

Economics for today

Allan Layton Tim Robinson Irvin B. Tucker





Economics for Today is written specifically for the increasing number of Australian business students undertaking a one-semester course in economics. Offering a unique blend of solid theoretical content and student accessibility, the book covers all the basics of macroeconomics and microeconomics.

The text is presented in a concise, easy-to-read style and covers all the core economic concepts without going into excessive technical detail.

Theory is illustrated using examples drawn from recent events in Australian, New Zealand and South-East Asian economies, making it an interesting and accessible text for students who may not carry on with further study in economics. With increasing emphasis being given to ethics in modern business courses, treatment of ethical issues is included, where relevant, throughout the text.

Each chapter features:

- Analyse the issue articles and examples with questions that test students' understanding in relation to the applicable economic concept
- You make the call challenges to students to generate critical thinking
- International focus examples and questions based on international economic issues
- Internet applications activities and notes that encourage students to visit internet sites for further information
- InfoTrac key search terms are provided for students to further research selected concepts using this on-line reference source
- End-of-chapter questions study questions and problems, online exercises and multiple-choice questions.

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For
Monica, Caleb and Lilly-Anne
and
Veronica, Chloe, Thomas and Nicola

Economics for today 2nd Edition

Allan Layton Tim Robinson Irvin B. Tucker



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Preface to the second edition

This new edition of *Economics for Today* follows on from the success of the first edition, which has been adopted for one-semester courses at both undergraduate and postgraduate levels across Australia and in New Zealand. It retains the 'student friendly' approach and the many boxed features of the first edition. There has been revision of the text with supporting diagrams where necessary to improve flow and clarity, and the real-world examples have been brought up to date. All relevant data have also been completely updated.

A new appendix to Chapter 14 briefly explains the 'Keynesian Cross' approach to macro modelling as well as directing the interested student to the publisher's website where further material, sourced from the authors, introduces the IS LM BP (Mundell Fleming) model.

An interesting new feature is the introduction of material relating to economics and ethics. Ethical considerations have been recently brought to the fore, as far as modern business practice is concerned, following a spate of highly publicised corporate scandals in 2002–04 in various countries, including Australia. This new material, which is included in a number of chapters in the text, should help fulfil the requirements of international accrediting bodies, which are increasingly requiring the integration of ethical issues into business units.

Most important, in making the revisions for this second edition, the authors owe a debt of gratitude to the many adopters and potential adopters who have provided feedback on the first edition.

Text flexibility

Economics for Today is easily adapted to lecturers' preferences for the sequencing of microeconomics and macroeconomics topics. The text can be used in a macroeconomic-microeconomic sequence by teaching the first four chapters and then Chapters 11 to 18. The microeconomics content can then be covered with Chapters 5 to 10. This approach allows students to identify with macro issues - which tend often to be in the news - before studying microeconomics.

The book has eighteen chapters and will allow students to easily cover approximately one and a half chapters each week over twelve teaching weeks. Alternatively, some chapters and some parts of chapters can be omitted at the discretion of the lecturer. Some proposals along these lines are included in the Instructor's Manual.

An alternative placement for Chapter 18, 'International trade and finance', is also possible. As well as incorporating international issues throughout, Economics for Today explicitly addresses international influences on national economies in Chapter 18. Some instructors may prefer to cover Chapter 18 earlier - immediately after Part 4, for example.

Special features

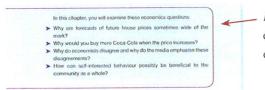
Each chapter contains a number of current real-world exercises and topics for discussion:

- Online exercises at the end of each chapter guide students to websites to use as a basis for problem-solving exercises.
- Internet margin notes throughout the text provide Internet addresses of sites relevant to the topics being discussed, and encourage students to visit the sites for more information.
- You make the call sections in each chapter ask students to answer a simple question related to the topic being discussed. Answers are provided at the end of the chapter.
- International focus sections in each chapter highlight chapter topics in a global context.
- Analyse the issue sections in each chapter provide a brief case study for students to analyse.
- The summary at the end of each chapter includes graphs and causation chains to refresh students' memories of the chapter topics.

Resources guide

FOR THE STUDENT

As you read this text you will find a wealth of features in every chapter and part to enhance your study of economics and help you understand how it is applied in the real world.



Economics questions are listed at the start of each chapter to give you a clear sense of what economic concepts will be covered.



When *Key Terms* are used in the text for the first time, they are defined in the text and bolded for easy identification. A full list of key terms is also available in the glossary which can be found at the back of the book.





Analyse the issue topics present a brief case study so that you can apply the ideas explained in each chapter.





You make the call sections in each chapter ask what you would do in a hypothetical situation, giving you the chance to apply what you've just learned. Answers are given at the end of the chapter.





International focus sections explore global influences on economics, showing the way in which international phenomena affect the chapter topic.





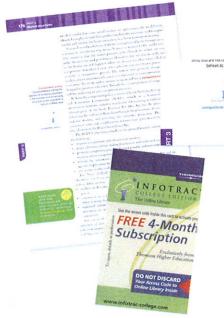
Internet links in the margins throughout each chapter help you use the web for further research.

