

R. GLENN
HUBBARD
ANNE M.
GARNETT
PHILIP
LEWIS
ANTHONY
O'BRIEN

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Lewis, Philip E. T., author.

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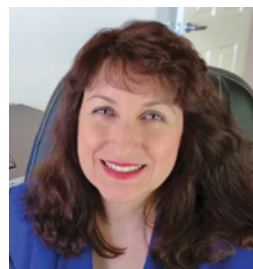
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ABOUT THE AUTHORS

ANNE GARNETT

Anne Garnett is a Senior Lecturer in Economics at Murdoch University. She has extensive teaching experience at the undergraduate and postgraduate level, both in Australia and many parts of Asia. Her research areas include regional economics, labour economics, international investment, and trade and agricultural economics. Anne has been an adviser to the federal government on rural and regional economics. She has published numerous chapters in books and articles in international journals. She has taught in all areas of economics at all levels; however, over the past 18 years her primary teaching focus has been to teach first-year introductory economics. Anne is also co-author of the widely used *Essentials of Economics* undergraduate text published by Pearson Australia.



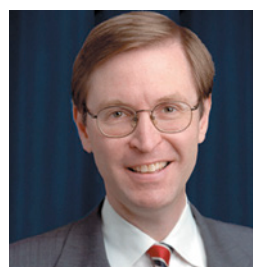
PHILIP LEWIS

Phil Lewis is Emeritus Professor of Economics at the University of Canberra, Director of the Centre for Labour Market Research, and Visiting Professorial Fellow at the University of New South Wales. He is among the best-known economists in the area of employment, education and training in Australia and Asia. He is the author of over 120 publications including journal articles, book chapters and books. He is the editor of *The Australian Journal of Labour Economics*. Phil has also worked extensively in government and has produced a number of major reports for the private and public sectors. He has served as the National President of the Economic Society of Australia. In 2008, Phil was presented with the Honorary Fellow Award by the Economic Society of Australia for exceptional service to the economics profession.



GLENN HUBBARD

Glenn Hubbard is the Dean and Russell L. Carson Professor of Finance and Economics in the Graduate School of Business at Columbia University and Professor of Economics in Columbia's Faculty of Arts and Sciences. He is also a research associate of the National Bureau of Economic Research and a director of Automatic Data Processing, Black Rock Closed-End Funds, KKR Financial Corporation and MetLife. From 2001 to 2003, he served as chair of the White House Council of Economic Advisers and chair of the OECD Economy Policy Committee, and from 1991 to 1993, he was deputy assistant secretary of the US Treasury Department. He currently serves as co-chair of the non-partisan Committee on Capital Markets Regulation. Glenn's fields of specialisation are public economics, financial markets and institutions, corporate finance, macroeconomics, industrial organisation and public policy. He is the author of more than 100 articles in leading journals.



TONY O'BRIEN

Anthony Patrick (Tony) O'Brien is a Professor of Economics at Lehigh University. He has taught principles of economics for more than 20 years. He has received the Lehigh University Award for Distinguished Teaching. He was formerly the Director of the Diamond Center for Economic Education and was named a Dana Foundation Faculty Fellow and Lehigh Class of 1961 Professor of Economics. He has been a visiting professor at the University of California, Santa Barbara, and the Graduate School of Industrial Administration at Carnegie Mellon University. Tony's research has dealt with such issues as the evolution of the US car industry, sources of US economic competitiveness, the development of US trade policy, the causes of the Great Depression, and the causes of black–white income differences. His research has been published in leading journals.



PREFACE

When George Lucas was asked why he made *Star Wars*, he replied, 'It's the kind of movie I like to see, but no-one seemed to be making them. So I decided to make one.' We realised that no-one seemed to be writing the kind of textbook we wanted to use in our courses. So, after years of supplementing texts with fresh, lively, real-world examples from websites, newspapers, magazines and professional journals, we decided to write an economics text that delivers complete economics coverage with many real-world examples.

NEW TO THE FOURTH EDITION

The core ideas of economics remain unchanged: opportunity cost, demand and supply, comparative advantage, marginal analysis, efficiency in competitive markets, the role of the entrepreneur in markets, and the role of government. What does change is the context in which lecturers and instructors present these ideas in class and the policy debates of the time. In the past few years, to take just a few examples relevant to microeconomics, we have witnessed the runaway success of smartphones and tablet computers, seen the rapid growth of the sharing economy including companies such as Uber and Airbnb, experienced increased policy debate about how best to address climate change, and experienced the impact of the global economic contractions and recessions. This new edition helps students to understand these changing economic realities.

