

FOR THE
IB DIPLOMA
PROGRAMME

Economics

SAMPLE
MATERIAL

Paul Hoang
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Contents

Introduction	00
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Introduction to economics	00
---------------------------------	----

CHAPTER 1 What is economics?	00
---	----

CHAPTER 2 How do economists approach the world?	00
--	----



Microeconomics	00
----------------------	----

CHAPTER 3 Demand	00
-------------------------------	----

CHAPTER 4 Supply	00
-------------------------------	----

CHAPTER 5 Competitive market equilibrium	00
---	----

CHAPTER 6 Critique of the maximizing behaviour of consumers and producers	00
---	----

CHAPTER 7 Elasticity of demand – PED	00
---	----

CHAPTER 8 Elasticity of demand – YED	00
---	----

CHAPTER 9 Elasticity of supply	00
---	----

CHAPTER 10 Role of government in microeconomics	00
--	----

CHAPTER 11 Market failure – externalities (externalities and common pool or common access resources)	00
--	----

CHAPTER 12 Market failure – public goods	00
---	----

CHAPTER 13 Market failure – asymmetric information (HL only)	00
---	----

CHAPTER 14 Market failure – market power (HL only)	00
---	----

CHAPTER 15 The market's inability to achieve equity (HL only)	00
--	----



Macroeconomics	00
----------------------	----

CHAPTER 16 Measuring economic activity and illustrating its variations	00
--	----

CHAPTER 17 Variations in economic activity: AD and AS	00
--	----

CHAPTER 18 Macroeconomic objectives – economic growth	00
--	----

CHAPTER 19 Macroeconomic objectives – low unemployment	00
---	----

CHAPTER 20 Macroeconomic objectives – low and stable rate of inflation	00
--	----

CHAPTER 21	Macroeconomic objectives – potential conflict between macroeconomic objectives	00
CHAPTER 22	Economics of inequality and poverty	00
CHAPTER 23	Demand management (demand side policies) – monetary policy	00
CHAPTER 24	Demand management – fiscal policy	00
CHAPTER 25	Supply side policies	00



Section 4 The global economy 00

CHAPTER 26	Benefits of international trade	00
CHAPTER 27	Types of trade protection	00
CHAPTER 28	Arguments for and against trade controls/protection	00
CHAPTER 29	Economic integration	00
CHAPTER 30	Exchange rates	00
CHAPTER 31	Balance of payments	00
CHAPTER 32	Sustainable development	00
CHAPTER 33	Measuring development	00
CHAPTER 34	Barriers to development	00
CHAPTER 35	Economic growth and/or economic development strategies	00

Answers	0
--------------------------	---

Glossary	0
---------------------------	---

Index	0
------------------------	---

2

How do economists approach the world?

Conceptual understandings (WISE ChoICES)

- Economics is a social science characterized by **interdependence**, which focuses on how people interact with each other to improve their **economic well-being**.
- The economic world is dynamic in nature and constantly subject to **change**.
- The central problems of economics are **scarcity** and **choice**, which forces societies to face opportunity costs and the challenge of **sustainability**.
- Debates exist in economics regarding the potential conflicts between economic growth and **equity** and between free markets and government **intervention**.

LEARNING OUTCOMES

By the end of the chapter, students should be able to:

- ▶ explain economic methodology in terms of the role of **positive economics**: the use of logic, the use of hypotheses, models, theories, the ceteris paribus assumption, empirical evidence and refutation (AO2)
- ▶ explain economic methodology in terms of the role of **normative economics**: value judgements in policymaking, and the meaning of *equity* and *equality* (AO2)
- ▶ explain economic thought, including the origin and evolution of economic ideas in a historical context:
 - eighteenth century: the ideas of Adam Smith and laissez-faire economics (AO2)
 - nineteenth century: the basic ideas of classical microeconomics, the concept of the margin, Say's law, and Marxist critique of classical economic thought (AO2)
 - twentieth century: the Keynesian revolution, the rise of macroeconomic policy, and the main ideas of the monetarist/new classical counter revolution (AO2)
 - twenty-first century: the growing role of behavioural economics, the growing awareness of interdependencies between the economy, society and environment, and the compelling reasons for moving towards a circular economy (AO2).

