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ELEVENTH EDITION

# economics

**David Begg, Gianluigi Vernasca,  
Stanley Fischer, Rudiger Dornbusch**

**ELEVENTH EDITION**

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**economics**

**David Begg, Gianluigi Vernasca,  
Stanley Fischer, Rudiger Dornbusch**



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# Dedication

For Honora, Mary and Robin – DB  
To my family and to my beloved Vitalba – GV

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# Preface

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Economics is much too interesting to be left to professional economists. It affects almost everything we do, not merely at work or at the shops but also in the home and the voting booth. It influences how well we look after our planet, the future we leave for our children, the extent to which we can care for the poor and the disadvantaged, and the resources we have for enjoying ourselves.

These issues are discussed daily, in bars and on buses as well as in cabinet meetings and boardrooms. The formal study of economics is exciting because it introduces a toolkit that allows a better understanding of the problems we face. Everyone knows a smoky engine is a bad sign, but sometimes only a trained mechanic can give the right advice on how to fix it.

This book is designed to teach you the toolkit and give you practice in using it. Nobody carries an enormous toolbox very far. Useful toolkits are small enough to be portable but contain enough proven tools to deal with both routine problems and unforeseen circumstances. With practice, you will be surprised at how much light this analysis can shed on daily living. This book is designed to make economics seem as useful as it really is.

## How much do economists disagree?

People often complain that economists never agree about anything. This is simply not true. The media, taxi-drivers and politicians love to talk about topics on which there is disagreement; it would be boring TV if all participants in a panel discussion held identical views. But economics is not a subject on which there is always an argument for everything. There are answers to many questions.

We aim to show where economists agree – on what and for what reason – and why they sometimes disagree.

## Economics in the twenty-first century

Our aim is to allow students to understand today's economic environment. This requires mastering the theory and practising its application. Just as the theory of genetics or of information technology is slowly progressing, so the theory of economics continues to make progress, sometimes in dramatic and exciting ways. Sometimes this is prompted by theoretical reasoning; sometimes it is a response to a dramatic new event, such as the banking crash and subsequent financial meltdown around the world.

We believe in introducing students immediately to the latest ideas in economics. If these can be conveyed simply, why force students to use older approaches that

work less well? Two recent developments in economics underlie much of what we do. One is the role of information, the other is globalization.

How information is transmitted and manipulated is central to many issues concerning incentives and competition, including the recent boom in e-commerce. Ease of information, coupled with lower transport costs, also explains trends towards globalization, and associated reductions in national sovereignty, especially in smaller countries. Modern economics helps us make sense of our changing world, think about where it may go next, and evaluate choices that we currently face.

## Changes to the eleventh edition

After 30 years at the top, we wanted to ensure that the book remains as relevant for the next 30 years as it has been in the past. Those familiar with previous editions will continue to recognize the underlying structure and approach, a window on the latest thinking about our evolving world and the way in which economics can make sense of it.

The eleventh edition has again been thoroughly revised, using feedback from a broad range of actual and potential adopters. A lot has changed in the last three years and it is all reflected in the text. Specific changes to the new edition include:

- A more detailed introduction to economic analysis has been added to Chapter 1.
- A revision of the analysis of consumer choice and demand decisions.
- A more detailed analysis of cost minimization.
- An extended analysis of individuals' labour supply and wage discrimination.
- A comprehensive analysis of the financial crash – its causes, consequences and possible policy responses, from fiscal stimulus to quantitative easing.
- Full updates throughout to include 2012/13 data in graphs and tables.
- Over 160 contemporary case studies, activities, concepts etc., over 80 of which are new, and which illustrate key ideas with relevance to the real world.
- Important new pedagogical features, including topical new case studies, boxes on economic concepts and activity applications, and optional maths boxes for the technically-minded.
- More electronic resources for both students and lecturers.

With all this change, the book's structure is a bit different from the last edition. The main changes are listed below:

- In response to user feedback, the previous Chapter 29 has become Chapter 26,

making the three open economy chapters contiguous (24–26), and allowing a summing-up in Chapter 27 (business cycles) and 28 (supply-side and long-run growth).

- This edition also contains a discussion of competing schools of macroeconomic thought, allowing students to enrich their perspective on alternative approaches to macroeconomics. Chapter 16 briefly reviews the history of macroeconomic thought and Chapter 27 takes stock of how different schools of thought interpret output fluctuations and deviations from potential output.
- Chapter 28 contains an expanded discussion of the role of supply-side economics.
- Having absorbed open economy macroeconomics into our core discussion, the role of Part Five (on the world economy) is now confined to examination of international trade issues.