The Conclusion boxes throughout each chapter summarise key ideas.

pinions or points of view that are not

When considering a debute, make sure you separate the arguments into their positive and normative components. This distinction allows you to determine dystal are shoosing a course of action related to factual sendor to openion. The material presented in this teachook, like most of economics





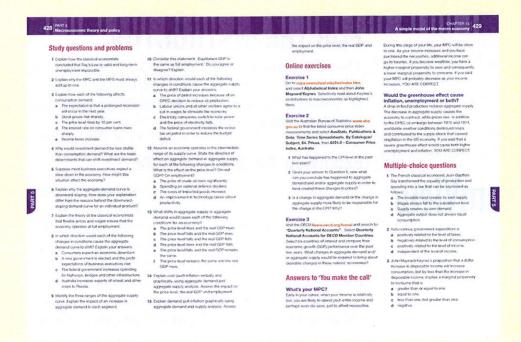
In Australia, competition policy is overseen by the Australian Competition and Communer Communiston (ACCC), which is a Commonwealth professional parts of the Trade Practices Act. This Act has the objective of enhancing the welfare of Australians through the promotion of competition and fair trading, and providing for consumer protection. The ACCC cooperates with, and complements, relevant state government bodies and and authorities the Prices Surveillance Act.

The ACCC's objectives, which can be gleaned from its website, include the following.

wing. ove competition and efficiency in markets:

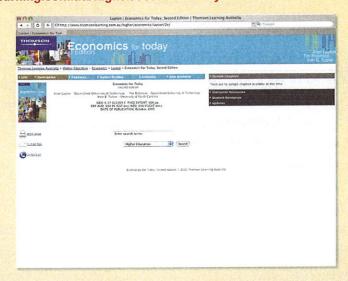
Infotrac® search terms are also available throughout each chapter. Included with this text is a passcode that gives you a FREE four-month subscription to InfoTrac College Edition. This online library will provide you with access to full-text articles from thousands of scholarly and popular periodicals. Don't restrict yourself to the search terms provided throughout the book, think of your own search terms and expand your general economics knowledge.

At the end of each chapter you'll find several learning tools to help you to not only review the chapter and key concepts but also to help you extend your learning.



- The Key concepts box lists the main ideas covered in the chapter.
- The end of chapter Summary provides you with key points from the chapter, giving you a snapshot of the chapter's content.
- Study questions and problems and Multiple-choice questions enable you to apply the theory you have learnt, which you can test in the real world using the Online exercises.

For updates and news relating to Economics for Today, please go to the companion website. At www.thomsonlearning.com.au/higher/economics/layton/2e



FOR THE INSTRUCTOR

Thomson Learning is pleased to provide you with an extensive selection of electronic and online supplements to help you lecture in economics. These resources have been specifically developed to supplement *Economics for Today*.

ExamView°

ExamView Testbank CD ROM

ExamView helps you create, customise and deliver tests in minutes for both print and online. The Quick Test Wizard and Online Test Wizard guide you step by step through the test-creation process. The program also allows you to see the test you are creating on the screen exactly as it will print or display online. With ExamView's complete word-processing capabilities, you can add an unlimited number of new questions to the bank, edit existing questions and build tests of up to 250 questions using up to 12 question types. You can now export the files into Blackboard or WebCT.



Instructor's Manual and PowerPoint Presentation on CD-ROM

The *Instructor's Manual* provides you with a wealth of content to help set up and administer an economics subject. It includes learning objectives, chapter outlines, key points, figures from the text, adjunct teaching and warm-up activities as well as solutions to problems in the text. Also included on the CD-ROMs are PowerPoint presentations to accompany *Economics for Today*. Use these slides to reinforce key economics principles.



Artwork CD-ROM

The Artwork CD-Rom includes digital files of graphs, tables, pictures and flow charts from the text that can be used in a variety of medias. Use them in WebCT or Blackboard, PowerPoint presentations or copy them onto overheads.

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Welcome to the exciting and useful way of looking at the world that we call 'the economic way of thinking'. As you learn this reasoning technique, it will become infectious. You will discover that the world is full of economic problems requiring more powerful tools than just common sense. As you master the methods explained in this book, you will appreciate that economics provides a valuable approach to solving many real-world puzzles and issues. The economic way of thinking is important because it provides a logical framework that can be used to help us understand a wide range of economic issues and events. Just to give you a sneak preview, in this text you will be studying the perils of government price-fixing. You will also find out why governments provide for coastal surveillance rather than leaving it to the private sector. You will investigate whether you should be concerned if the federal government does not balance its budget. You will learn why one famous economist once said that monetary policy



could be best handled by a smart horse. And the list of interesting and relevant topics explained continues through all the chapters. As you read these pages, your efforts will be rewarded with an understanding of just how economic theories and policies affect our daily lives – past, present

Chapter 1 acquaints you with the foundation of the economic way of thinking. The first building blocks are the concepts of scarcity and choice. The next building blocks are the steps in the model-building process that economists use to study the choices people make. Then we look at some pitfalls of economic reasoning and explain why economists may disagree with one another.

In this chapter, you will examine these economics questions:

- ➤ Why are forecasts of future house prices sometimes wide of the mark?
- ➤ Why would you buy more Coca-Cola when the price increases?
- Why do economists disagree and why do the media emphasise these disagreements?
- ➤ How can self-interested behaviour possibly be beneficial to the community as a whole?