In this fourth edition we retain the focus of presenting economics in the context of real-world businesses and real-world policy debates that have proved effective for teaching and learning. We have made a number of important improvements, which include suggestions from lecturers currently using the text and from reviewers. We hope these changes will make the text an even more effective teaching tool. The fourth edition includes the following key changes:

- New material on the rapid growth in the use of robotics in the workplace, in Chapters 1 and 12.
- Analysis of the rise of the sharing economy through companies such as Uber and Airbnb, in Chapters 6, 8 and 14.
- Expanded coverage of behavioural economics in Chapter 6, with new material including the rule of thumb and anchoring.
- Coverage of the *Harper Report* on competition in Chapter 9.
- Extended coverage of compensating differentials in Chapter 12.
- Updated material on the policy debate on climate change policy in Chapter 15.
- Expanded treatment of global poverty in Chapter 16.
- Updated and new chapter-opening cases for many chapters.
- A number of new and substantially revised *Making the Connection* features, with others containing updated data and information, to help students tie economic concepts to current events and policy debates.
- All new *An Inside Look* news articles and analyses, to enable students to apply economic concepts to current events and policy debates.
- Figures and tables have been updated, using the latest data available.
- A number of new and updated end-of-chapter questions to reflect updates to content.

THE FOUNDATION

CONTEXTUAL LEARNING AND MODERN ORGANISATION

We believe a course is a success if students can apply what they have learned in both personal and business settings and if they have developed the analytical skills to understand what they read in the media. That's why we explain economic concepts by using many real-world business examples and applications, from both Australia and other countries, in the chapter openers, graphs, *Making the Connection* features, *An Inside Look* features, and end-of-chapter problems. This approach helps students to become educated consumers, voters and citizens. In addition, we also have a modern organisation and place interesting policy topics early in the book to pique student interest.

We are convinced that students learn to apply economic principles best if they are taught in a familiar context. Whether they fill a graduate role in business or government, trade on the securities exchange, or open their own business, students must understand the economic forces behind their work. And though business and economics students will have many opportunities to see economic principles in action in various courses, students from other disciplines may not. We therefore use many diverse real-world business and policy examples to illustrate economic concepts.

The following points illustrate our approach:

- **A strong set of introductory chapters.** Our introductory chapters provide students with a solid foundation in the basics. We emphasise the key issues of scarcity, trade-offs, marginal analysis and economic efficiency. In Chapter 1 we introduce students to the economic way of thinking through the growing use by Australian businesses of offshoring to the Philippines, the rapid rise of robotics in the workplace, the debate on minimum wage laws, and the debate on immigration to Australia. Chapter 2 examines the trade-offs and marginal analysis that managers and economies have to face, presented in the context of Tesla deciding on the mix of vehicles to produce. Chapters 3 and 4 introduce demand and supply and how the market works, using the examples of demand and supply of tablet computers, the rising demand for fitness trackers, the price of petrol, and the increased tax on 'alcopops', to help contextualise the issues and concepts.
- **Early coverage of policy issues.** To pique interest and expose students to policy issues early in the course, we discuss the effect on jobs of Australia's growing use of offshoring and robotics in Chapter 1, the free market and the illegal downloading of movies and music from the Internet in Chapter 2, the market for housing in Australia in Chapter 3, government policy towards illegal drugs in Chapter 4, and whether Uber is involved in price gouging in Chapter 6. The remainder of the microeconomic chapters continue this approach by relating concepts to relevant business examples and current economic policy and events.
- **Immediate relevance to students.** This new edition of *Microeconomics* has been revised to provide students with the most up-to-date and relevant content they need to succeed in the field of economics. Once again, all chapters contain examples to demonstrate the practicality and relevance of economics to decision making that students may be currently involved with. Here are a few examples: Chapter 4 examines the pricing of alcoholic drinks; Chapter 6 looks at costs and profits of a successful web blogger; Chapter 9 analyses whether companies such as Netflix can provide competition with Foxtel in the subscription video-on-demand market; Chapter 11 looks at whether there is a 'best' strategy for bidding on eBay; Chapter 12 analyses the effect of robotics on the labour market; and Chapter 13 touches on the controversial subject of whether we should buy products made with child labour.
- **Applications to contemporary issues.** Our chapters are written to reveal the relevance and importance of economic analysis to current significant issues that affect individuals, business and society. Chapter 4 analyses whether higher taxes on 'alcopops' reduces alcohol consumption in young people. In Chapter 9 we look at the impact of Foxtel's dominance in sports in the pay TV market. Chapter 13 discusses whether businesses that send jobs offshore (including banks, airlines and telecommunication companies) reduce jobs in the local economy. Chapter 14 examines the role of government in society, covering issues such as 'Should drugs be legal?'. In Chapter 15 we look at the effectiveness of government policy in reducing air lead

levels, and examine policies to address climate change. And Chapter 16 introduces students to the important policy issues of income redistribution, and domestic and international poverty.