## Learning by doing

Few people practise for a driving test just by reading a book. Even when you think you understand how to do a hill start, it takes a lot of practice to master the finer points. In the same way, we give you lots of examples and real-world applications not just to emphasize the relevance of economics but also to help you master it for yourself. We start at square one and take you slowly through the tools of theoretical reasoning and how to apply them. We use algebra and equations sparingly, more often than not in separate boxes so they can be skipped or used depending on how technically-minded you are. The best ideas are simple and robust, and can usually be explained quite easily.

## How to study

Don't just read about economics, try to do it! It is easy, but mistaken, to read on cruise control, highlighting the odd sentence and gliding through paragraphs we have worked hard to simplify. Active learning needs to be interactive. When the text says 'clearly', ask yourself 'why' it is clear. See if you can construct the diagram before you look at it. As soon as you don't follow something, go back and read it again. Try to think of other examples to which the theory could be applied. The only way to check you really understand things is to test yourself. There are opportunities to do this in the book through activity and review questions, as well as online through Connect Economics.

To assist you in working through this text, we have developed a number of distinctive study and design features. To familiarize yourself with these features, please turn to the Guided Tour on pages xv–xvii.

## Supplementary resources

*Economics, eleventh edition* offers a comprehensive package of resources for the teaching and learning of economics. The resources offered with the new edition have been developed in response to feedback from current users in order to provide lecturers with a variety of teaching resources for class teaching, lectures and assessment. Students are also offered a range of extra materials to assist in learning, revising and applying the principles of economics.

## Connect

Connect Economics is a digital teaching and learning environment that improves performance over a variety of critical outcomes. It gives lecturers and tutors the power to create assignments, tests and quizzes online. Easily accessible grade reports allow you to track your students' progress. Students get feedback on each individual question and immediate grading on both assignments and independent revision questions, which makes it the perfect platform to test your knowledge. Videos, animated graphs, case studies and vignettes allow students to explore complicated graphs and concepts in more detail.

To learn more about Connect, turn to page xxiv or visit **[connect.mcgraw-hill.com/economics](http://connect.mcgraw-hill.com/economics)**.

## Online Learning Centre

An accompanying Online Learning Centre website has been developed to provide an unrivalled package of flexible, high-quality resources for lecturers. To access all of the free Online Learning Centre resources and to find out about enhanced options, simply visit the website at **[www.mcgraw-hill.co.uk/textbooks/begg](http://www.mcgraw-hill.co.uk/textbooks/begg)**.

To learn more about the resources available to lecturers and students online, go to our tour of the resources on page xxiii.

# Guided tour

**Review questions**

1 **True or False** On a given indifference curve, the marginal rate of substitution is always decreasing.

2 **Common fallacies** Why are these statements wrong? (a) Since consumers do not know about indifference curves or budget lines, they cannot choose the point on the budget line tangent to the highest possible indifference curve. (b) Inflation must reduce demand since prices are higher and goods are more expensive.

3 Suppose films are normal goods but transport is an inferior good. How do the quantities demanded for the two goods change when income increases?

4 The own-price elasticity of demand for food is negative. The demand for food is inelastic. A higher food price increases spending on food. Higher food prices imply less is spent on all other goods. The quantity demanded of each of these other goods falls. Discuss each statement. Are they all correct?

5 Suppose Claregians have a given income and like weekend trips to the Highlands, which are a three-hour drive away. (a) If the price of petrol doubles, what is the effect on the demand for trips to the Highlands? Discuss both income and substitution effects. (b) What happens to the demand for Highland hotel rooms?

6 Frank's utility function for two goods,  $X$  and  $Y$ , is given by  $U = XY$ . Find Frank's indifference curve, when utility is 10, 20 and 30. Plot these indifference curves. How should Frank compare the following two bundles:  $(X = 1, Y = 10)$  and  $(X = 5, Y = 2)$ ?

7 Suppose Frank has an income of £50, the unit price of  $X$  is  $P_X = £2$  and the unit price of  $Y$  is  $P_Y = £1$ . Write down the budget constraint for Frank. Knowing that the marginal rate of substitution (in absolute value) between  $X$  and  $Y$  is  $MRS_{XY} = XY$ , find the optimal bundle that Frank should consume. (What is

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assignment	assignment	average	status	marks	marks
Chapter 1 Economics and the Economy	18				
Chapter 2 Trade of Economic Analysis	21				
2.1 Economic Data	9	21.00	Mark	Pass	
2.2 Income Changes	2	20.00	Mark	Pass	
2.3 Income and Substitution Effects	2	20.00	Mark	Pass	
2.4 Income and Substitution Effects	2	20.00	Mark	Pass	
2.5 Economic Models	2	20.00	Mark	Pass	
2.6 Income and Data	3	20.00	Mark	Pass	
2.7 Diagrams: Two Good Equilibria	3	20.00	Mark	Pass	
2.8 Another look at labor-leisure model	2	20.00	Mark	Pass	
2.9 Income and Substitution	2	21	Mark	Pass	
Chapter 3 Demand, supply and the market	24				
Chapter 4 Economics of demand and supply	48				
Chapter 5 Consumer Choice and Decision Making	18				

## PRACTICE AND TESTING

Review questions encourage you to apply the knowledge you have acquired from each chapter. The questions are graded by difficulty, allowing you to stretch yourself further once you have mastered the topic at a basic level. These questions are all integrated into Connect, through which your lecturer can set homework assignments. The Self-Quiz and Study side of Connect provides questions to assess your knowledge and then recommends specific readings, revision tools and additional practice work.

