Microeconomic Principles and Policy

Unit 1 Introduction to Microeconomics

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Unit Overview

This first unit of the module contains a discussion of what economics is about and introduces the basics of market analysis – such as the supply-demand framework, equilibrium and price elasticities. Although these are familiar topics in economics courses and textbooks, it is important to have a sound understanding of the basic concepts and tools of economic analysis before going on to learn about the more complex theories and models for analysing economic activity. The unit will therefore give you the opportunity to review and consolidate your knowledge of these basics if you have studied microeconomics before or to master them now, if you have not.

Learning outcomes

When you have completed your study of this unit and it readings, you will be able to:

- discuss what the study of economics can encompass, and why there might be alternative approaches to economic analysis
- explain how the supply-demand framework can be used as an analytical tool
- discuss what is meant by market equilibrium, and how it is achieved
- explain and apply the concept of elasticity.

Reading for Unit 1

Goodwin N, JM Harris, JA Nelson, PJ Rajkarnikar, B Roach & M Torras (2019) Chapters 1 ‘Economic activity in context’, 2 ‘Markets and society’, 3 ‘Supply and demand’ and 4 ‘Elasticity’. In: *Microeconomics in Context*. 4th Edition. New York and Abingdon UK: Routledge.

You are also invited to read Chapter 7 ‘Economic behavior and rationality’, and further sections of the chapters above, but those readings, though useful, are optional.

Fattouh B (2010) ‘Oil market dynamics through the lens of the 2002–2009 price cycle’. WPM, 39. Oxford Institute of Energy Studies.

Competition Commission (2011) *Local Bus Services Market Investigation*. London: UK Competition Commission.

1.1 Introduction

Before getting involved in the detailed study of economic theory and models, it is useful to take a few minutes to ask what you are trying to achieve in studying economics. Looking back over the history of economic thought, it is notable how the answer to this question has changed. In the eighteenth century, Adam Smith was writing about the 'nature and causes of the wealth of nations', and in doing so was seeking to explain how wealth is created principally through the value of labour invested in goods and services. Up until the late nineteenth century economists continued Smith's focus in economic analysis.

Then a new school of economic thought, now referred to as the *neoclassical* or *marginalist* approach, sprang up. This approach is based on the notion that all economic actors behave rationally to maximise their self-interest, be it satisfaction of the goods and services consumed or profits generated from the production and sale of goods and services. One of the key aspects of this approach is its focus on the efficiency of markets and how this is achieved through incremental changes in the use of resources. This approach has also led to the development of a more mathematical approach to economics.

While the neoclassical approach remains important in understanding the modern-day study and application of economics, some economists are saying that there are other factors which can be important in explaining economic behaviour, such as fairness or equity of distribution of resources and wealth, environmental sustainability of natural resources, social or community relations and cooperation and people's well-being. As a result of these different emphases on economic behaviour and activity, new approaches to the discipline are being developed and talked about. For instance there are moves in the United Kingdom, following the Bhutanese example, to design measures of national well-being which 'will cover the quality of life of people in the UK, environmental and sustainability issues, as well as the economic performance of the country' as an alternative to the orthodox use of Gross Domestic Product (GDP) as a measure of national wealth. (For more information about the UK well-being measures, see the ONS website (ONS, nd accessed July 2020). In 2014, it was reported that many smaller Chinese cities had abandoned GDP contribution as a performance metric for officials, in favour of 'quality of life' indicators focusing instead on the environment.

As well as considering why we are interested in studying in economics, we also need to look at what it is about. While there is general agreement that economic activity is about consumption, production, distribution and resource maintenance, how these aspects are covered will vary. Traditional neoclassical microeconomic theory focuses mainly on consumption and production activities, whereas distribution is mainly the focus of trade theory, while resource maintenance has tended to be ignored – although this is changing with renewed interest in environmental economics in the twenty-first century.

Reading 1.1

Goodwin *et al* (2019) Sections 1–5 of Chapter 1 'Economic activity in context' in *Microeconomics in Context*. pp. 20–44.