- **Complete coverage of monopolistic competition.** We devote a full chapter to monopolistic competition in Chapter 10. Although some instructors cover monopolistic competition very briefly or dispense with it entirely, we think it is an overlooked tool for reinforcing the basic message of how markets work in a context that is much more familiar to students than are the agricultural examples that tend to dominate discussions of perfect competition. Covering monopolistic competition also allows for the early discussion of topics such as the sources of competition and brand management.
- **Extensive, realistic game theory coverage.** In Chapter 11 we use game theory to analyse competition between oligopolists. Game theory helps students to understand how companies with market power make strategic decisions in many competitive situations. We use familiar companies such as Qantas, Virgin Australia, Jetstar, Big W, Kmart, Coles, ALDI, eBay, Dell Technologies, Microsoft, Coca-Cola and Pepsi in our game theory applications. In contrast to many textbooks, we have placed the traditional models of oligopoly in an appendix. This enables students to focus on game theory while avoiding being overwhelmed by numerous models, and yet still allows for the option of studying the traditional approaches.
- **Unique coverage of the economic reasons for government intervention.** We have included a unique chapter that provides an overview of the role of government in a market economy. Some textbooks largely ignore this material, while others have pieces scattered throughout numerous chapters. In Chapter 14 we have organised this material to enable students to gain a concise yet complete picture of the role of government. Topics include market failure, public and private interest views of government policy, the legal system and the rule of law, and the economics of information. This chapter can be used as an introduction to the more in-depth analyses of externalities, public goods, taxation and income redistribution in the subsequent two chapters, or it can be used as a stand-alone chapter for an overview of these concepts and policy issues.
- **Extensive and contemporary coverage of externalities and environmental policy.** A large part of Chapter 15 focuses on externalities and the associated environmental policy. We believe that in the current context of industrialisation and air pollution, greenhouse gases and climate change, it is important to dedicate the major part of a chapter to the economic analysis of these issues and the corresponding policies.
- **Flexible chapter organisation.** Because we realise that there is a variety of approaches to teaching principles of microeconomics, we have structured our chapters for maximum flexibility. For example, some instructors may wish to omit the appendices of Chapters 6 and 7 containing indifference curve and isoquant analysis, while others may wish to include this level of analysis. Chapter 13 is a self-contained chapter on international trade, leaving the option open to include or omit this material. Please refer to the flexibility chart on page xxvii to help you select the chapters and order best suited to your course needs.

SPECIAL FEATURES

A REAL-WORLD, HANDS-ON APPROACH TO LEARNING ECONOMICS

OPENING CASES AND AN INSIDE LOOK NEWS ARTICLES

Each chapter-opening case provides a real-world context for learning, sparks students' interest in economics, and helps to unify the chapter. The opening case describes real situations facing actual companies. The company or economic issue is integrated into the narrative, graphs and pedagogical features in the chapter. For example, we look at companies such as Tesla, Uber, Apple, Sony, Rio Tinto, Coles, Woolworths, Foxtel, Netflix, Telstra, The Coffee Club and Expedia.

CHAPTER 3

WHERE PRICES COME FROM: THE INTERACTION OF DEMAND AND SUPPLY

LEARNING OBJECTIVES

After studying this chapter you should be able to:

1. Discuss the variables that influence the demand for goods and services.
2. Discuss the variables that influence the supply of goods and services.
3. Explain how equilibrium is a market mechanism, and how a market moves to its market equilibrium.
4. Use demand and supply graphs to predict changes in prices and quantities.

THE TABLET COMPUTER REVOLUTION

BY GAIL GARDNER, chief of Microsoft, made a bet—more than any other person in 2010. He predicted that tablet computers would make up a majority of personal computer sales within the year. Microsoft had developed an ecosystem that made it possible for one to replace your laptop computer screen, and Gates hoped that consumers would respond to these tablets. But most consumers found them awkward to use, and thought that the prices of iPads or more were too high. As a result, rather than making up the majority of computer sales the year from “consumer” predictions, tablets made up just 1 per cent of the market by 2010. Fast forward to 2015. After years of stating that his company would no longer be the market for tablet computers, Microsoft’s competitors made the big move—their Apple CEO, Steve Jobs, announced the iPad. It was an instant success, selling nearly 10 million units by the end of the year. iPad sales rose 50 per cent significantly over the year, reaching over 100 million by 2015. The iPad is not different from the tablet computer that the market failed to sell. While the iPad was more inclined to use for word processing or watching movies, it was lighter than other tablets, and its wide-screen consistency and portability made it better for Web surfing, checking emails, texting, and watching videos.

Although Apple initially had the market for the new-style tablets, it had to fend off competitors’ slight approach. Facebook, Samsung, Next, Dell, LG, Microsoft, Lenovo, Asus, Microsoft, Google’s Nexus, Huawei and ZTE all introduced tablets. In 2015, Apple’s market share for tablets was below 25 per cent.

The intense competition among firms selling the new tablets is a striking example of how the market responds to changes in consumer tastes. Many consumers indicated that they would buy tablets if they were smaller and more powerful than those introduced in the early 2010s. Therefore, firms scrambled to meet this demand. Furthermore, when consumers began demanding even smaller tablets, firms responded by introducing even smaller tablets. Although intense competition in the tablet market led to these changes in product design, it is not in consumer behaviour that increases the demand for products and lowers the price for those products.

BY GAIL GARDNER and James Neumeier (2015). “New models shake up tablet PC,” *ABC News*, 10 December 2015. Available at www.abc.net.au/news/2015-12-10/new-models-shake-up-tablet-pc/7008380. Accessed 10 December 2015.

