inside the PPC represent inefficiency, and points outside are only possible in future through growth

at full capacity – no capital is sitting idle. At these points, an increase in total output is not possible without an increase in inputs first. A nation achieving its production possibilities is producing at its **full employment level of output**. For this reason, the PPC is often given the alternative name of production possibilities frontier (PPF).

A nation not achieving **full employment** of resources is producing at a point inside its PPC. If Country I is producing 500 robots and 3.2 million pizzas (point E), it is under-utilising its land, labour, and capital. A country is said to be inefficient if it is producing at a point inside of its PPC. This means that **unemployment** is likely to be high, land that could be put into cultivation of food or production of minerals is not being used, and existing capital is sitting idle. An economy producing inside its PPC may be in a **recession** – this means that the level of output has fallen below the full employment level achieved when producing on its PPC.

Clearly the PPC can also illustrate the possibility of economic growth. A point outside the PPC is unattainable given the existing quantity and quality of resources, but it is clearly desirable. At point F in Figure 1.4, Country I would produce 600 robots and consume over 6 million pizzas. This is clearly beyond the current production possibilities, but it may be attainable in the future if the economy grows.

Economic growth is defined as an increase in the total output of a nation over time, indicating an increase in economic well-being. Growth is possible if a nation experiences an increase in the quality or the quantity of productive resources (land, labour, capital, and entrepreneurship), or an increase in technology. Economic growth is shown with a PPC in Figure 1.4. In order to achieve a level of production and consumption corresponding with point F, Country I must increase the amount of land, labour, or capital in the country or improve the productivity of these resources. Such a change would create a new PPC boundary line, with a new set of trade-offs between one type of production and another. Most importantly, more of all goods, in this case pizza and robots, can now be produced.

How realistic are economic models? How can we know what to include or exclude in a model?

Consider the above model, the PPC. To what extent do you think some of the assumptions above (two types of output, resources are static), are very realistic? To what degree do they identify useful ideas? What could be included to make it more realistic? How would that affect the clarity of the model?

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Productivity is defined as the output attributable per unit of input. If Country I's workers became better at producing pizzas and robots, either through better training and education or through an increase in the quality of the technologies used to produce these goods, then the national output of Country I would grow and the country would move towards point F. **Investments** in public education by the government or investments in better technology and more capital by the country's businesses could lead to economic growth. Economic growth is an objective that plays a significant role in macroeconomics.

1.3 The circular flow of income model

Learning outcomes

At the end of this section you will be able to:

- describe, using a diagram, the circular flow of income between households and firms in a closed economy with no government
- outline that the income flow is numerically equivalent to the expenditure flow and the value of output flow
- explain how the circular flow demonstrates the interdependence of all sectors of the economy
- describe, using a diagram, the circular flow of income in an open economy with government and financial markets, referring to **leakages/withdrawals** (savings, taxes and **import expenditure**) and **injections** (investment, government expenditure, and **export revenue**)
- explain how the size of the circular flow will change depending on the relative size of injections and leakages.

The idea that the exchanges between individuals are *voluntary* and that anyone engaging in such exchanges benefits from them is fundamental to the market economic system. This implies that when one person voluntarily gives another something that the second person wants, the first person must be getting something he or she wants in return. Thus, both parties are better off following the exchange. In other words, market economics is not a zero-sum game. When one person wins, it does not necessarily mean that someone else loses. Both derive some benefit from the trade, or they would not voluntarily make it.

The circular flow model (Figure 1.5) shows the flow of money through the economy, as money moves from buyers to sellers, and then from sellers to individuals in the form of income. Thus money circulates through the economy. The model assumes that all exchanges in a market economy take place in either the 'product market' or the 'resource market'. In our study of market economies, we will assume that the demand for resources by firms, and for goods and services by households, is met in one of these two markets. Households are the 'owners' of productive resources, which are the inputs firms need in order to produce goods and services. To acquire the inputs for production, firms must pay households for their resources in the resource market. Households earn their income in the resource market and then buy the finished products provided by firms in the product market.