For an introduction to the question of why we should study economics and what it is about, please read Goodwin *et al* Chapter 1 Sections 1–4. In addition, you should read Section 5, which outlines the key economic players – namely consumers, business and government – and which contains an overview of the 'contextual' approach to microeconomics that Goodwin and co-authors have adopted.

As you do this reading, you should ensure by making good notes that you are comfortable about using the concepts of

- efficiency
- externalities
- economic activities including production, consumption, distribution and resource maintenance
- economic trade-offs, as expressed by the production possibility frontier
- opportunity costs.

Much of this may be familiar to you and if so you may find you can skim through this chapter quite quickly. If the study of microeconomics is new to you, take a bit more time to read and understand the concepts.

Optional Reading 1.1

Chapter 7 of Goodwin *et al* is about motivations that underpin economic activity, such as rational choice and self-interest, and how these impact on economic activity. In this chapter the authors introduce some of the ideas of the newer behavioural approach to the motivations of economic actors. You are welcome to read this chapter if you are interested and you may find that it helps you to widen your understanding of what the authors have in mind as their 'contextual' approach to economics. It may perhaps help you to contextualise previous microeconomic studies, if you undertook these some time ago. You will be learning more about the behavioural approach when you study consumer theory in Unit 2, so this chapter is an optional reading.

1.2 Markets

The conventional view of a market is a place, where people buy and sell fruit, vegetables, clothes, household goods and so on. A shop, shopping mall and eBay are, of course, other examples of markets, as is the stock exchange, or the trade in raw materials, such as copper bars or gold bullion, or a container loaded with scrap metal. However, the economic definition of a market, the one that you will use in your study of microeconomics, is the means through which buyers and sellers interact and transactions take place. So it can be physical or virtual space or an institution.

Clearly, for any market to function there must be both buyers and sellers. But usually it is much more than that. There must also be dealers who are ready to 'make a market'. There must be rules and regulations setting out how the market operates, and there must also be a means of transmitting information so that all the market participants know what is going on. In a simple market, there are usually just buyers and sellers who interact directly

with each other. But in more complex markets, there are a whole host of roles available for intermediaries, such as brokers, dealers, market-makers, information agents and so on, whose role it is to ensure that the market functions by setting prices, providing information and introducing buyers and sellers.

Reading 1.2

Please read Goodwin *et al* Chapter 2, Sections 1 and 2, which explore the three 'spheres' of an economy, the core, public purpose and business spheres, and where the authors discuss the concept of the market and its institutional framework. The authors discuss types of markets in Section 3 and you are encouraged to read this section too.

Goodwin *et al* (2019) Sections 1–3 of Chapter 2 'Markets and society' in *Microeconomics in Context*. pp. 47–69.

Make sure your notes clarify any issues that you are unclear about.

Optional Reading 1.2

Section 4 of Chapter 2 of Goodwin *et al* (2015) is an optional, but recommended, reading on the advantages and limitations of markets.

Another key element of the market is the role of *prices*, which provide the signals by which buyers and sellers react to each other. To the buyer, prices provide information about the availability of goods and services in the market, and decisions about the quantities to purchase are based on this information. On the other side, sellers use the information conveyed by prices to decide what quantities to sell. So prices play a key role in coordinating market decisions.

Although prices provide the signals that co-ordinate market decisions, there is no overall co-ordination of how these signals are acted upon by the various market players. In other words, there is no conscious direction to the functioning of the market. So in an atomistic market of the type described above, each buyer and seller acts alone and not as part of some centralised plan. This characteristic of the market, whereby economic decisions are co-ordinated on a decentralised basis, led eighteenth century economists to talk of a policy of *laissez-faire* (to 'leave alone'). These economists used this French expression to condemn any deliberate or governmental interference in business or industry as being inappropriate and potentially harmful. Today it is usually interpreted to mean that the economy functions best when it is largely free from government intervention and economic decisions are determined mainly by 'the market'.

At the other end of the spectrum is centralised decision-making, where the state or a centralised authority coordinates how the market functions by making decisions about price and quantity. As pure laissez-faire and centralised decision making rarely exist in the real world, most markets are somewhere in between.