Here are a few examples:

- The tablet computer revolution and the effects on competition (Chapter 3).
- How Uber brought competition to the taxi industry (Chapter 8).
- Netflix challenging Foxtel in the subscription video-on-demand market (Chapter 9).
- Rio Tinto mining with robots (Chapter 12).

An Inside Look is a two-page feature that shows students how to apply the concepts of a chapter to the analysis of a news article. Articles are from sources such as *ABC Online*, *The Sydney Morning Herald*, *The Age*, *The Australian Financial Review* and *The Australian*. The *An Inside Look* feature presents analysis of the article, a graph(s), and critical thinking questions.

AN INSIDE LOOK

PC shipments fall record 10.6% in 4Q: IDC

BY GAIL GARDNER

The technology analyst firm International Data Corporation (IDC) has reported that global PC shipments fell 10.6 per cent in the fourth quarter of 2014, the lowest since the start of the global financial crisis in 2008. The report also shows that PC shipments fell 1.2 per cent in the third quarter of 2014, the lowest since the start of the global financial crisis in 2008.

“The global PC market is still in a state of decline,” says IDC analyst Gartner. “The market is still in a state of decline, and we expect this to continue through 2015. The market is still in a state of decline, and we expect this to continue through 2015.”

“The global PC market is still in a state of decline,” says IDC analyst Gartner. “The market is still in a state of decline, and we expect this to continue through 2015. The market is still in a state of decline, and we expect this to continue through 2015.”

ANALYSING THE NEWS

1. Consumer tastes have been changing since 2010. How has this affected the demand for PCs? How has this affected the supply of PCs? How has this affected the price of PCs? How has this affected the quantity of PCs? How has this affected the market for PCs? How has this affected the market for PCs?

2. How has the demand for PCs changed since 2010? How has the supply of PCs changed since 2010? How has the price of PCs changed since 2010? How has the quantity of PCs changed since 2010? How has the market for PCs changed since 2010? How has the market for PCs changed since 2010?

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10. How has the demand for PCs changed since 2010? How has the supply of PCs changed since 2010? How has the price of PCs changed since 2010? How has the quantity of PCs changed since 2010? How has the market for PCs changed since 2010? How has the market for PCs changed since 2010?

KEY POINTS IN THE ARTICLE

The article discusses the impact of changes in consumer tastes on the global market for personal computers (PCs). The author explains that the demand for PCs has fallen significantly since 2010, and that this has led to a decline in the price of PCs. The author also explains that the supply of PCs has increased since 2010, and that this has led to a decline in the price of PCs. The author concludes that the decline in the price of PCs is a result of changes in consumer tastes and an increase in the supply of PCs.

THINKING CRITICALLY

1. How has the demand for PCs changed since 2010? How has the supply of PCs changed since 2010? How has the price of PCs changed since 2010? How has the quantity of PCs changed since 2010? How has the market for PCs changed since 2010? How has the market for PCs changed since 2010?

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Here are some examples of the articles featured in *An Inside Look*:

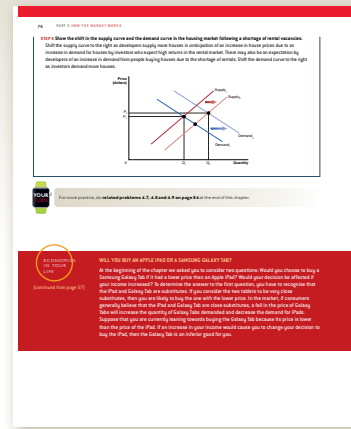
- ‘Robotics will hit finance jobs harder than offshoring’, *The Australian Financial Review* (Chapter 1).
- ‘Australian smokers to pay more than \$45 for a packet of cigarettes from 2020’, *The Guardian* (Chapter 5).
- ‘Can economies of scale rescue Tesla?’, *Oilprice.com* (Chapter 7).
- ‘Supermarket giant ALDI gears up for price war’, *The West Australian* (Chapter 11).

ECONOMICS IN YOUR LIFE

After the chapter-opening real-world case, we have added a personal dimension to the chapter opener with a feature titled *Economics in Your Life*, which asks students to consider how economics affects their own lives. This feature piques the interest of students and emphasises the connection between the material they are learning and their own experiences.



At the end of the chapter, we use the chapter concepts to answer the questions asked at the beginning of the chapter.



The following are examples of the topics we cover in the *Economics in Your Life* feature:

- Will you buy an Apple iPad or a Samsung Galaxy Tab? (Chapter 3).
- Why do people pay for Foxtel? (Chapter 9).
- How can you convince your boss to give you a pay rise? (Chapter 12).
- How much tax should you pay? (Chapter 16).



MAKING THE CONNECTION

In each chapter, *Making the Connection* features present relevant, stimulating and provocative cases from various countries, primarily about business but sometimes related to other significant world economic events or policy issues. These features link the concepts and models covered in the chapter with a real-world application. Here are some examples of the *Making the Connection* features:

- The rise and rise of fitness trackers (Chapter 3).
- A blogger who understands the importance of ignoring sunk costs? (Chapter 6).
- Who owns the Wizard of Oz? (Chapter 14).
- Can a price on carbon reduce global warming? (Chapter 15).