The problem of scarcity

Our world is a finite place where people, both individually and collectively, face the problem of **scarcity**. Scarcity is the condition in which human wants are forever greater than the available supply of time, goods, services and resources. Because of scarcity, it is impossible to satisfy every desire. Pause for a moment to list some of your unsatisfied wants. Perhaps you would like a bigger home, more restaurant meals, cleaner air, better health care, shelter for the homeless, more leisure time and so on. Unfortunately, nature does not offer a utopia in which every desire is fulfilled. There are always limits on the economy's ability to satisfy unlimited wants. Alas, scarcity is pervasive: you really *can't* 'have it all'.

You may think your scarcity problem would disappear if you were rich, but wealth does not improve the situation. No matter how affluent an individual is, the wish list continues to grow. We are familiar with the 'rich and famous' who never seem to have enough. Although they live well, they still desire finer homes, faster planes and larger yachts. In short, the condition of scarcity means that all individuals, whether rich or poor, could be more satisfied with their lot. They would like more material goods and more

Scarcity The condition in which human wants are forever greater than the available supply of time, goods, services and resources.

leisure time in which to use them. What is true for individuals also applies to society. State governments search for innovative ways to raise taxes for the funding of schools. The federal government's desire to spend on the poor and on higher education, highways and defence exceeds the tax revenue it receives to pay for these programs. So not even the Australian government escapes the problem of scarcity.

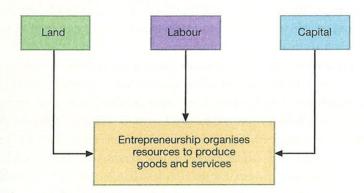
Of course, scarcity is a fact of life throughout the world, regardless of whether a country has a command economy tightly controlled by government or a capitalist economy that relies primarily on free markets. In much of South America and Africa the problem of scarcity is often lifethreatening. On the other hand, in North America, Europe, Australasia and much of Asia there has been substantial economic growth and development. Although life is much less gruelling in the more advanced countries, the problem of scarcity exists because individuals and countries never have as much of all the goods and services as they would like to have.

Scarce resources and production

Because of the economic problem of scarcity, no society has enough resources to produce all the goods and services necessary to satisfy all human wants. Resources are the basic categories of inputs used to produce goods and services. Resources are also called factors of production. Economists divide resources into three categories: land, labour and capital (see Exhibit 1.1).

Resources The basic categories of inputs used to produce goods and services. Resources are also called factors of production. Economists divide resources into three categories: land, labour and capital.

Exhibit 1.1 Three categories of resources



Resources are the basic categories of inputs organised by entrepreneurship (a special type of labour) to produce goods and services. Economists divide resources into the three categories of land, labour and capital.

Land

Land A shorthand expression for any resource provided by nature. Land is a shorthand expression for any resource provided by nature. Land includes those resources that are gifts of nature available for use in the production process. Land includes anything natural above or below the ground, such as forests, minerals, oil, wildlife and fish. Other examples are rivers, lakes, oceans, the atmosphere, the sun and the moon. Pursuits such as farming, fishing, manufacturing and retailing all use land to a greater or lesser extent. Two broad categories of natural resources are renewable resources and non-renewable resources. Renewable resources are basic inputs that nature can automatically replace without interference from human beings. Examples include lakes, crops, animals and clean air. Non-renewable resources are basic inputs that nature will not automatically replace. There is only so much coal, oil, copper and iron ore in the world.

Labour

Labour is the mental and physical human capacity of workers to produce goods and services. The services of farmers, factory workers, lawyers, professional football players and economists are all *labour*. Both the number of people available for work and the skills or quality of workers measure the labour resource. One reason why nations differ in their ability to produce is that human characteristics, such as the education, experience, health and motivation of workers, differ among nations.

Entrepreneurship is a special type of labour. Entrepreneurship is the creative ability of individuals to seek profits by combining resources to produce new or existing products. The *entrepreneur* is a motivated person who seeks profits by undertaking such risky activities as starting new businesses, creating new products or inventing new ways of accomplishing tasks. Entrepreneurship is a scarce human resource because relatively few are willing or able to innovate and make decisions involving hard work and greater-than-normal chances of failure.

Entrepreneurs are the agents of change who help bring material progress to society. The origins of the world's largest pharmaceutical group, GlaxoSmithKline, can be traced to New Zealand entrepreneur Joseph Nathan, a poor Jewish immigrant from London's East End who developed interests in shipping, railways and eventually dried milk. This dried milk, which was first produced at Bunnythorpe near Palmerston North, was given the trade name Glaxo. By the 1930s it had become the pre-eminent dried milk for babies, and Glaxo was a household word. At the end of the twentieth century the trade name that Nathan had registered in 1906 became GlaxoSmithKline after Glaxo had been involved in mergers with leading pharmaceutical companies. The Bunnythorpe dried milk factory was closed in 1974 but remains as a historic building – a lasting reminder of the entrepreneurial spirit of Joseph Nathan.

Labour The mental and physical capacity of workers to produce goods and services.

:ntrepreneurship The creative ibility of individuals to seek profits y combining resources to produce new or existing products.

Read more about Joseph Nathan and the GlaxoSmithKline connection at www.nzedge.com/heroes/nathan.html.