Economic methodology (AO2)

Economic methodology refers to the study of the processes, practices and principles in relation to the discipline of economics as a social science. It includes the models, theories and assumptions underlying economic reasoning. It deals with what is and what is not economics. Although economics as an academic discipline goes back at least to the eighteenth century, the methodology of economics has evolved over time.

Economic methodology is concerned with three key aspects:

- how economics functions
- how it could function, and
- how it should function.

◆ **Economic methodology** is the study of the processes, practices and principles of economics. It includes the models, theories and assumptions underlying the discipline.

This section of the syllabus considers two main dimensions of how economists approach the world:

- Economic methodology in terms of:
 - the role of positive (objective) economics, and
 - the role of normative (subjective) economics.
- Economic schools of thought from the past several centuries, including:
 - eighteenth century: Adam Smith and laissez-faire economics
 - nineteenth century: Jean-Baptiste Say, Karl Marx and Classical economics
 - twentieth century: John Maynard Keynes, Monetarism and New Classical economics
 - twenty-first century: the growing role of behavioural economics; increasing awareness of the interdependencies that exist between the economy.

British philosopher and economist John Neville Keynes (1852–1949) categorised economic methodology as positive and normative economics. **Positive economics** is the study of *what is* and the way the economy actually works. **Normative economics** is the study of *what should be* and the way the economy ought to work. John Neville Keynes was the father of John Maynard Keynes (1883–1946) – see Economic Schools of Thought later in this chapter.

The role of positive economics (AO2)

The methodology of positive economics was featured as the first essay in Milton Friedman's book *Essays in Positive Economics* (1953), which explores John Neville Keynes's distinction between positive and normative economics. **Positive economics** is the study of economics that is provable, that is, factual statements about the economy or statements of 'what is'. For example, unemployment in the economy will tend to increase if corporate taxes are continually raised as firms become unprofitable so will not need to hire so many employees. Positive economics relies on reasoning, logic and empirical evidence. Hence, such statements can be verified or refuted by referring to facts, evidence or further investigation.

◆ **Positive economics** is the study of economics that is provable, that is, factual statements about the economy or statements of 'what is' rather than 'what ought to be'.

Assuming all other things remain unchanged, the following are positive economic statements:

- Scarcity is the foundation of the basic economic problem.
- Factors of production are required to generate economic output.
- Customers will buy more of a product if the price is reduced.
- A fall in average incomes will lead to higher unemployment in the economy.
- Increasing the national minimum wage will raise costs for businesses.
- A reduction in income tax rates will create incentives for people to find employment.
- A tax on plastic carrier bags will reduce the volume of plastic waste.
- Greater spending on healthcare services will help to increase average life expectancy.
- Pollution control is effective through an efficient system of penalties and fines.
- Globalization creates more winners than losers.
- Cutting interest rates is likely to increase consumption and investment expenditure, but can cause inflation in the economy.



■ Figure 2.1 Taxing single-use plastics is likely to reduce the amount of plastic waste

Top tip!

It is possible for a positive economic statement to be incorrect or inaccurate. The important thing to remember is that positive economics focuses on objective statements about 'what is' at any moment in time rather than 'what should be'. So, such statements can be tested for truth.

The use of logic

Logic is integral to the study of positive economics. **Logic** refers to rationality and reasoning, rather than emotions or beliefs, in explaining economic phenomena and policymaking. For example, it is logical to assume that people will make rational choices based on the information available to them. It is also logical to assume that private sector firms act in their self-interest so most will aim to maximize profits.