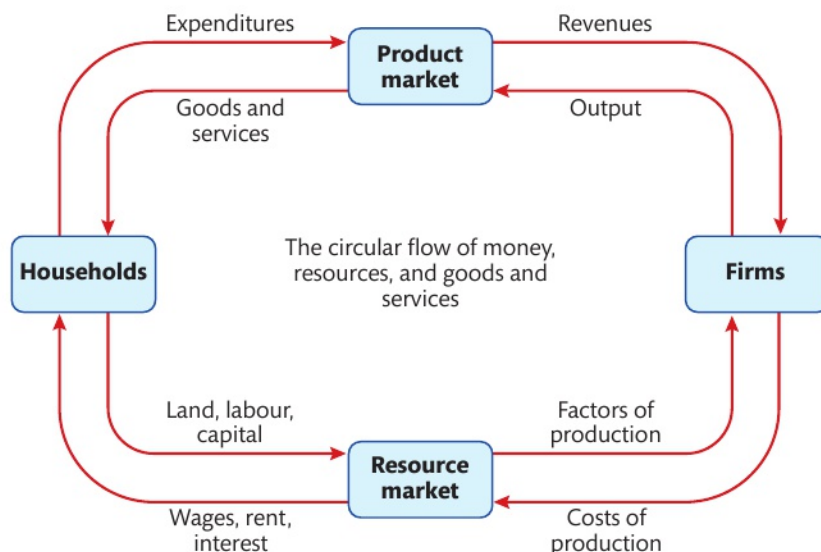


Figure 1.5 Money and resources flow in opposite directions around the **circular flow model**

Thus, in Figure 1.5, money payments flow clockwise in the outer loop while resources, goods, and services flow counter-clockwise in the inner loop. In the resource market, households provide firms with the factors of production (land, labour, and capital) they demand in order to produce their output. But these inputs are not free; firms face costs in acquiring them. These costs translate into money incomes that households receive for the resources they provide; wages for labour, rent for land, and interest for capital.

Once firms have acquired all the inputs necessary to produce their finished products, they sell their products to households in the product market. The money households earn in the resource market goes to pay for the goods and services they demand in the product market. Household expenditures on goods and services translate into revenue for the firms.

Thus, the money earned by households in the resource market is ultimately earned by firms in the product market, and the circular flow is complete. Inputs turn into outputs, income turns into revenue.

Figure 1.5 illustrates at a basic level how market economies function. Buyers and sellers are **interdependent**. A drop in one sector affects the others. Reduced incomes in the resource market will reduce spending in the product market.

The circular flow model with injections and leakages

We can now introduce additional elements into the model to make it more realistic. The previous model was self-contained but the new model will acknowledge that there are other actors in the system and that money exits and enters the system in a variety of ways. Money that exits the system is referred to as 'leakages', while money that enters the system is called 'injections'.

The government sector: taxes and spending

Probably the single largest actor not included in the simple model is the government. The government has a profound impact on even the most avidly free market economies. Governments draw tax money from the population, a leakage of income

out of the model. However, that money should eventually re-enter the model as **government spending** on everything from salaries to **infrastructure**. (Even if we assume that some of the money is lost through corruption, it may also eventually re-enter as consumer spending.) This idea, that the flow of money never truly escapes the model, is one that holds true with the other new actors in the model.