Capital

Capital is the physical plant, machinery and equipment used to produce other goods. Capital goods are human-made goods that do not directly satisfy human wants. Capital before the Industrial Revolution meant a tool, such as a hoe, an axe or a bow and arrow. In those days, these items served as capital to build a house or to provide food for the dinner table. Today, capital also consists of factories, office buildings, warehouses, robots, trucks and distribution facilities. University buildings, the printing presses used to produce this textbook, and software are also examples of capital.

The term *capital* as it is used in the study of economics can be confusing. Economists know that capital in everyday conversation means money or the money value of assets, such as stocks, bonds or the deeds to real estate. This is actually financial capital. In the study of economics, capital does not refer to money assets. In economics, capital means human-made factors of production, such as factories or machinery. Money is not capital; it simply gives a measure of the value of assets, including capital goods.

Capital The physical plant, machinery and equipment used to produce other goods. Capital goods are human-made goods that do not directly satisfy human wants.

Browse through some recent editions of USA Today (www. usatoday.com), the Straits Times (www. straitstimes.asia1.com.sg), the Sydney Morning Herald (www. smh.com.au) or the New Zealand Herald (www. nzherald.co.nz). Can you find some headline stories involving economics? What proportion are they of the headline stories?

Financial capital, which represents the monetary value of a wide range of assets, should not be confused with the economist's definition of capital, which encompasses only human-made goods used to produce other goods and services.



Economics: the study of scarcity and choice

The perpetual problem of scarcity forcing people to make choices is the basis for the definition of **economics**. Economics is the study of how society chooses to allocate its scarce resources to the production of goods and services in order to satisfy unlimited wants. You may be surprised by this definition. People often think economics is the study of supply and demand, the stock market, or money and banking. In fact, there are many ways one could define *economics*, but economists accept the definition given here because it includes the link between *scarcity* and *choices*.

Society makes two kinds of choices: economy-wide or macro choices, and individual or micro choices. The prefixes *macro* and *micro* come from the Greek words meaning 'large' and 'small' respectively. Reflecting the macro and micro perspectives, economics consists of two main branches: *macroeconomics* and *microeconomics*.

Economics The study of how society chooses to allocate its scarce resources to the production of goods and services in order to satisfy unlimited wants.

Microeconomics

Microeconomics The branch of economics that studies decisionmaking by a single individual, household, firm or industry. **Microeconomics** is the branch of economics that studies decision-making by a single individual, household, firm or industry. The focus is on the behaviour of small economic units, such as the economic decisions of particular groups of consumers or businesses. An example would be the use of microeconomic analysis to study economic units involved in the market for eggs. Will suppliers decide to supply more, fewer or the same amount of eggs to the market in response to price changes? Will individual consumers of these eggs decide to buy more, fewer or the same amount at a new price?

Macroeconomics

Macroeconomics The branch of economics that studies decision-making for the economy as a whole. Macroeconomics is the branch of economics that studies the performance of, and decision-making in, the economy as a whole. Macroeconomics applies an overview perspective to an economy by examining economywide variables such as inflation, unemployment, the money supply and the flows of exports, imports and international financial capital. Macroeconomic decision-making considers such 'big picture' policies as the effect that balancing the federal budget may have on unemployment, the effect that changing the money supply may have on prices and the effect of strong economic growth on the value of the currency.

We have described macroeconomics and microeconomics as two separate branches, but they are related. Because the overall economy is the sum or aggregation of its parts, micro changes affect the macro economy, and macro changes produce micro changes.



Can the free market eliminate scarcity?

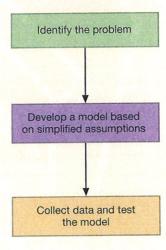
Vietnam is an economy in transition. As one of the few remaining communist economies, it is working towards reliance on the market rather than centralised controls to determine prices for goods and services. Nonetheless, there are sectors of the economy that continue to be subject to price controls and the shortages that these can cause. People explain that in Vietnam this scarcity is the result of low prices in relation to available supply. If a Vietnamese citizen were to say that the condition of scarcity in these regulated markets would be eliminated if the government were to allow free markets to operate as they do in other sectors of the economy, would you agree?

Visit the popular economics site (www.economy.com) for a survey of issues in the study of economics.

The methodology of economics

Economists use the same scientific method used in other disciplines such as criminology, biology, chemistry and physics. The scientific method

The steps in the model-building process



The first step in developing a model is to identify the problem. The second step is to select the critical variables necessary to formulate a model that explains the problem under study. Eliminating other variables that complicate the analysis requires simplifying assumptions. In the third step, the researcher collects data and tests the model. If the evidence supports the model, the model is accepted. If not, the model is rejected.

is a step-by-step procedure for solving problems by developing a theory, gathering data and testing whether the data are consistent with the theory. Exhibit 1.2 summarises the model-building process.

Identifying the problem

The first step in applying the scientific method is to define the problem. Suppose an economist wishes to investigate the microeconomic question of why motorists have cut back on petrol consumption in a given year from, say, 5 billion litres per month in February to 4.5 billion litres per month in March.