SOLVED PROBLEMS

Many students have great difficulty handling applied economics problems. We help students to overcome this hurdle by including worked-out problems tied to select chapter learning objectives and the associated quantitative information. Our goals are to keep students focused on the main ideas of each chapter and to give students a model of how to solve an economic problem by breaking it down step by step. Additional exercises in the end-of-chapter material are tied to every *Solved Problem*.

FIGURE 3.2 DEMAND AND SUPPLY BOTH CURVE: THE AUSTRALIAN HOUSING MARKET

In Australia, as in most developed countries, the housing market is often characterized by spikes. That is, prices tend to rise, then fall, and then rise again, only to fall again in the next stage of the cycle. While spikes in housing have historically lasted between 7 to 10 years in the long run (over many decades) housing prices have become even more volatile.

The rapid expansion of new and existing housing supply, through government-subsidized and debt-financed investment that often takes the form of a speculative bubble. These factors increase the demand for houses and apartments, increase supply (often through higher density and taller buildings), and increase the price of housing. This is the housing boom. As the boom ends, the market corrects itself through a combination of higher prices, increased supply, and decreased demand. This is the housing bust. The cycle then repeats itself as the market corrects itself through a combination of higher prices, increased supply, and decreased demand. This is the housing boom again. The cycle then repeats itself as the market corrects itself through a combination of higher prices, increased supply, and decreased demand. This is the housing boom again.

How the effects on the housing market of (a) a growing population, and (b) a change of rental practices.

Solving the problem

STEP 1: Analyze the changes in the market. This problem is about how the market for housing is affected by the population boom. We are given two graphs to solve the problem. The effects of a rise in demand and supply, which begins on page 72.

STEP 2: Draw the demand and supply graphs. Draw a demand and supply graph, showing equilibrium in the housing market.

STEP 3: Show the shift in the demand curve caused by an increasing population and explain the effect on housing prices. On the demand curve the right to the new equilibrium price is higher than before. Draw that the new equilibrium at a higher price has been reached because of an increase in the number of housing units sought.

FIGURE 3.1 Shifts in a curve versus movements along a curve

When analyzing markets using demand and supply curves, it is important to remember that when a shift in a demand or supply curve occurs, change in equilibrium price, quantity, or price does not occur. A shift in a demand or supply curve changes the quantity demanded or supplied at each price level. The shift will not affect the equilibrium price or quantity. The price and quantity at the point of equilibrium will change only if the demand or supply curve shifts.

THE EFFECT OF DEMAND AND SUPPLY SHIFTS ON EQUILIBRIUM

We have seen that the interaction of demand and supply in markets determines the quantity of goods and services produced and the price at which they sell. We have also seen that shifts in either demand or supply curves will shift the equilibrium price and quantity.

DON'T LET THIS HAPPEN TO YOU

Remember a change in a good's price does not change the demand or supply curve to shift.

FIGURE 3.2

DON'T LET THIS HAPPEN TO YOU

We know from many years of teaching which concepts students find most difficult. Each chapter contains a box feature called *Don't Let This Happen to You* which alerts students to the most common pitfalls in that chapter's material. We follow up with a related question in the end-of-chapter *Problems and Applications* section.

GRAPHS AND SUMMARY TABLES

Graphs are an indispensable part of the principles of an economics course but are a major stumbling block for many students. Every chapter includes end-of-chapter problems that require students to draw, read and interpret graphs. Interactive graphing exercises can be found on the book's supporting MyLab™ Economics website. We use four devices to help students read and interpret graphs:

1. Detailed captions
2. Boxed notes
3. Colour-coded curves
4. Summary tables with graphs.

FIGURE 3.1

Shifting the supply curve

A change in supply shifts the supply curve to the right. The shift will not affect the equilibrium price or quantity. The price and quantity at the point of equilibrium will change only if the demand or supply curve shifts.

Technological change

A second factor that causes a change in supply is technological change. Technological change is a change in the ability of firms to produce output with a given quantity of inputs. Technological change causes a shift in the supply curve to the right. This shift will increase the quantity of output produced. If the price of output is not affected, the price of output will fall. If the price of output is affected, the price of output will fall.

Price of substitutes in production

Firms choose which goods or services they will produce. Alternative products that a firm could produce are called substitutes or products. For example, wheat is one of the three main products that produce other two crops: corn and soybeans. When the price of wheat rises, the price of corn and soybeans falls. This causes a shift in the supply curve for corn and soybeans to the right. This shift will increase the quantity of output produced. If the price of output is not affected, the price of output will fall. If the price of output is affected, the price of output will fall.

Number of firms in the market

A change in the number of firms in the market will change supply. When more firms enter a market, the supply curve shifts to the right, and when existing firms leave or exit a market, the supply curve shifts to the left. For instance, when Toyota entered the market for pickup trucks in 2011, the market supply curve for pickup trucks shifted to the right.