Chapter 17

Question #13 of 141

13. **100 points**

Suppose your marginal rate of substitution is 4.5 and the marginal propensity to consume is 0.5. How does the slope of the aggregate demand schedule compare to the 45-degree line?

The 45-degree line is **steeper** than the aggregate demand schedule.

Explain your answer:

The steepness of the aggregate demand schedule depends on the marginal propensity to consume. The 45-degree line is steeper than the aggregate demand schedule because the marginal propensity to consume is less than 1.0.

Next, we introduce a linear direct supply function:

$$Q^S = c + dP$$

where  $Q^S$  is the quantity supplied and  $c$  and  $d$  are two constants. We assume that the constant  $c$  can be positive or negative.

The market equilibrium is where quantity demanded equals quantity supplied, meaning

Your draft score: 100%

connect

**MATHS 3.1**

**MARKET EQUILIBRIUM WITH LINEAR DEMAND AND SUPPLY**

We can describe the equilibrium in a given market in a simple mathematical way. First, we describe the equilibrium in a given market in a simple mathematical way. First, we describe the equilibrium in a given market in a simple mathematical way. First, we describe the equilibrium in a given market in a simple mathematical way.

The direct demand function is written as

$$Q^D = a - bP$$

where  $Q^D$  denotes the quantity demanded,  $P$  the price and  $a$  and  $b$  are two positive constants. Equation (1) implies a negative relationship between the quantity demanded and the price of a given good or service.

Next, we introduce a linear direct supply function:

$$Q^S = c + dP$$

where  $Q^S$  is the quantity supplied and  $c$  and  $d$  are two constants. We assume that the constant  $c$  can be positive or negative.

The market equilibrium is where quantity demanded equals quantity supplied, meaning

**ACTIVITY 1.1**

**SCARCITY IN ACTION: THE OFLAG STORIES**

In 1945 R. A. Radford, a British economist, published a book during the Second World War. He explained how in certain institutions like markets rose naturally to deal with the problem of scarcity.

The story takes place in an Oflag, a camp for officers of the German Army and the Red Army imprisoned between 1943 and 1945. There was no money in the camp. The goods were the food parcels from the German Army and the Red Army.

At the beginning the goods were rationed, such as chocolate, jam, and other luxuries. There was no income inequality in that society. The market could help deal with scarcity. For example, at the beginning

**CONCEPT 1.2**

**BEHAVIOURAL ECONOMICS**

Rationality is a fundamental assumption in standard economic theory. However, in some cases, we observe human behaviour that deviates from the predictions of rational economic theory. Why do people appear to be irrational? Why do we sometimes overspend? Why do investors tend to express excessive optimism?

In those cases, a different explanation that departs from the standard theory is needed. This is the subject of a relevant branch of economics called behavioural economics, which studies the influence of psychological and sociological factors on economic behaviour.

Behavioural economics has become very popular over the last few years.

## APPLICATION

Each chapter includes a number of boxed examples. These aim to show how a particular economic example can be applied in practice. They are explained in further detail on pages xviii–xxii. Connect also provides helpful tools to relate what is learnt in the book to real life, including additional case studies, a range of videos and animated graphs.

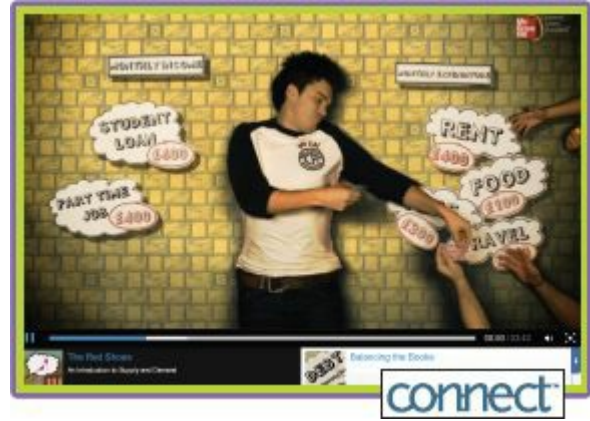
### CASE 1.3

#### POOR MARX FOR CENTRAL

During the Cold War, economists used to argue about the Soviet bloc, falling increasingly behind the living standards of the West. After 1990 and began transition to a market economy, they were celebrating the arrival of their new owner, Roman Abramovich, initially as an oil trader and then as chairman of Chelsea.