Developing a model

The second step in our hypothetical example towards finding an explanation is for the economist to build a model. A model is a simplified description of reality used to understand and predict the relationship between variables. A model is built on the foundation of an underlying theory. It looks at the factors, often called *variables*, that explain an event. However, a model emphasises only those variables that are most important to explaining an event. In this respect, models are similar to their underlying theories which, according to Albert Einstein, 'should be as simple as possible, but not any number'. Paring a model down to its simplest possible form is sometimes

Economics is the only social science in which a Nobel Prize is awarded. Read about past winners and their contributions to economic thought at www.almaz.com/nobel/economics/2004b.html.

Model A simplified description of reality used to understand and predict the relationship between variables. PART .

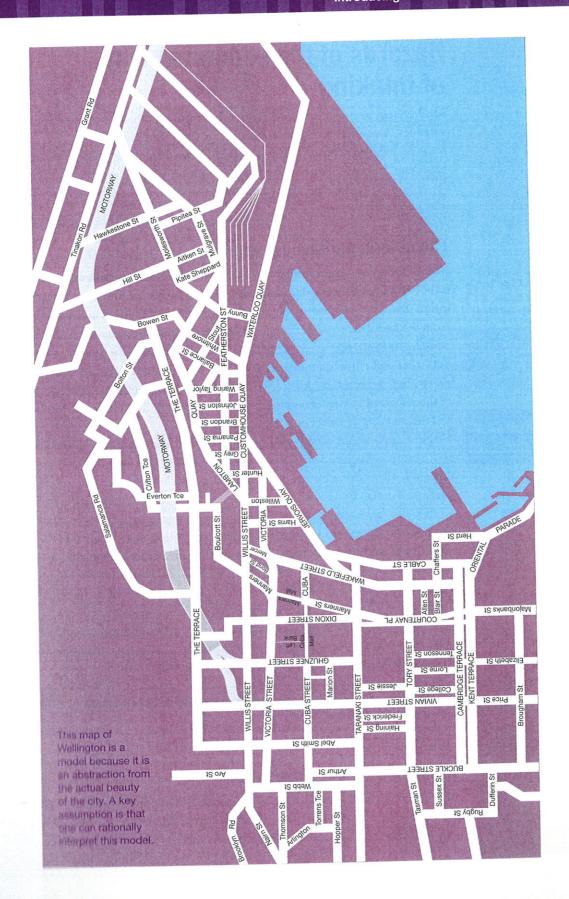
A model requires simplified assumptions in order to be useful. Someone must decide, for example, whether a map will include only symbols for the major highways or the details of every minor road. In our petrol consumption example, several variables may be related to the quantity of petrol consumed, including consumer incomes, the price of goods other than petrol, the price of petrol, the fuel economy of cars, and weather conditions. Because we wish to focus only on the main or critical variables, the economist must be a Sherlock Holmes and use a keen sense of observation to form a model. Using his or her expertise, the economist must select the relevant variables that are related to petrol consumption and reject variables that have only slight or no relationship to petrol consumption. In this simple case, the economist removes the cloud of complexity by formulating the hypothesis that increases in the price of petrol *cause* the quantity of petrol consumed to decrease during the time period.

Testing the model

An economic model can be formulated using verbal arguments, numerical tables, graphs or mathematical equations. You will soon discover that a major part of this book is devoted to building and using economic models. The purpose of an economic model is to enable us to *forecast* or *predict* the results of various changes in key variables. An economic model is useful only if it yields accurate predictions. When the evidence is consistent with the prediction that a change in *A* causes outcome *B*, all other factors remaining constant, there is confidence in the model's validity. This confidence in the model is maintained indefinitely unless there is some evidence that the model has lost its predictive power. So if repeated tests indicate that the evidence is inconsistent with the prediction that a change in *A* causes outcome *B*, the researcher rejects the model.

Returning to our petrol consumption problem, the economist gathers data to test the hypothesis that if the price of petrol rises, then petrol purchases fall—all other relevant factors held constant. Suppose the investigation reveals that there was a sharp rise in the price of petrol in March of the given year. The data are therefore consistent with the hypothesis that the quantity of petrol consumed per month falls when its price rises, assuming no other relevant factors change. Thus the model is valid if, for example, consumer incomes or population do not change at the same time as petrol prices rise.





Hazards of the economic way of thinking

Models help us understand and predict the impact of changes in economic variables. A model is an important tool in the economist's toolkit, but it must be handled with care. The economic way of thinking seeks to avoid reasoning mistakes. Two of the most common pitfalls to clear thinking are (1) failing to understand the *ceteris paribus* assumption and (2) confusing association and causation.

The ceteris paribus assumption

As you work through a model, try to think of a host of relevant variables assumed to be 'standing still', or 'held constant'. **Ceteris paribus** is a Latin phrase that means that, while certain variables change, 'all other things remain unchanged'. As in the petrol example discussed earlier, a key simplifying assumption of the model is that changes in consumer incomes and certain other variables do not occur and complicate the analysis. The ceteris paribus assumption holds everything else constant and therefore allows us to concentrate on the study of the relationship between two key variables: changes in the price of petrol and the quantity of petrol purchased per month.