Logic involves presenting and analysing facts and data as they are, in an objective, and often measurable, way. Logic enables economists to explain a chain of statements to deduce truth (based on facts and empirical evidence) regarding a hypothesis, model or theory. For example, if bad weather causes the cost of harvesting the tomatoes used to make Heinz tomato ketchup to increase, the following logical sequence of events is likely to take place:

- 1 The cost of producing Heinz tomato ketchup increases.
- 2 This reduces the ability and willingness of the firm to supply its product.
- 3 The subsequent fall in supply makes Heinz tomato ketchup more scarce.
- 4 This causes the price of Heinz tomato ketchup to increase.
- 5 Therefore, the quantity of Heinz tomato ketchup demanded by consumers will fall.

The above chain of logical events can be tested using empirical evidence to accept or refute the hypothesis, model or theory. Logic means none of the sequences above consider subjectivity or value judgements.

Milton Friedman, the American economist and winner of the Nobel Memorial Prize in Economic Sciences (1976), argued that economics should be free of subjectivism and value judgements for it to be respected as a science. He believed that objectivity, reasoning and logic should inform normative economics, such as whether to reduce progressive tax rates or to increase the national minimum wage. Friedman argued value judgements distort policymaking as predictions and decisions are based on opinions rather than facts about the economic consequences of different policies.



Figure 2.2 Do differences in opinions and value judgements distort objectivity?

Theory of Knowledge

'As social beings, humans are never truly logical in their thinking or behaviour.' To what extent do you agree with this statement?

◆ **Logic** refers to rationality and reasoning, rather than emotions or beliefs, in explaining economic phenomena and policymaking.

Theory of Knowledge

Does **faith**, as a way of knowing, have any role in the study of economics?

■ The use of hypotheses, models and theories

In economics, a **hypothesis** is an assumption, notion or educated guess made before research has been conducted. Economists formulate a hypothesis, often based on an observation or idea that explains something. This enables economists to test the hypothesis in order to accept or refute the hypothesis, and to gain a clearer understanding and evaluation of economic behaviour. Two examples of hypotheses are:

- ‘The introduction of a national minimum wage will improve the economy’ or phrased as a question: ‘To what extent will the introduction of a national minimum wage be good for the economy?’
- ‘Men, on average, are paid more than women’ or phrased as a question: ‘Are men, on average, paid more than women?’

The hypothesis statement helps researchers to keep their investigation focused. Relevant data can then be collected to test the hypothesis to inform policy decision makers depending on whether the data proves the hypothesis or refutes it.

Hypotheses are classified as either alternative or null. The majority of hypotheses in economics are **null hypotheses**, which are assumed to be true (such as the example above about minimum wages). Any evidence that contradicts the null hypothesis is captured in the **alternative hypothesis** (such as ‘The introduction of a national minimum wage will *not* improve the economy’ or ‘On average, men are *not* paid more than women’). Hence, the alternative hypothesis is a direct contradiction of the null hypothesis. Either of these hypotheses can be used in economics to test a research question, an idea or a claim, using empirical evidence and data to provide a possible explanation to the phenomenon.

The process of hypothesis testing is shown below:

- 1 The null hypothesis is formulated and assumed to be true.
- 2 Research data is gathered to test the null hypothesis.
- 3 If the empirical evidence is consistent with the null hypothesis, it is considered to be true (although data that is subsequently available could still change this).
- 4 If the empirical evidence is *not* consistent with the null hypothesis, it is refuted (rejected) in favour of the alternative hypothesis.

A **model** occurs when a hypothesis has been repeatedly tested and proven or rejected. Models are only accepted by economists once they have been thoroughly tested and can be used to explain the real world. For example, the price mechanism as an economic model explains the allocation of the world’s scarce resources (see Chapter 5), using empirical evidence and data to explain resource allocation by creating signals and incentives to buyers and sellers in the market.

◆ A **hypothesis** is an assumption, notion or educated guess made before research has been conducted.

◆ A **model** is a hypothesis that has been repeatedly tested and proven or rejected and can be used to explain the real world.

● Theory of Knowledge

Given that economic theories do not show exactly what happens in the real world, how can we know if they are of any use or value?