Expected future prices

If a firm expects that the price of its product will be higher in the future than it is now, it has an incentive to increase supply now and decrease supply in the future. For instance, if a firm believes that the price of oil will be higher in the future than it is now, it has an incentive to increase supply now and decrease supply in the future. For instance, if a firm believes that the price of oil will be higher in the future than it is now, it has an incentive to increase supply now and decrease supply in the future.

TABLE 3.1

Shifts in a curve versus movements along a curve

This table summarizes the most important variables that cause market supply curves to shift. It also shows that the shift in the supply curve will not affect the equilibrium price or quantity. The price and quantity at the point of equilibrium will change only if the demand or supply curve shifts.

Shift in a curve	Shifts the supply curve	Result
An increase in the price of an input	Shifts the supply curve to the left	The price of the good rises
An increase in the price of a substitute in production	Shifts the supply curve to the right	The price of the good falls
An increase in the price of a complement in production	Shifts the supply curve to the right	The price of the good falls
An increase in the number of firms in the market	Shifts the supply curve to the right	The price of the good falls
An increase in the price of the good	Shifts the supply curve to the right	The price of the good falls

A change in supply versus a change in quantity supplied

We need to be clear that it is important to understand the difference between a change in demand and a change in the quantity demanded. There is a significant difference between a change in supply and a change in the quantity supplied. A change in supply shifts the supply curve to the right. A change in the quantity supplied is a movement along the supply curve. A change in the quantity supplied is a movement along the supply curve. A change in the quantity supplied is a movement along the supply curve. A change in the quantity supplied is a movement along the supply curve.

REVIEW QUESTIONS AND PROBLEMS AND APPLICATIONS—GROUPED BY LEARNING OBJECTIVE TO IMPROVE ASSESSMENT

All the end-of-chapter material—*Summary, Review Questions and Problems and Applications*—is grouped under learning objectives. The goals of this organisation are to make it easier for instructors to assign problems based on learning objectives, both in the book and in MyLab Economics, and to help students efficiently review material that they find difficult. If students have difficulty with a particular learning objective, an instructor can easily identify which end-of-chapter questions and problems support that objective and assign them as homework or discuss them in class. Similar exercises to every exercise in a chapter's *Problems and Applications* section are available in MyLab Economics. Using MyLab Economics, students can complete these and many other exercises online, get tutorial help and receive instant feedback and assistance on exercises they answer incorrectly. Also, student learning will be enhanced by having the summary material and problems grouped together by learning objective, which will allow students to focus on the parts of the chapter they found most challenging. Each major section of the chapter, paired with a learning objective, has at least two review questions and three problems.

As in the previous editions, we include one or more end-of-chapter problems that test students' understanding of the content presented in the *Solved Problem* and *Don't Let This Happen to You* special features in the chapter. Instructors can cover a feature in class and assign the corresponding problem for homework.

CHAPTER SUMMARY AND PROBLEMS

KEY TERMS

celestis provision (all else being equal)	inferior good	61	quantity supplied	64
competitive market	law of demand	58	shortage	60
equilibrium	law of supply	64	substitutes	61
complementarity	market equilibrium	58	substitution effect	59
demand curve	market supply	64	supply curve	64
demand schedule	normal good	61	supply schedule	64
demographics	perfectly	65	surplus	68
income effect	quantity demanded	58	technological change	65

THE DEMAND SIDE OF THE MARKET

LEARNING OBJECTIVE Discuss the variables that influence the demand for goods and services.

SUMMARY

The types and quantities of goods and services produced ultimately depend on the desires of consumers. The model of demand and supply is one of the most powerful tools in economics. The quantity demanded is the amount of a good or service that a consumer is able and willing to purchase at a given price. A demand schedule is a table that shows the relationship between the price of a product and the quantity of the product demanded. A demand curve is a graph showing the relationship between the price of a product and the quantity of the product demanded. Market demand is the sum of the quantities of a good or service that all individual consumers demand. The price of a product determines the quantity of a product demanded. Demand curves slope downward because of the substitution effect and the income effect. The substitution effect is the change in the quantity demanded that results from a change in price, making the good or service more or less expensive. The income effect is the change in the quantity demanded that results from the effect of a change in the price of the good or service on a consumer purchasing power. Changes in income, the price of related goods, tastes, population and demographics (the characteristics of a population with respect to age, sex and gender) and expected future prices all cause the demand curve to shift. Substitutes are goods or services that can be used for the same or a similar purpose. Complements are goods and services that are used together. A normal good is a good or service for which the demand increases as income rises and decreases as income falls. An inferior good is a good or service for which the demand decreases as income rises and increases as income falls. A change in demand shifts to a shift of the demand curve. A change in quantity demanded shifts the movement along the demand curve as a result of a change in the product's price.

PROBLEMS AND APPLICATIONS

1. For each of the following pairs of products, state which are complements, which are substitutes and which are substitutes.

- Pepsi and Coke
- Hot dog buns and soft-shell bread rolls
- Negatives and developing film
- MP3 players and graphics calculators

2. Based on the opening case, when tablet computers based on the Android operating system were first introduced, there were relatively few applications, or "apps," available for them. Now there are many more apps available for Android tablets. How does this affect the demand for tablet computers? How has the increase in the availability of apps for Android-based tablets affected the demand for Apple iPads? Explain.