Now suppose an economist wishes to explain the model for the price and quantity purchased of Coca-Cola. Assume the theory is 'If the price increases, then the quantity of Coca-Cola purchased decreases, ceteris paribus'. A pitfall in reasoning might occur if you observed that the price of Coca-Cola increased one summer and some people actually bought more and not less. On the basis of this real-world observation, you declare that the model does not work. Think again! The economist responds that the model is valid, based on the assumption of ceteris paribus, and that your observation gives you no reason to reject the model. The reason why the model appeared flawed is that another factor, a sharp rise in the temperature, *caused* people to buy more Coca-Cola in spite of its higher price. If the temperature and all other factors are held constant as the price of Coca-Cola rises, then people will indeed buy less Coca-Cola, as the model predicts.



A model cannot be tested legitimately unless its ceteris paribus assumption is satisfied.

Association versus causation

Another of the most common errors in reasoning is to confuse association (or correlation) and causation between variables. Stated differently, you err when you read more into a relationship between variables than is actually there.

Ceteris paribus A Latin phrase meaning that, while certain variables change, all other things remain unchanged. A model is valid only when there is a genuine cause-and-effect relationship. It is not valid when it relies on an association between variables; that is, where a change in the value of one variable does not cause any subsequent change that occurs in the other. Suppose that the hole in the ozone layer increases in size during three different months, and Indonesia's exports to Australia increase during each of these months. The change in the ozone layer is associated with the increase in exports, but this does not mean the ozone layer change caused the event. Even though there is a statistical relationship between two variables in a number of observations, economists would not be concerned if further increases in the size of the hole in the ozone layer were associated with a fall in Indonesian exports to Australia. The reason is that there is no true economic relationship between the ozone layer and Indonesian exports. A more likely explanation for the increase in Indonesian exports to Australia would be that currency movements have reduced the cost to Australians of buying these exports.

The fact that one event follows another does not necessarily mean that the first event caused the second event.



Can simple models explain house price movements?

Frequently in the press, in investment magazines and on Internet property sites there are explanations of the causes of the overall movement up or down in house prices, and forecasts of future changes. Property analysts, real estate agents and financial journalists variously attribute past or expected future ups and downs in the property market to migration patterns, changes in consumer confidence, changes in government policy, interest rate changes or seasonal differences. When the most recent property boom in Australia came to an end in 2004 it became apparent that there were flaws in some of these commentators' arguments. Reactions of the market to given events turned out to be different from what the pundits had been suggesting, leaving their forecasts wide of the mark. Why is it that explanations for house price movements are sometimes found to be incorrect?

You make the call



Throughout this book, you will study economic theories and models that include variables linked by stable cause-and-effect relationships. These include the microeconomic theory that a change in the price of a good causes a change in the quantity purchased; and the macroeconomic model that estimates changes in the interest rate caused by changes in the money supply. The 'You make the call' above discusses an everyday example of the pitfalls of developing simple models to explain highly complex phenomena.

To find materials and data resources used by economists on the Internet, visit www.helsinklfi/WebEc.

PAKIT

International focus

A prominent American economist explains why economists disagree

Writing in the preface to *The Fortune Encyclopedia of Economics* its editor, David R. Henderson. who is a research fellow at Harvard University's prestigious Hoover Institution, defends the charge against economists that their discipline is plagued by disagreements between its practitioners. The following excerpts from that preface summarise his case.

An old joke says that if you laid all the economists in the world end to end, they would not reach a conclusion. The popular perception behind the joke is that economists never agree. Implicit in that perception is the belief that economics is largely a matter of opinion and that economists (unlike biologists or the practitioners of any other science) do not share a common set of beliefs. Given all the conflicting pronouncements by economists that appear almost daily in the press, that perception is very understandable. It also is dead wrong. While economists disagree on many matters, they have reached virtually unanimous agreement on a multitude of others. ...

Most of the disagreement among economists concerns 'macroeconomics', which deals with nationwide or worldwide phenomena such as inflation, unemployment, and economic growth. ... Some of their disagreements reflect different judgments about the relative importance of, say, inflation versus unemployment. Others stem from basic disagreement on the ability of government policy to affect the total economy in predictable ways. ...

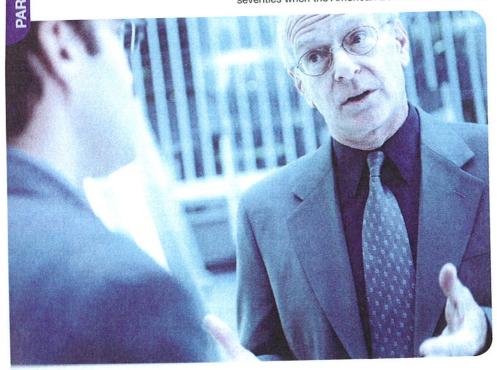
Macroeconomics, however, is only a small part of the total science of economics. The vast majority of economic questions (and public policy issues) fall in the realm of what is called microeconomics. And the vast majority of economists agree on the underlying economics of most micro issues, including rent controls, minimum wages, and the need to reduce pollution. Some may disagree on the policy implications of the analysis, but remarkably few disagree on the analysis itself.

That economists agree on most micro issues became clear in the late seventies when the American Economic Review, the world's largest-circulation

economics journal, published an opinion poll of 211 economists. The poll found that 98 percent agreed with the statement 'A ceiling on rents reduces the quantity and quality of housing available.' Similarly, 90 percent of economists agreed that 'a minimum wage increases unemployment among young and unskilled workers.' And 97 percent agreed with the statement 'Tariffs and import quotas reduce general economic welfare.' ...