The word ‘theory’ comes from the Greek word ‘theorein’, which means ‘to look at’ or ‘to contemplate’. A **theory** is a broad generalization used to explain situations or scenarios already supported by economic evidence and data from economic models. For example, the theory of demand (see Chapter 3) generalizes that as the price of a product falls, the quantity demanded by consumers will increase. This theory has been repeatedly tested and is widely accepted so can be used to make predictions about economic behaviour. Economic theories are based on logic and

◆ A **theory** is a broad generalization used to explain situations or scenarios already supported by economic evidence and data from economic models.

backed by empirical evidence, using models to represent and analyse the complexities of a real phenomenon.

An economic hypothesis is accepted as a model once it has been tested enough times to confirm its validity (with sufficient empirical data and evidence) in successfully explaining a phenomenon. Similarly, an economic model becomes an accepted theory once it is sufficiently tested and confirmed to successfully explain the phenomenon.

Note: like any economic hypothesis, an economic model or theory can also be refuted after rigorous testing or when new evidence contradicts or invalidates the existing model or theory.

Hypotheses, models and theories are used in economics to explain:

- relationships – such as the relationship between the changes in household income and the quantity of a product demanded or supplied (see Chapter 7).
- cause and effect interactions – such as the impact of higher taxes or interest rates on the economy (see Chapter 17).

Friedman argued that for a hypothesis, model or theory to be useful, it must meet two criteria:

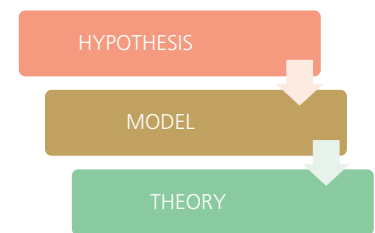
- **Simplicity** in predicting at least as much as an alternative hypothesis, model or theory, although requiring less information. Friedman rejected the idea of testing a hypothesis, model or theory by the realism of its assumptions, as it is the simplicity of economic hypotheses, models and theories that help to predict economic behaviour.
- **Fruitfulness** in the precision and scope of the predictions of the economic hypotheses, models, and theories and their ability to generate additional research and understanding of economics.

■ The ceteris paribus assumption

Economics is regarded as a social science, examining the behaviour of individuals and societies from an economics perspective. As it is not an exact science, it can prove difficult to isolate a particular variable or to hold it constant. For instance, the demand for ice cream is affected by many factors, such as the price, the income of customers, or even the weather. In reality, things are not constant and countries deal with the same economic problem (such as inflation or unemployment) in different ways. Therefore, the concept of ceteris paribus enables economists to simplify and explain possible causes and effects, even if assumptions have to be made.

Milton Friedman (1953) argued that *‘a theory or its assumptions cannot possibly be thoroughly realistic’* and nor do they need to be as it is impossible and unnecessary to examine every single factor *‘directly underlying the supply and demand for wheat’* (or any other product). Friedman argues that trying to make an economic theory overly realistic simply renders it useless owing to the ceteris paribus notion.

Ceteris paribus is a Latin phrase meaning *‘all other factors remaining constant’* or *‘all else unchanged’*. For example, the ceteris paribus condition allows economists to examine what is most likely to occur to the level of demand for a good or service if one variable affecting demand changes (such as income) while holding all other variables (that affect demand for the product) constant. For example, ceteris paribus, firms will increase the supply of flowers if the price of flowers increases.



■ Figure 2.3 The relationship between hypotheses, models and theories

● Theory of Knowledge

How realistic are economic theories and models in explaining the real world?

◆ **Ceteris paribus** is a Latin phrase meaning ‘all other factors remaining constant’ or ‘all else unchanged’. It is used by economists to explain cause and effects of economic variables.



■ Figure 2.4 Can you think of three factors that affect people’s demand for flowers?

Empirical evidence

Empirical evidence refers to first-hand data and information acquired by observation or experimentation of certain behaviours and patterns. It is an important aspect of positive economics because it involves looking at what has happened in the economy and what is currently happening in order to make logical and rational predictions for the future. Any conclusions drawn from positive economic analyses can be tested and supported or refuted by facts, figures and other research data. Furthermore, what is observed or experienced can be different from what an economic hypothesis, model or theory might predict.

