# ECONOMICS FOR EVERYONE

## Principles and Applications

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## *Principles and Applications*

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*To Tiffany Choi, Marcus Ng, and Taylor Ng*

# Abstract

The study of economics originated in the West. In Chinese, the characters selected to represent the word 'economics' mean 'to manage economic activity and to help people'. The Chinese characters are appropriate, since 'to manage economic activity' refers nicely to how individuals and firms allocate their limited resources to make themselves as well off as possible, while 'to help people' refers to how governments design policies to improve economic welfare. Economics, to some extent, focuses on the balance between resources and desires. Desires are unlimited but resources are limited. What does that mean?

***Economics is the study of how society manages its scarce resources***

First, you must know the meaning of resources. In general, resources mean natural resources (e.g., minerals and land) and man-made resources (e.g., physical capital, human capital and technologies). This definition of resources applies for the whole economy. However, for individuals and firms, another interpretation of resources is adopted: resources are the income and revenue that they can use. Second, since resources are limited, society has less to offer than most people desire. The management of limited resources is important. For the individual and for the economy, different choices have to be made because resources are scarce. For individuals, the choices include how to make money, how to spend money, how to save and invest, and how to respond if economic conditions suddenly change (such as the arrival of an unexpected tax increase). In short, individuals must allocate their limited income among various uses while taking into account the possible changes in the economy. As for the whole economy, the decisions could be whether to produce more food, clothing or computer software. Because of limited resources, the economy must decide what priority to give different goods. Third, it is essential to understand how the economy works. In modern societies, resources are allocated not by a single central planner but through the market forces produced by the simultaneous actions of millions of households and firms. This is called the market mechanism via the *invisible hand* in which the main idea is that 'selfish' individual choices concerning resources and desires lead to unforeseen — but socially desirable — outcomes.

The existence of economics originates from unlimited wants relative to scarce resources. Therefore, one of the most fundamental principles in economics is that people face tradeoffs. To get one thing done, you have to give up another. For example, for individuals, economic decisions that involve tradeoffs include:

- how to utilize time. You have about 16 hours per day for work, study or recreation. In a free economy, you could allocate your time to working, studying economics or watching movies. For every hour you spend working, you cannot be studying economics or watching movies — one hour of work 'loses' one hour of study or recreation. In other words, you've traded off economics and the movies to work.
- how to allocate income. As an individual, you have to make decisions such as buying food or buying clothing. When you choose to spend an extra dollar on food, you have one less dollar to spend on clothing.

Based on these two simple examples, you might now recognize where the saying 'There's no such thing as a free lunch,' might come from. Sure, a lunch may not cost you any money directly but it undoubtedly costs the society some resources to produce the food for the lunch. That means some other goods and services have to be sacrificed to make the lunch available to you. Everything you do has a cost — so perhaps the first and most important thing you need to do is to redefine cost.

For an economy, decisions that involve tradeoffs include:

- what goods and services to produce. If a society produces more high- tech commodities such as computers, it must produce, say, fewer clothes because there are only so many resources — workers, raw materials, capital and energy — available to produce goods.
- how to produce these goods and services. To develop the high-tech industry, for example, the demand for skilled workers increases at the expense of unskilled workers. This implies that the wage for skilled workers would rise, but the wage for unskilled workers would fall.
- who gets the goods and services. If someone obtains more of society's goods and services, then someone else gets less.

The differences between *efficiency* and *equity* have to be understood. Efficiency means that society is getting the most it can from its scarce resources. Equity means that the benefits of resources are distributed fairly among society's members. In other words, efficiency refers to the size of the economic pie and equity refers to how the pie is divided. For example, the development of the high-tech industry raises efficiency by increasing the output, but it might widen the income gap — the skilled workers get richer while the unskilled workers become poorer. From society's point of view, then, there is a conflict and tradeoff between efficiency and equity. Acknowledging life's tradeoffs is important because people are likely to make good decisions only if they understand the options that are available to them. A rational decision-maker takes an action if and only if the marginal benefit of the action exceeds the marginal cost. Rational decision-makers think at the margins.

Because people face tradeoffs, making decisions requires comparing the costs and benefits of alternative actions. **The cost of something is what you give up to get it.** Let's say you start your own flower shop in a mall by selling 100 floral arrangements per day. The benefit is the daily sales, say $10,000 at $100 per unit. However, the cost is not as obvious as the benefit. There are two types of costs involved: *explicit costs* and *implicit costs*.