So why do people think economists disagree about everything? One reason is that the media present all

Applicable concepts: why economists disagree; positive economics; normative economics



economic issues as if they are inherently controversial. The issues themselves are controversial, but the economics of the issues more often are not. ...

Another equally important source of the misimpression about economics comes from the often overlooked distinction that economists make between 'positive' and 'normative' analysis. Positive analysis is the application of economic postulates and principles to a question – in other words, finding out the way things are and why the world behaves as it does. Normative analysis, in contrast, deals with the way things ought to be, and unavoidably involves the noneconomic value judgments of the analyst. For example, positive analysis says that licensing physicians will result in there being fewer doctors in society and higher prices for medical care. Whether states should license doctors to protect patients from quacks is a normative matter. In other words, there are no 'shoulds' in purely positive economic analysis, but [nonetheless] every economist has views on how things should be done.

In preparing this encyclopedia, we strived to separate positive and normative positions, to emphasize the areas where economists agree, while also specifying where and why they disagree. The goal is to communicate just how much economic analysis can teach us about the important issues we face as voters, consumers, employees, and as people who care about the world.¹

David R. Henderson, The Fortune Encyclopedia of Economics, 1993, reprinted at www.econlib.org/library/Enc/bios/CEEPreface.html

Analyse the issue

Is it positive or normative issues that lead to most disagreements between economists? Explain and give some examples.

Why do economists disagree?

Why might one economist say a clean environment is the most important goal for society, and another economist say economic growth should be our goal? If economists share the economic way of thinking and carefully avoid reasoning pitfalls, then why do they disagree? Why are economists known for giving advice by saying, 'On the one hand, if you do this then A results and, on the other hand, doing this causes result B'? In fact, President Harry Truman once jokingly exclaimed, 'Find me an economist with one hand.' George Bernard Shaw offered another famous line in the same vein: 'If you took all the economists in the world and laid them end to end, they would never reach a conclusion.' These famous quotes imply that economists should agree, but ignore the fact that physicists, doctors, business executives, lawyers and other professionals often disagree.

It may appear that economists disagree more than other professions partly because it is more interesting to report disagreements than agreements. Actually, economists agree on a wide range of issues. Many economists, for example, agree on the benefits of free trade among nations, the elimination

of farm subsidies and government-imposed rent ceilings, government deficit spending to recover from recession and many other issues. When disagreements do exist, the reason can often be explained by the difference between positive economics and normative economics.

Positive economics

Positive economics deals with facts and therefore addresses 'what is' or 'verifiable' questions. Positive economics is an analysis limited to statements that are verifiable. Positive statements can be proved either true or false. Often a positive statement is expressed 'If A, then B.' For example, it might be stated that if the national unemployment rate is 7 per cent, then youth unemployment exceeds 80 per cent. This is a positive 'if-then' prediction, which may or may not be correct. The accuracy of the statement is not the criterion for being a positive statement. The key consideration for a positive statement is whether the statement is testable and not whether it is true or false. Suppose we read that if Australia's overall unemployment rate is 7 per cent, the youth unemployment rate would always be less than 7 per cent. A review of the official statistics relating to Australia's recent experience with unemployment would lead us to conclude that this positive statement is false. (In Australia in recent times, when the overall unemployment rate has been around 7 per cent, the rate for young people has been approximately 20 per cent.)

Now we can explain one reason why economists' forecasts can diverge. The statement 'If event A occurs, then event B follows' can be thought of as a conditional positive statement. For example, two economists may agree that if the federal government cuts spending by 10 per cent this year, prices will fall about 2 per cent next year. However, their predictions about the fall in prices may differ because one economist assumes the government will not cut spending, while the other economist assumes it will cut spending by 10 per cent.



Forecasts of economists can differ because, using the same methodology, economists can agree that event A causes event B, but disagree over the assumption that event A will occur.

Normative economics

Instead of using objective statements, an argument can be phrased subjectively. Normative economics is concerned with 'what should be'. Normative economics is an analysis based on value judgements. Normative statements express an individual or collective opinion on a subject and cannot be proved by facts to be true or false. Certain words or phrases tell us clearly that we have entered the realm of normative economics. These include the words good, bad, need, should and ought to.

Positive economics An analysis limited to statements that are verifiable.

Department of the Treasury (www.treasury.gov.au) and Zurich Financial Services (www examples of organisations that employ economists to, among other things, predict how the economy will behave and also interpret



Normative economics An analysis based on value judgements.

The point here is that people wearing different-coloured glasses see the same facts differently. Each of us has individual subjective preferences that we apply to a particular subject. An economist trained in the United States may argue that Asian nations *should* adopt Western values and institutions. Or one member of parliament argues, 'We *ought to* see that every teenager who wants a job has one.' Another counters by saying, 'Keeping inflation under control is *more important* than teenage unemployment.'

Normative statements involve opinions or points of view that are not scientifically testable.