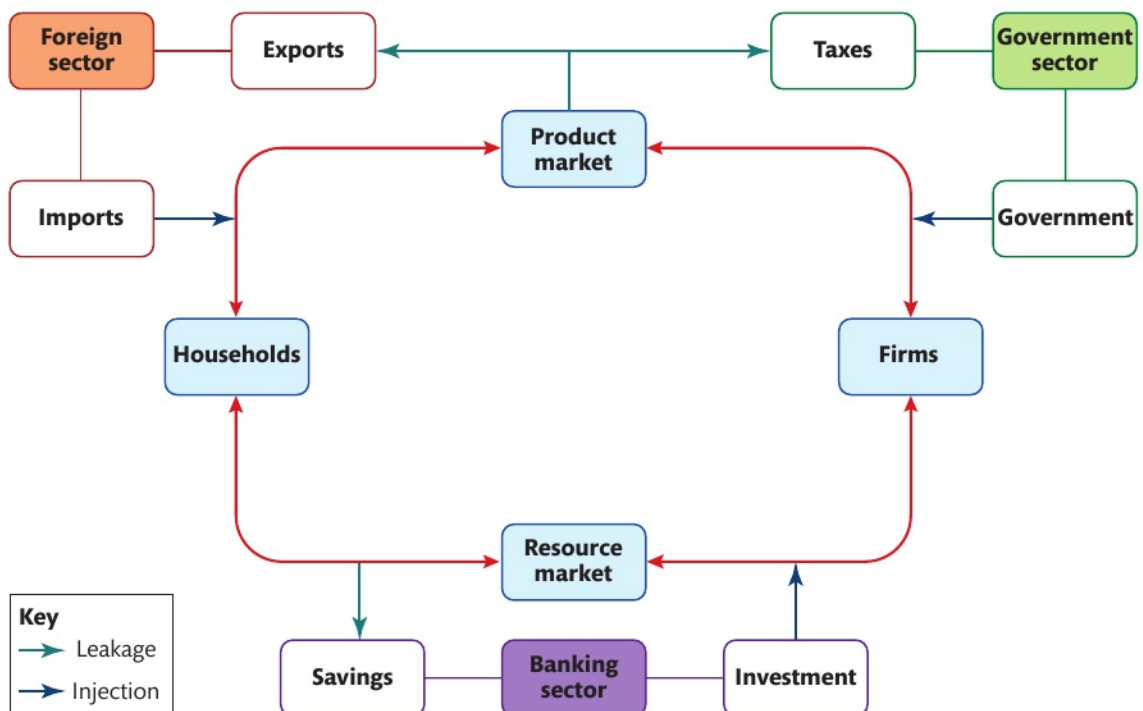
The foreign sector: imports and exports

The previous model assumed a closed economy, hardly a realistic notion in a world of increasingly globalised trade. If we assume that some of the money spent in either the factor or product market is spent on imported goods, then that income will leak from the system. However, roughly the same amount of money should enter in the form of **exports** sold to other countries. This tendency towards a balance of import and export flows is explained in more detail in Chapter 26. For now, it is sufficient to acknowledge the leakage and injection that takes place with the addition of the **foreign sector** to the model.

The financial sector: savings and investment

Some consumers save a portion of their money, rather than spend it. Savings would slow down the flow of expenditure and eventually income. However, money that is saved in banks is made available to borrowers. These borrowers then inject the savings back into the economy in the form of investment, whether as capital goods or by the purchase of housing by households. Thus, the leakages of savings re-enter the system through loans made by the financial sector.

Figure 1.6 The circular flow model showing leakages and injections



spending, export purchases, and investments. Leakages are the diversions of money outside the circular flow and occur when the government collects taxes, **imports** are purchased, or when people save money. Figure 1.6 shows the government sector taking taxes away from firms and households, then injecting the money into the flow again. It shows imports leaking money out of the economy, while exports inject it back in. It shows savings leaking out of the economy, while investment from the savings injects it back in.

While the new model is still a simplified one, it makes an allowance for some realities. If one sector leaks more than it injects, the flow merely becomes smaller. For example, if imports are greater than exports, the flow may be reduced. If government spending, an injection, is greater than taxes in any given year, the flow will increase. Of course, in that event, most governments will borrow money to do the spending. So, it is likely that, in some future year, taxes will be more than spending to pay off the debt. Although there is a tendency for the leakages and injections to be equal, in the real world it is unlikely that they will be at any particular time.

Practice exam questions – assessment tips (Paper 1 for HL and SL)

Your Paper 1 exam will consist of three pairs of essay questions. You will choose one of them. Each pair may come from any of the four units: Introduction to Economics, Microeconomics, Macroeconomics, the Global Economy. Each pair has part (a) worth 10 marks and part (b) worth 15 marks. You will have 75 minutes to answer this two-part question.

Part (a) will require you to define terms, explain concepts, and, almost always, use a diagram to do so. Most questions, but not all, state the need for diagrams, but even those that do not explicitly say so may still require a diagram for full credit. It is important to connect the diagram to your explanation. Unexplained diagrams do not count for much. The use of real-world examples is desirable, as it helps illustrate the idea.

More information on external assessment is found in Chapter 31. Below are examples of part (a) questions.

Practice exam questions

Paper 1, part (a) questions

1. Explain how economics addresses scarcity by answering the three basic questions of economics. (10 marks)
2. Distinguish, using a diagram, the difference between a curved PPC and a straight-line PPC. (10 marks)
3. Explain how a production possibilities curve helps demonstrate the concepts of scarcity, choice, and opportunity cost. (10 marks)
4. Explain, using a circular flow diagram, how the consumers and producers are interconnected in a free market economy. (10 marks)



**How do economists
approach the world?**

2

2.1 Economic methodology

Learning outcomes

At the end of this section you will be able to:

- distinguish between positive and **normative economics**
- explain how economists use models, theories, logic, the *ceteris paribus* assumption, empirical evidence, and **refutation** in their analysis of human behaviour.