1.3 Supply and Demand

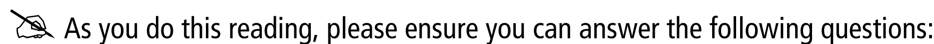
The theory of supply and demand in a market economy is a way of explaining the relationship between the price of a good or service and the quantity sellers make available to the market (or supply) and the quantity buyers purchase (or demand). The supply curve, which is two-dimensional representation of this relationship, is assumed to be upward sloping because sellers are willing to supply more of a good or service the higher the price. In contrast, the demand curve is downward sloping because buyers purchase less the higher the price. This theory assumes that sellers and buyers behave in this manner in response to prices.

However, the quantity of goods and services supplied and demanded is more complex than being simply a function of price. In the case of supply, the quantity supplied is also a function of other factors, such as the cost of inputs, the technology of production and prices of related goods and services. The quantity demanded is also a function of other factors including people's tastes and preferences, income and the prices of related goods and services.

Reading 1.3

Goodwin *et al* (2019) Sections 2 and 3 of Chapter 3 'Supply and demand' in *Microeconomics in Context*. pp. 81–94.

To learn more about the theory of supply and demand, please read Sections 2 and 3 of Goodwin *et al* Chapter 3.


As you do this reading, please ensure you can answer the following questions:

- How are changes in the quantity supplied and the quantity demanded represented?
- What do economists mean when they refer to a change in supply and a change in demand, and how are these represented diagrammatically?
- What are the non-price determinants of supply and demand, respectively?
- What is meant by complementary and substitute goods or services?

Having seen how the quantity supplied and demanded respond to changes in price and changes in non-price factors, we can move on to look at how markets work to equilibrate the price and quantities supplied and demanded. That is to reach a point which economists refer to as 'market-clearing equilibrium', when the quantity supplied equals the quantity demanded. When the market is not at equilibrium, then there is a shortage when demand exceeds supply, or a surplus when supply exceeds demand.

In principle, the interaction of supply and demand to achieve an equilibrium appears simple and straightforward but in practice this is not necessarily the case. For instance, it may take time for firms to increase production and the quantity supplied to the market. Or demand for an item could fall away – just think of rapid falls in demand for clothing items as fashion changes, leaving producers with excess supply.

Alternatively, the market price might not be providing the appropriate signals to buyers and sellers. For example, a higher price is often seen as

signalling a better quality product, so a buyer may decide to pay a higher price to obtain a good quality product – for example, a car which works well. This may be the case when buying a new car, but what about in the market for second-hand cars, where the seller has the advantage of knowing whether the car performs well or badly? In that case, the price may not be a reliable signal of the car's quality. This example is sometimes known as the 'market for lemons' where a 'lemon' is an American term for a car that is found to be defective after purchase.

Reading 1.4

Goodwin *et al* (2019) Sections 4 and 5 of Chapter 3 'Supply and demand' in *Microeconomics in Context*. pp. 94–110.

To learn how markets adjust and to consider an application of supply-demand analysis to the case of the market for coffee, please read Goodwin *et al* Chapter 3 Sections 4 and 5.

As you do this reading, you will find it useful to make notes on the following:

- how markets adjust when there are surpluses or shortages
- what economists mean by equilibrium and disequilibrium
- the signalling and rationing function of markets.

In their discussion of the retail coffee market, Goodwin *et al*. note that using a simple supply-demand framework to analyse a market has its limitations. In particular, the authors make a number of important points about the functioning of supply and demand in the real world, namely:

- demand and supply can sometimes shift in the same direction
- markets may start from a disequilibrium position due to an external factor or event
- there may be a number of prices and quantities prevailing in a market
- prices and quantities may not move as would be expected.

The market for retail coffee – 'cups of coffee' – is the main example examined. But in Box 3.2 the authors also look at the overall supply of coffee as a raw material or commodity: 'coffee markets in the real world'. The supply and therefore price of coffee can be volatile.