A positive economic statement (such as 'an increase in the price of a product causes an increase in the quantity demanded') can be accepted or rejected based on empirical evidence. In the study of positive economics, empirical evidence is vital for constructing hypotheses, models and theories and for testing their validity. The use of empirical evidence is also used to check and validate deduced factual statements and the use of logic in economics.

However, economics is not an exact science so controlled experiments are not viable to collect data to prove or refute a hypothesis. Instead, uncontrolled events and economic behaviour, influenced by value judgements, makes it more difficult to produce empirical evidence to justify the acceptance or rejection of a hypothesis. For example, reducing interest rates in the economy should lead to more consumption and investment (see Chapter 17). However, households and firms may lack confidence in the economy so refrain from borrowing money to fund consumption and investment, despite the lower costs of borrowing.



Figure 2.5

Refutation

Positive economic statements can be verified or refuted by referring to facts, data and empirical evidence or further investigation. An economic statement is considered to be false if it is refuted (rejected) by the empirical evidence.

For example, economic theory suggests that more people will reduce savings and increase consumption if interest rates fall (because there is less of an incentive to save money and cheaper

Empirical evidence

refers to first-hand data and information acquired by observation or experimentation of certain behaviours and patterns.

ACTIVITY 2.1

The field of education continually goes through change, in attempts to make it better. Discuss how the standards of teaching and learning at your school could be improved, and how empirical evidence could be collected and used to measure the effectiveness of your suggestions.

Theory of Knowledge

Discuss the extent to which empirical evidence in a continual world of change can ever allow economists to arrive at the truth about the real world.

Refutation is the act of a statement or theory being proved to be wrong or false by the empirical evidence.

to borrow money to spend). This assumption or forecast of consumer behaviour is based on positive economics because past data can be used to support this. Whether this materializes in reality depends on many factors, such as the level of consumer confidence in the economy.

For example, Japan used a zero interest rate policy (ZIRP) for more than 20 years, starting in 1999, owing to the country's slow economic growth, yet the Bank of Japan's monetary policy measures (see Chapter 20) had a minimal impact on the economy. For Japan, the experience and evidence demonstrate the limitations of what central banks can do in isolation, so the theory that lower interest rates help to stimulate the economy can be refuted.

As an evolving social science, positive statements in economics are accepted or refuted by using ongoing research, data and empirical evidence. Examples of such statements that have been accepted and refuted at different times in different parts of the world include:

- Each country has an optimal tax rate; an increase in tax rates can bring in more tax revenues for the government up to a certain amount before disincentives set in.
- Globalization is beneficial for everyone in the long run.
- Individuals make rational expectations about the future that affect their current spending pattern.
- Fiscal stimulus through tax cuts and increased government spending can get countries out of a recession.

The role of normative economics

Recall that *positive economics* focuses on objective economic analysis, based on logic and hypotheses, models and theories that are backed by empirical evidence. This contrasts with **normative economics**, which considers opinions, beliefs and statements of 'what should be' (or what ought to be). Normative economic statements or claims are subjective, rather than objective (unbiased), expressing a value judgement about what is perceived to be desirable or undesirable about the economy. Normative economic statements cannot be verified or refuted by referring to facts, evidence or further investigation.

Examples of normative statements include:

- The government should impose higher income taxes on wealthier people.
- The country must impose higher tariffs (import taxes) on foreign goods entering the country.
- The government should spend more money on education and less on national defence.
- Prosperous countries must donate more money to low-income countries.
- Society ought to ensure housing is provided for everyone.
- The state is supposed to ensure that everyone has a job.
- The retirement age in the country should be raised to 70 for women and 72 for men.

Although it would seem rational for economists to rely on evidence-based research to determine

◆ **Normative economics** considers people's varying opinions and beliefs about what should be (or what ought to be). Such claims are subjective and expressed as value judgements.



■ Figure 2.6 Should the retirement age be raised?