1. The explicit cost is $6,000, which includes the rent for the shop ($2,000), the cost of materials ($1,500) and the payment of wages to one employee ($2,500).
2. Because you run the shop by yourself, there is an implicit cost: the value of your time. The value of your time can be measured by the highest wage, say $3,000, you could earn working at some other job.

The total cost to run your own firm is therefore $9,000. Note that this total cost is referred to as the *opportunity cost*, which can be measured in terms of the money you give up to get that item.

In this case, it is worthwhile to run your own business because you can make a positive profit of $1,000. However, in some cases, the benefit might not be worth the opportunity cost. For example, Bill Gates dropped out from Harvard University. The facts prove that he made the smart decision: the benefit from attending university would have been less than the cost of not attending university (that is, the money he has earned from his business). Since people make decisions by comparing (marginal) benefits and (marginal) costs, we would like to know the factors that affect these benefits and costs. The crucial factor is incentives, which can result in a change in people's behaviour.

This book aims to firstly introduce you to the problems of microeconomics and to enable you to explore the ways in which private and government agents deal with them. It covers economic efficiency and resource allocation, market versus command economy, product and factor markets, and the problem of externalities. Besides, the second part of this book introduces you to the problems of macroeconomics and to enable you to explore the ways in which private and government agents deal with them. It covers macroeconomic indicators and the nature of macroeconomic problems, and macroeconomic policy.

There are ten chapters in this book. The discussions and topics progress from basic concepts to fundamental analysis and then to real-world applications. The discussion begins with the behaviour of individual consumers and producers in a market economy, with applications to the economies of Hong Kong, China and the US. We also examine market structure and market power as well as their implications for pricing, production and competition, and then we consider factor markets, market distortions and public goods. The resource allocation and welfare effects of government policies under different scenarios are discussed. The second part of this book introduces macroeconomics theories which investigates the aggregate behaviour of the whole economy and examine the real and financial sides of long-run economic performance. In addition, we analyse the causes and consequences of short-

run economic fluctuations and business cycles. The analysis is further extended to the open economy, which explore what happens when exchange rates change and the trade balance between countries are no longer equal to zero.

This book enables readers to (1) explain the meanings of demand for and supply of goods, and discuss how markets work; (2) analyse the production and cost functions of a firm; (3) explain the market structure with its implications for a firm's optimal decision on prices and/or quantities; (4) apply the theories of factor market to analyse labour, capital and land markets; (5) discuss the meanings of externalities and market failures and explain the effects of policy interventions; (6) explain national income accounting and apply this framework for measuring economic activity in an economy; (7) analyse the long-run performance of the aggregate economy and discuss the role played by the monetary system; (8) explain the key business cycle factors related to short-run economic fluctuations; (9) discuss macroeconomic stabilization for both closed and open economies.

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# Chapter 1
# How Markets Work?

## 1.1 Introduction

*Chapter 1* involves your first serious study of economics. In the chapter, you will learn some 'real stuff' about this fascinating subject, please make sure you understand a section thoroughly before you proceed to the next section. Economics is a subject that you are suggested to study sequentially. You are not suggested to jump around randomly through the sections and chapters.

In this chapter, we will examine the theories of supply and demand, which are important tools to understand the operation of the market mechanism. More specifically, this chapter (i) describes the demand-supply framework; (ii) analyses the market mechanism; (iii) explains the meaning of the elasticity of demand and supply and discusses the application of the concept of elasticity to real-world problems; (iv) examines the effects of government policies in the light of the demand-supply framework; and (v) describes the concepts of consumer surplus and producer surplus and examines the application of the concepts to study the efficiency of the market and the inefficiency of government taxation.

This chapter begins with something intuitive — **demand theory**. The simple part of demand theory is the so-called *Law of demand*: the more expensive a good is, the less you will buy, given that other things remain the same. Even for this simple theory, you need to pay close attention. You should try to understand the difference between moving along a demand curve and the shifting of a demand curve. In fact, this difference is the starting point for everything that is fruitful and interesting about economics. Next you learn about **supply theory**. The structure of supply theory is similar to that of demand theory. Putting demand and supply curves together, you will arrive at the idea of **market equilibrium**. The most important thing here is to understand how various factors affect the demand and supply curves (i.e., the shifting of curves) and thus affect market equilibrium.

Next you will study three specific government policies that influence supply and demand: the **price ceiling**, the **price floor** and the per-unit tax. These policies can be analysed using the demand-supply framework. Then you will move on to **elasticity**. Elasticity describes the sensitivity of a change in one quantity to a change in another quantity. When one quantity changes, a second quantity might