3. Suppose another shift of the following curves will result in a movement along the demand curve for McDonald's Big Mac burgers or whether it will cause the curve to shift. If

the demand curve shifts, indicate whether it will shift to the left or to the right and draw a graph to illustrate the shift.

- The price of Hungry Jack's Whopper burgers declines.
- McDonald's introduces new burgers for \$1.00 off as a purchase of a Big Mac.
- A shortage of potatoes causes the price of fries to increase.
- KFC raises the price of a bucket of fried chicken.
- The Kansas economy enters a period of rapid growth.
- Incomes.

10. Suppose that the following table shows the quantity demanded of UGG boots at different prices in 2017 and 2018.

PRICE (\$)	2017 QUANTITY DEMANDED	2018 QUANTITY DEMANDED
100	5000	4000
120	4500	3500
140	4000	3000
160	3500	2500
180	3000	2000

11. [Make to Make the connection 3.1] Name three goods or services whose demand is likely to increase rapidly of the following demographic groups increase at a faster rate than the population as a whole.

- Teenagers
- Children under the age of five years
- People over the age of 65 years

12. [Extend to Make the connection 3.1] From 1970 to 2010, China had a policy that allowed most couples to have only one child. This policy caused a significant change in the demographics of China. Between 2000 and 2015, the share of population under the age of 15 decreased from 25 per cent to 17 per cent, and as many parents attempted to avoid this and to have more children (one-child policy), the number of newborn babies increased. By 2015, China had 23 million more babies than in 2010. How has the one-child policy changed the relative demand for goods and services in China? (The World Bank, 2015)

13. Suppose that the data in the following table show the price and quantity of new model Holden Commodore vehicles. Do these data indicate that the demand curve for Commodores is upward sloping? Explain.

YEAR	PRICE (\$)	QUANTITY
2015	\$31,000	58,000
2016	\$23,700	52,000
2017	\$26,100	52,500

14. A financial journalist made the following observation about changes in the share of the house demand for tablet computers: "The market for going to a tablet is a double-edged sword, not a single-edged sword. On the one hand, the number of the good Jack with that 'Ding Ding' would be the Jack and a business on any planet for the tablet market right now. (Source: 2017)"

15. Why might it be particularly difficult to measure the demand for a new product? Which issues might make it particularly difficult to measure the demand for tablet computers?

THE SUPPLY SIDE OF THE MARKET

LEARNING OBJECTIVE Discuss the variables that influence the supply of goods and services.

SUMMARY

The quantity supplied is the amount of a good or service that a firm is willing and able to supply at a given price. A supply schedule is a table that shows the relationship between the price of a product and the quantity of the product supplied. A supply curve shows on a graph the relationship between the price of a product and the quantity of the product supplied. When the price of a product rises, the product is more profitable, so firms are willing and able to supply a greater amount. Market supply is the sum of the quantities of a good or service that all individual firms supply. The law of supply states that, holding everything else constant, the quantity of a product supplied increases when the price rises.

EDUCATOR RESOURCES

A suite of resources are provided to assist with delivery of the text, as well as to support teaching and learning. These resources are downloadable from the Pearson website: www.pearson.com.au/9781488612497.

SOLUTIONS MANUAL

The Solutions Manual provides educators with answers to all of the end-of-chapter questions and problems in the textbook.

TEST BANK

Available in Word® format, the Test Bank provides educators with a wealth of accuracy-verified testing material for homework and quizzing. Revised to match the 4th edition, each Test Bank chapter offers a wide variety of multiple-choice and short-answer questions, ordered by key topics.

POWERPOINT LECTURE SLIDES

A comprehensive set of PowerPoint slides can be used by educators for class presentations or by students for lecture preview or review. They include key figures and tables, as well as a summary of key concepts and examples from the text.

MyLab Economics for Hubbard/Garnett/Lewis/O'Brien Microeconomics, 4th edition

A guided tour for students and educators

Auto-generated tests and assignments

Each MyLab™ comes with preloaded assignments, all of which are automatically graded and include selected end-of-chapter questions and problems from the textbook.

2.1 Production Possibility Frontiers and Opportunity Costs Overview

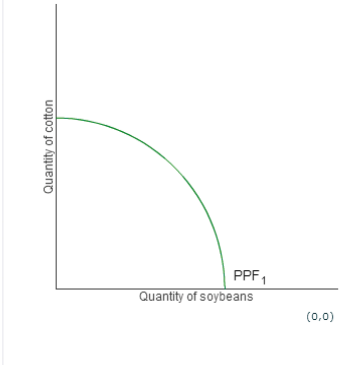
End of Chapter 1.4b
1 correct | 1 of 21 complete

Consider the production possibility frontier that shows the trade-off between the production of cotton and the production of soybeans depicted in the figure to the right.

Suppose that genetic modification makes cotton resistant to insects, allowing yields to increase.