As you start down this path towards learning economics, you will slowly start to *become an economist*, which means you will start to look at the world a little differently. The *economic way of thinking* is one rooted in logic, reasoning, and both *positive* and *normative* analysis of quantitative and qualitative data drawn from observations of the interactions of various agents in society, often examined using models. By the end of this journey, you will be an *economist*, and you will never look at the world the way you did before studying economics!

The role of positive economics

Economists may not always agree on everything. An economic statement is *positive* or *normative* depending on whether it is purely an expression of factual information or an expression of values or opinions based on facts.

Positive economics deals with what *is*. It focuses on observations and expressions based purely on factual evidence. For example, it is a fact that when the price of doughnuts rises, the number of doughnuts that consumers demand falls. This is not an issue that economists would find it necessary to debate. In fact, the relationship between the price of a good and the **quantity demanded** by consumers is so widely agreed upon that it has become an economic law (the **law of demand**).

Positive economics is rooted in the use of **logic**. An economist undertaking positive analysis will apply a set of tools, often mathematical, always based on formalised principles or economic 'laws', to predict the outcome of a particular event in the world. For example, a positive economic observation might be, 'if the government increases the **minimum wage**, then more people will seek jobs and at the same time employers will need to lay workers off, therefore unemployment will increase'. This statement is based on the basic economic laws of supply and demand and the *ceteris paribus* **assumption**, which economists use to hold 'all else equal' when predicting how a particular change will affect a market or society.

Economists have formalised supply, demand, and many other principles in **models** that can be used to predict and explain how society functions. There is **empirical evidence** to support these models, and therefore it would be difficult to **refute** the above positive economic statements.



The role of normative economics

Not every economic statement is irrefutable, however. Some are more an expression of a particular economist's opinion or values. Consider the statement, 'Doughnuts should be taxed because at their current price they are over-consumed and contribute to obesity.' This may be true in that doughnuts can cause health problems, but the view that they 'should be taxed' is refutable. Therefore, this statement is normative. Normative economics deals with what *should be* rather than what is. Normative economics deals with areas of the subject that are open to personal opinion and belief.

Or consider the statement, 'The government should raise the minimum wage, since many retail workers cannot afford a decent quality of life.' How does this differ from the previous, positive statement about the minimum wage? The previous observation is based on economic theories and real-world evidence, while this statement is based on the subjective viewpoints of the person making it. While it may be true that it is hard for minimum wage workers to afford a decent quality of life, the claim that the solution is a higher minimum wage is refutable by anyone willing to argue that the resulting negative impact on employment outweighs the benefits of the higher wage.

Positive economic analysis examines human interactions through the lens of quantifiable, irrefutable, evidence-based observations. There is no role for values or ethics in the realm of positive economics. Normative economics, in contrast, allows for the expression of the economist's values or personal views based on the quantifiable evidence observed in a particular market or realm of social interaction.

Normative economics places value on certain principles over others, such as the importance of equity over efficiency, or vice versa. Equity in economics refers to *fairness*. This differs from the concept of equality, where resources are distributed evenly across society. Equity is when there is an equal opportunity for individuals in society to achieve economic advantages.

Let us examine two economic statements about education.

- A. There is a direct relationship between the level of education attained and one's income later in life.
- B. Taxing the incomes of the rich at a higher rate to help pay for publicly-funded schools will benefit society since everyone will have equal access to education regardless of income.

Which of these is a positive statement and which is normative? If you said A is the positive statement then you are correct. B, on the other hand, is a normative statement based on the fact presented in A. While education does, in fact, correlate to higher incomes, whether or not the best way to achieve that outcome is to tax the incomes of the rich is refutable. The statement places a value on *equity over efficiency*. Many people would argue that taxing the incomes of the rich creates a negative incentive to work hard and earn higher incomes, and therefore reduces efficiency across the economy. Others may counter that the money taxed at higher levels is less useful to, or needed by, the relatively rich than the money contributed to support the relatively poor.

What assumptions do economists make when they apply economic theories to the real world?

To what extent does the distinction between positive and normative statements exist in other academic disciplines?

TOK

2.2 A history of economic thought

Learning outcomes

At the end of this section you will be able to:

- outline the broad history of economic thought from the 18th century through the early 21st century.

Economics is a social science, and like other sciences the theories and principles on which it is based have changed throughout history. As different practitioners have emerged, each has applied their own unique methodology and perspective to their objective observations of society's economic interactions.