Next we would like you to examine world markets for another commodity, that of crude oil. Like coffee, crude oil prices have been volatile. Some of this continuing volatility may be a response to changing supply and demand factors, which are sometimes referred to by economists as the 'market fundamentals'. However, some of the price volatility may be because non-oil market players, such as speculators and investors, have become more involved in oil market trading. Such players are only interested in oil price movements – that is, oil as a financial asset – and have no interest in actual oil supply and demand. There is considerable debate about whether oil price volatility in recent years has more to do with speculation or with changing fundamentals of supply and demand.

Not only can the supply of this commodity be slow to change, as with coffee, but also the market is a particularly significant one, because oil is the basis of

inputs into many industrial processes as well as the transportation of many goods. We would therefore like you to read the following Summary Report on oil market dynamics, which is by Bassam Fattouh, because it is a real-life analysis of a particular market and a very significant one. It is also a complex market and so, as you read, we would like you to think about how far 'supply and demand' analysis can get us in understanding this market – and what are its limitations.

The level of discussion in this selected reading is more difficult than that of your readings from Goodwin *et al* (2015), reflecting its origins as a real-world piece of market analysis.

Reading 1.5

For an update on oil price markets, please read the 'Summary Report' of Bassam Fattouh's study of oil market dynamics' (Summary, pp. 1–7).

Fattouh B (2010) 'Oil market dynamics through the lens of the 2002–2009 price cycle'.

As you read this Summary, please note the following points and their implications for the function of supply, demand and the oil market:

- the changing oil supply-demand feedbacks during the 2000s
- the structural changes of oil markets and the different pricing regimes
- the role of signalling and expectations in the oil market. (Why does the author suggest that futures markets may 'assist price formation' in the physical (spot) market?)
- Crude oil is such an important market that its 'price cycle' 2002–08 is argued to reflect macroeconomic 'boom and bust'. Do you think this is unique to the oil market or else likely to be a common factor in microeconomic analysis of specific markets?

If you are interested, please do read the remaining sections of this study, which are an optional reading.

Exercise 1.1

Now that you have read Chapter 3 of Goodwin *et al* and Fattouh's 'Summary Report', what do you think about using the supply-demand framework to analyse the crude oil market? What are its strengths and limitations? Write a few paragraphs of notes on this.

You might like to start a conversation about this with fellow students online; so, send in your paragraphs and see what others think.

1.4 Elasticity

As you have seen, the supply-demand framework enables us to analyse what is happening if there is a change in one of the factors influencing demand or supply. But is it possible to give any *quantitative* answers to such questions as 'by how much can we expect the demand and supply for a good to change if the price of that good is halved?'

In asking this type of question, we are concerned with a measure of the sensitivity of the quantity demanded or supplied to a change in another variable. This measure of sensitivity is what economists refer to as *elasticity*, which is the measure of the responsiveness to changes in conditions.

So economists talk about 'price elasticity' of demand or supply, which is a measure of the effect a change in the price has on the quantity demanded or supplied. This concept is important when it comes to assessing how a change in price will affect the revenue generated from the sale of a good or service. Revenue is defined as the price times the quantity of a good. If, for example, the price of a good goes up, will people buy significantly less so that revenue declines? Or will the decline in quantity demanded be relatively small such that revenues do not decline? The answer to these questions depends on the price elasticity of demand. For instance, the price elasticity of an essential good, such as diesel oil, is relatively low as consumers and businesses will continue to need to purchase it even if there is a large price increase. On the other hand, the goods for which there are readily available substitutes are usually more price-elastic.

Economists also talk about 'income elasticity of demand', which measures the effects of changing income on the quantity demanded. So do consumers purchase more or less as their income rises and falls?

If you did continue to read Fattouh (2010) beyond the Summary, you may have noticed that he does refer to the concepts both of price elasticity and of income elasticity (p.16):

> In economists' jargon, the global oil market is characterised by low short-term elasticity of demand and supply with respect to oil's price (own price elasticity of demand). In contrast the income elasticity of oil demand is relatively high, especially in countries witnessing persistent high growth rates and improvements in income where each increase in GDP is associated with a more than proportional increase in demand for oil.