Use the three-point curved line drawing tool to show the effect of this technological change by drawing a new production possibility frontier. Properly label this curve.

Carefully follow the instructions above, and only draw the required objects.



Click the graph, choose a tool in the palette and follow the instructions to create your graph.

All parts showing Clear All Check Answer Close

Unlimited practice

Many Study Plan and Instructor-assigned exercises contain algorithms to ensure students get as much practice as they need.

As students work through Study Plan or Homework exercises, instant feedback and tutorial resources guide them towards understanding.

1.A Appendix: Using Graphs and Formulas Overview

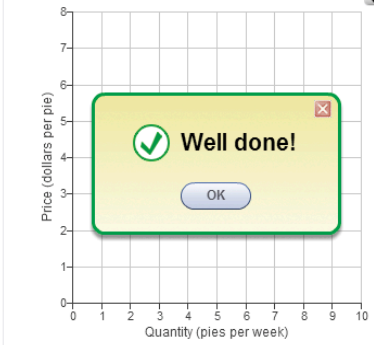
End of Chapter 1A.1
0 correct | 0 of 20 complete

The following table gives the relationship between the price of custard pies and the number of pies Jacob buys per week.

Price (\$ per pie)	Quantity of pies	Week
\$3.00	7	July 2
2.00	8	July 9
5.00	5	July 16
6.00	4	July 23
1.00	9	July 30
4.00	6	August 6

a. Is the relationship between the price of pies and the number of pies Jacob buys a positive relationship or a negative relationship?

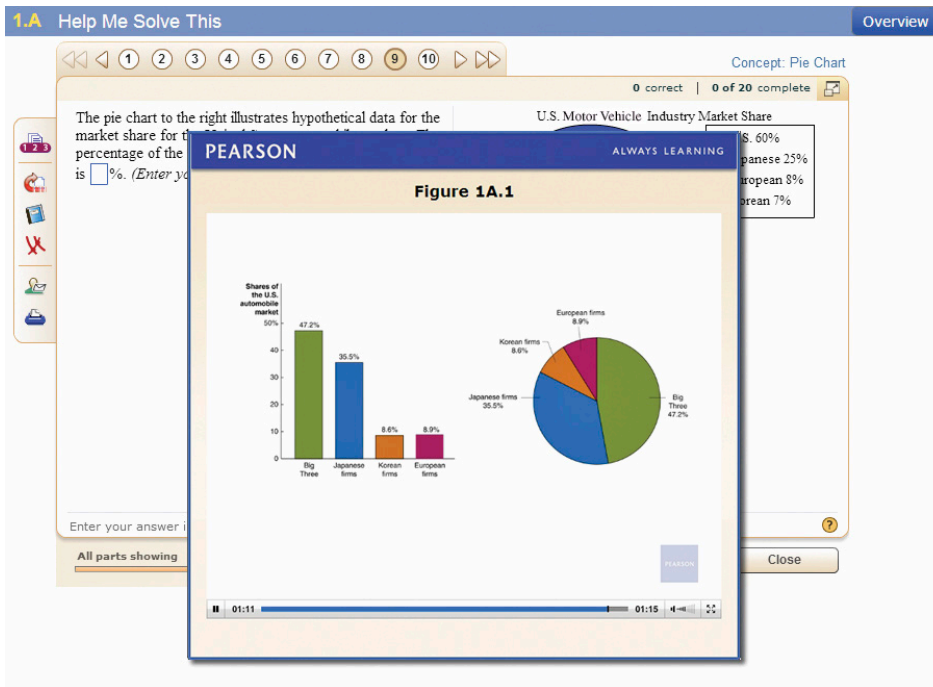
A. Positive relationship B. Negative relationship



Click to select your answer, then click Check Answer.

3 parts remaining Clear All Check Answer Close

MyLab Economics www.pearsonmylabsandmastering.com



Learning resources

To further reinforce understanding, Study Plan and Homework problems link to additional learning resources.

- Step-by-step Guided Solutions
- Graphing Tool
- eText linked to sections for all Study Plan questions

Study Plan

You have earned **0** of **164** mastery points (MP).

[View progress](#)

Practice these sections and then take a Quiz Me to prove mastery and earn more points.

What to work on next

- | | | |
|---|---|---|
| <p> 0.1 Tutorial Examples for Students</p> <p> More Sections to practice and master</p> <p> 1.1 Three Key Economic Ideas</p> <p> 1.2 The Economic Problem That Every Society Must Solve</p> <p> 1.3 Economic Models</p> <p> 1.4 Microeconomics and Macroeconomics</p> | <p>Practice Quiz Me</p> <p>Practice Quiz Me</p> <p>Practice Quiz Me</p> <p>Practice Quiz Me</p> | <p>0 of 1 MP</p> <p>0 of 1 MP</p> <p>0 of 1 MP</p> <p>0 of 1 MP</p> |
|---|---|---|

[View all chapters](#)

Study plan

A Study Plan is generated from each student's results on quizzes and tests. Students can clearly see which topics they have mastered and, more importantly, which ones they need to work on.

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