The 18th century – the foundation of classical economics

Economies, the systems by which goods are produced and exchanged in society, have existed since the **specialisation** of human labour arose during the first Agricultural Revolution around 12,000 years ago. The *study* of how economies function is a relatively recent field. Modern economics as a field of study has its roots in the 18th-century English Enlightenment, when the philosopher Adam Smith described how the pursuit of individual self-interest in free markets could result in socially desirable outcomes, as some in society seek to get rich by producing what others demand.

Adam Smith was one of the first theorists of what was later described as *classical economics*, the unifying principle behind which was the idea that the value of any commodity or good is derived from the amount of labour used to produce it. This *labour theory of value* is reflected in the following quote from Adam Smith's *The Wealth of Nations*.

'The value of any commodity, therefore, to the person who possesses it, and who means not to use or consume it himself, but to exchange it for other commodities, is equal to the quantity of labour which it enables him to purchase or command. Labour, therefore, is the real measure of the exchangeable value of all commodities. The real price of every thing, what every thing really costs to the man who wants to acquire it, is the toil and trouble of acquiring it.'

Adam Smith, *The Wealth of Nations*, 1776

The 19th century – free markets for all

Utility theory

The fields we now refer to as microeconomics and macroeconomics were not yet formed when Smith was writing about the pursuit of self-interest guiding commercial interactions as if by an *invisible hand* in the late 18th century. Microeconomics as a field of study emerged only in the 19th century with the development of utility theory, which was used to explain the behaviour of individuals who are able to consistently rank their choices in order of their personal preferences.



▲ A Neolithic rock carving: the first Agricultural Revolution happened during the Neolithic period

As economic agents, individuals make rational decisions about what to buy and consume and how to allocate their limited resources (time, labour, money, etc.) based on their *utility functions* for various choices. **Utility** in economics is the happiness or satisfaction derived from any particular good, service, or activity that an individual could choose to consume or pursue.

Utility theory formed the conceptual foundation of what would later emerge as the market demand and supply models, on which much of microeconomic analysis is still based. The demand for any particular good in a market is derived from the aggregated utility functions of all the consumers in that market. Likewise, a **supply curve** is little more than the aggregated **marginal costs** of all the producers in a market, determined by the diminishing marginal returns experienced as more units of a variable input are added to a fixed factor of production.

Economists talk about individuals' behaviours *on the margin*. These are behaviours based on the value of an additional unit of something. The classical economists of the early 19th century were the first to examine the concept of the margin, and it forms the basis of microeconomic theories to this day.

The laissez-faire approach

Another classical economist of the early 19th century, Jean-Baptiste Say, laid the groundwork for what would be known as the laissez-faire approach to macroeconomics, which says that the best means by which to manage a national economy is to not manage it at all, but to 'let it be'. **Say's Law** observed that *supply creates its own demand*. Say explained that:

'... a product is no sooner created than it, from that instant, affords a market for other products to the full extent of its own value'

Jean-Baptiste Say (Translated by CR Prinsep), *A Treatise on Political Economy*, 1821

The act of paying workers in one factory creates demand for the products from another factory equal to the value of the labour provided in Factory A. Upon this observation the belief emerged that an economy left to its own unregulated and unhindered activities will reach a state of equilibrium where full employment is achieved. Surpluses and **shortages** of goods, services or labour (in other words, unemployment or overemployment) will be eliminated as the market finds a balance between production and consumption. Macroeconomic shocks like recessions, stagnation, and involuntary unemployment, according to Say's Law, are resolved automatically by the free market's rebalancing between the amount produced and consumed.

The 19th century – Marx's critique

Classical economists had faith in the morality of free markets and the socially beneficial outcomes of the pursuit of individual self-interest. That faith was called into question in the mid-19th century by several philosophers, most notably Karl Marx. His critique of the free market theories of the likes of Smith and Say was rooted in the inequality that had emerged under the market system predominant at the time. Marx believed that under the market system, human labour had become a disposable 'commodity' like the slave labour on which the economies of ancient Rome and Greece had been based.

Marx argued that workers were the slaves of capital and capitalists were the slave masters. Marx defined 'capital' as the wealth possessed by individuals that is used to extract profits from the production of commodities and 'capitalists' as the wealthy owners of capital.

Marx believed the capitalist system exploited labour, because the owners of capital paid workers less than the value of the output they produced, thus extracting 'surplus value' from the working class to enrich the capitalist class. This exploitation would create an imbalance over time as the growing classes of exploited labourers would see their wages pushed downward. As the gap between the rich and poor grew, the conditions for revolution would emerge, the capitalist system would be overthrown and workers themselves would take control of the means of production.