These are both important concepts deployed when economists examine markets in detail and you will next explore (or revise) their meaning systematically by looking at the way they are introduced in Goodwin *et al*. (2014).

Reading 1.6

Goodwin *et al* (2019) Chapter 4 'Elasticity' in *Microeconomics in Context*. pp. 115–42.

Chapter 4 of Goodwin *et al* discusses the different ways in which economists use the concept of elasticity. Most of the discussion is illustrated using simple calculations which you can work through. When discussing income elasticity, Goodwin *et al* talk about the 'income and substitution effects' of a price change, which you should make sure you understand. You should read all of Chapter 4.

As you do this reading, write notes on the following questions:

- If a good is price-inelastic, why will revenues change in the same direction as any price change?
- Why might demand for a good or service be price-elastic?
- Do perfectly elastic and inelastic demand and supply exist?
- What do economists mean by the terms 'normal' and 'inferior' goods?
- What do economists mean by 'the income and substitution effects of a price change', and why are these effects useful to understand?
- Can the price elasticity of a good or service change over time?

This Chapter 4 reading from Goodwin and her colleagues provides a good introduction to the concept of elasticity and its implications for assessing how demand responds to changes in prices and income. So the next step is to look further at how economists use the concepts of price and income elasticity to analyse consumer demand. A good example of this is found in the next reading, which is an analysis of the demand for local bus services in the United Kingdom. This analysis illustrates some of the complexities of investigating the demand for a particular good or service, such as how price elasticity for a service can be different for different consumer groups, and the importance of other factors – such as the availability of alternative services, location and income.

Reading 1.7

Please read the Competition Commission (2011) article on investigating local bus services, which summarises how the demand for bus services is affected by the level of bus fares and other factors.

Competition Commission (2011) *Local Bus Services Market Investigation.*

Exercise 1.2

When you have finished this reading, spend a few minutes noting down how you would answer the following question:

- What are the implications of this demand analysis for a bus operating company?

If you have time, post a message for discussion with your tutor group online, commenting on whether the analysis offered in the Reading has given you any insights into how the bus services in your local area are run.

1.5 Conclusion

In this first unit, you have been looking at the questions of what economics is about and how the simple supply-demand model can be used to analyse markets. If you have studied economics before, much of this will be familiar to you and this unit will have primarily been a review of what you have studied in the past, although the readings will have introduced some complexities you may not have encountered in previous modules.

If the study of economics is new to you, then this unit will have introduced you to some of the key concepts you will be using in this module, as well as the basic supply-demand model generally.

In the next unit, you will be learning about the theories of consumer choice which underpin the demand function. As Unit 2 covers both the traditional neoclassical model and the newer behavioural approach to consumer behaviour, it is both longer and more complex than this first unit.

Optional Reading 1.3

Adams C and O Ajakaiye (2011) 'Causes, consequences and policy implications of global food price shocks: Introduction and overview'. *Journal of African Economics,* 20, i3–i11.

This article provides an example of how elasticity is analytically in Section 3.

Porteous D (2006) *Competition and Microcredit Interest Rates*, Focus Note 33. Consultative Group to Assist the Poor (CGAP), February.

This article shows how the demand–supply model and elasticity can be used in assessing financial products.

References

Competition Commission (2011) *Local Bus Services Market Investigation*. London: UK Competition Commission. Available from: https://www.gov.uk/cma-cases/local-bus-services-market-investigation-cc

Fattouh B (2010) 'Oil market dynamics through the lens of the 2002–2009 price cycle'. WPM 39. Oxford Institute of Energy Studies, January: https://www.oxfordenergy.org/publications/oil-market-dynamics-through-the-lens-of-the-2002-2009-price-cycle-2/

Goodwin N, JM Harris, JA Nelson, PJ Rajkarnikar, B Roach & M Torras (2019) *Microeconomics in Context*. 4th Edition. New York and Abingdon UK: Routledge.

ONS (nd) *Measuring National Well-being*. [Online]. Available from: http://www.ons.gov.uk/ons/guide-method/user-guidance/well-being/index.html [Accessed 9 July 2020]