The Berlin Wall fell because the Soviet bloc had fallen into difficulties that had emerged were:

- *Information overload*. Planners could not keep track of the vast amount of information needed to plan the economy.



A normal good has a positive income elasticity of demand.

An inferior good has a negative income elasticity of demand.

A luxury good has an income elasticity above unity.

A necessity has an income elasticity below unity.

In Chapter 3 we distinguished **normal goods**, and **inferior goods**, for which demand falls as income rises. **Luxury goods** and **necessities**. All inferior goods have negative income elasticities of demand. However, the income elasticity of demand for necessities lies between zero and one.

These definitions tell us what happens to the quantity demanded when income rises but prices remain unaltered. The budget shifts outward. Higher incomes and household budgets are available at constant prices. Conversely, the budget shifts inward. Because the income elasticity of demand for necessities is between zero and one, rises in income reduce the budget.

A 1 per cent income rise leads to a rise in quantity demanded but the rise is less than 1 per cent.

Inferior goods tend to be goods for which there exist more expensive substitutes.

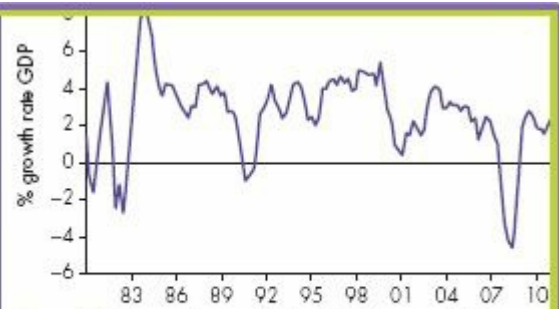


Figure 1.1 The growth rate of US real GDP: quarterly data  
Source: Federal Reserve Bank of St. Louis.

## AIDING UNDERSTANDING

Each chapter offers extensive pedagogy to aid your understanding of the topics. This includes Learning Outcomes, Key Terms, Summaries and extensive tables and figures. Further tools, such as summaries and videos, are available in Connect.

By the end of this chapter, you should be able to:

- 1 define the relationship between utility and tastes for a good
- 2 describe the concept of diminishing marginal utility
- 3 describe the concept of diminishing marginal rate of substitution
- 4 understand how to represent tastes as indifference curves
- 5 understand how to derive a budget line
- 6 realize how indifference curves and budget lines explain consumer choice
- 7 describe how consumer income affects quantity demanded
- 8 understand how a price change affects quantity demanded
- 9 define income and substitution effects
- 10 recognize the market demand curve



#### 14.2 Growth and aggregate supply

##### Economic growth

Economic growth simply means an increase in real GDP between one year and the next.

Economic growth causes the long run AS curve to shift to the right such that higher AD can be met without increased inflation.

##### Sources of economic growth

There are 2 main sources of growth:

1. More factor inputs – through capital (physical and human) accumulation, an increase in the size of the labour force (through faster population growth, immigration and increased participation rates) and an increase in land and natural resources
2. Greater productivity – using resources more efficiently resulting in increased output per worker per man-hour (technical advance)



# Boxed material

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The text offers a wealth of boxed material to help explain how a particular economic principle can be applied in practice. There are four different types of box:

- **Case:** These draw on real-life companies and topical events to help illustrate economics in action.
- **Concept:** These contain content that is slightly more complex and provide some additional, more challenging, topics for you to explore.
- **Activity:** Similar to those in the last edition, these illustrate key economic concepts and then ask you to apply them to the real world. There are questions at the end of each activity and you can find the answers at the back of the book.
- **Maths:** These boxes highlight key mathematical formulae and present them in a digestible format. They can easily be skipped without interrupting the flow of the chapter, if necessary.

Chapter	Title	Type	Page
1	Opportunity costs and choices: an example	Concept	3
	Most output is service	Case	4
	The oil price shocks	Case	7
	Behavioural economics	Concept	10
	Scarcity in action: the rise of markets in a POW camp	Activity	14
	Poor Marx for central planners	Case	15
2	Hyperinflation	Concept	26
	Money illusion	Concept	28
	Landing the big job	Activity	33
	Get a Becker view: use an economist's spectacles	Case	34
3	Market equilibrium with linear demand and supply	Maths	44
	Horsemeat burger? No, thanks!	Case	46
	The demand for mobile apps	Case	48
	Movement along a curve vs shifts of the curve	Activity	49
	Graphical derivation of consumer and producer surplus	Concept	51
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