The ideal society, according to Marx, was one in which the factors of production were communally owned, and everyone in society would be rewarded equally for his or her labour.

'In a higher phase of communist society, ... only then can the narrow horizon of bourgeois right be crossed in its entirety and society inscribe on its banners: From each according to his ability, to each according to his needs!'

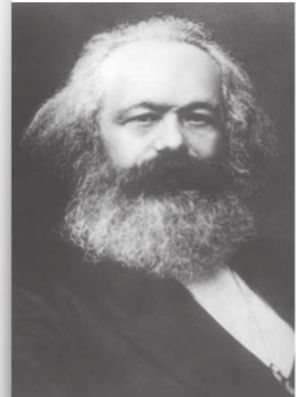
Karl Marx, *Critique of the Gotha Program*, 1891

The 20th century – a battle of ideas

Marxism would form the basis for the communist regimes that emerged in the 20th century in places such as Russia (the Soviet Union), China, North Korea, and Cuba. Some degree of Marxist ideology underlies the socialist states that still exist, reflected in the degree of state ownership of the major industries in modern economies such as Canada, China, Sweden, the UK, and elsewhere. No modern economies demonstrate the continuous cycle of class struggle and ongoing revolution that Marx foresaw, and for the most part experiments with pure communism based on Marxist principles have been abandoned for the mixed market/government-run economies typical of most countries in the 21st century.

We can see that by the end of the 19th century the two poles of the economic spectrum had been firmly established by economic theorists, from Smith and Say at one end to Karl Marx at the other. Finding the balance between them has been the struggle of every economy in the two and a half centuries since Smith established the groundwork for the field of modern economics.

In the 20th century, the tug and pull of free market capitalism at one extreme and state-run communism at the other came to a breaking point as the world's superpowers collided, not only on the battlefields of the First and Second World Wars, but also in the factories, fields, mines, and offices of the global economy. The Great Depression of the 1930s struck a devastating blow to both the capitalist economies of the West and the communist states of the East. With the Second World War that followed, the question of the extent to which government should play a role in the economic lives of a country's people came to the forefront of history. With the communist Soviet Union and the capitalist USA both emerging victorious from the war against Nazism and fascism, a new paradigm for understanding macroeconomics was needed. The man that emerged from the war as the intellectual thought leader of 20th century economics was John Maynard Keynes.



▲
Karl Marx in 1875

Keynes' voice emerged from a crisis. By 1929, the first great experiment in Marxist-style communism had been underway for seven years in the Soviet Union. The USA was at the tail end of its 'Roaring Twenties', a decade that saw record growth in economic activity and the emergence of the thriving monuments to capitalism that investors still worship today: stock exchanges like those in New York, London, and elsewhere across the capitalist world. In October 1929, a collapse of share prices on the New York Stock Exchange, caused by an unregulated and wildly speculative stock market, triggered a global financial crisis. The ensuing collapse of the banking system ushered in a decline in economic activity that would later be known as the Great Depression.

Unemployed men lining up
outside a soup kitchen in
Chicago, February 1931



The depression caused problems for the laissez-faire doctrines of the classical economists. The economies of the world failed to self-correct from the slump in output and employment as classical theory suggested they would. Instead, unemployment reached shocking levels across the rich world. In the absence of government safety nets such as unemployment benefits, health insurance, food and housing **subsidies**, and other programmes that are fairly standard in developed economies today, the decline in economic activity resulted in increased poverty and unparalleled human suffering. The free market principles of Adam Smith and Jean-Baptiste Say, it would appear, had failed the people of the USA and Europe. The Great Depression called for a new interpretation of macroeconomic principles, and Keynes stepped in to fill that void.

Keynes's 1936 book *The General Theory of Employment, Interest, and Money* introduced theories that still predominate macroeconomics today. He observed that following economic crises, such as the 1929 stock market crash, economies are unlikely to self-correct, or return to full employment equilibrium, as the classical theory predicted they would, but would instead risk ever-falling spending and shrinking output. This, in his view, was due to several factors, including the propensity for households to save more during economic downturns, businesses' reduced willingness to invest, the inflexibility of wages and prices, and the public's increased preference for 'liquidity' (i.e. the desire to hoard cash during downturns), all factors that cause the overall level of spending to spiral downward, and unemployment to rise during recessions.

Without government intervention, argued Keynes, slumping economies would become stuck in a 'liquidity trap', in which reduced spending leads to rising