When considering a debate, make sure you separate the arguments into their positive and normative components. This distinction allows you to determine if you are choosing a course of action related to factual evidence or to opinion. The material presented in this textbook, like most of economics, takes pains to stay within the boundaries of positive economic analysis. In our everyday lives, however, politicians, business executives, relatives and friends often use normative statements when discussing economic issues. Economists also may associate themselves with a political position and use normative arguments for or against some economic policy. When using value judgements, an economist's normative judgements may have no greater validity than those of others. As is the case with all human beings, an economist's own personal values or preconceptions can influence his or her thinking about many things ranging from deficit spending to whether petrol taxes should be reduced.

Economics and ethics

As you study this book you will discover that the economic model is based on the assumption that economic agents pursue their own self-interest (or that of their family unit). This self-interest is said to be *enlightened* in that individuals pursue their own ends subject to the set of laws and social mores that prevails in society. Critics of economics sometimes argue, however, that the economic model promotes unenlightened self-interest – what is sometimes described as greed. Indeed, some individuals have used the notion of economic self-interest to justify their own greed – as did Gordon Gecko, played by actor Michael Douglas, when he famously declared that 'greed is good' in the film *Wall Street*.

In spite of some opportunistic interpretations of the relevance of the assumption of self-interested behaviour, the mainstream economic model does not set about promoting greed. It is concerned to promote the efficient working of free markets subject to conformity to an underlying set of ethical or moral principles – a set of principles that



Enlightened self-interest involves members of the community respecting the laws and social mores of society while they pursue their own individual goals.

Adam Smith



are not to be traded for increased material welfare. The founder of modern economics, Adam Smith, whose image appears on the opening page of this chapter, pointed out over two centuries ago that the gaining of economic advantage by nonconformity to these principles does not promote the economic welfare of the community. Management guru Charles Handy, in The Empty Raincoat, sums up the case by referring to Smith's eighteenth-century writings.

Adam Smith, who was professor of moral philosophy not of economics, built his theories on the basis of a moral community. Before he wrote A Theory of the Wealth of Nations he had written his definitive work - A Theory of Moral Sentiments - arguing that a stable society was based on 'sympathy', a moral duty to have regard for your fellow human beings. The market is a mechanism for sorting the efficient from the inefficient, it is not a substitute for responsibility.

Determination of the set of ethical principles that underpin capitalist society is, of course, a normative exercise. The appropriateness of these principles cannot be tested objectively. Nonetheless, these principles constitute the foundation for economic behaviour that can be subjected to positive analysis.

Charles Handy, The Empty Raincoat, Hutchinson, London, 1994, p. 15.



Tim Costello on Adam Smith and business ethics

In the following extracts from an article in the Weekend Australian Financial Review, Tim Costello, a priest who is chief executive of World Vision Australia, points to the relevance of Adam Smith's understanding of the relationship between economics and ethics for Australian business.

I am frequently asked the question: Can it be profitable to be ethical? ...

Business has always been quick to sniff profit, and if it is profitable to be ethical then great, let's get on with it. But it's not that simple, as the past 20 years have borne out.

In the 1980s, Gordon Gecko and the mantra 'greed is good' represented a particular culture that virtually celebrated ruthlessness, without being troubled by conscience or ethics.

In the 1990s, a new doctrine permeated business - that business was morally neutral - value-free.

And if business was morally neutral, there was no embarrassment in maximising shareholder wealth - not in an exaggerated '80s style with machismo and shame, but as a proposition that moral neutrality can give us a clear focus to maximise shareholders' wealth.

Applicable concepts: economics and ethics; positive and normative analyses

In the late 1990s it became clear there was no valuefree place to stand, no neutrality for business. This is clearly illustrated by events at James Hardie, facing community censure over its approach to limiting liability for compensation to asbestos victims.

Like other companies found to have misled the community, James Hardie has found there is no neutral place to stand.

Over the past few years a new doctrine has emerged – the 'triple bottom line' – as the key to a company's sustainability. ...

This doctrine emphasises that business is part of the community. It is in a relationship not just with shareholders, but with stakeholders. ...

There are five reasons this doctrine has emerged: the increasing transparency of business affairs; improved communications in a global world; extensive social change in the last decade; the increased role played in the economy by the private sector; and the realisation that global business is not something apart from society.

So there have been significant shifts over the past 20 years – from greed is good, to neutrality, to today, where business is no longer neutral but in partnership with stakeholders.

We are in a different paradigm. But how committed is business to seeing through what this paradigm implies?

Adam Smith, the father of laissez-faire capitalism, provided a framework that I believe to be at the core of this paradigm: 'Human beings are simultaneously self-regarding and other-regarding.'

Most who have read Smith have understood instantly what he means by self-regarding. It covers the private profit motive, profit and self-interest that is mediated through the brilliant mechanism of the market, with billions of transactions every day. Indeed, no centralised or other system of planning, allocating preferences and distributing resources, can match it.

In picking up this part of Smith – the laissez-faire principle – we actually understood the truth of his first limb, that is, that humans are self-regarding.

Business understands this well and has led on this clearly.
But the second limb is where the great intellectual and personal challenge is for the corporate sector. 'Humans are simultaneously other-regarding.'
The 'other' being environment, community, attention to spiritual non-visual materials, for instance. The other is the stakeholders referred to earlier.

But can we still find help from Smith? Interestingly, he was a moral philosopher before he was an economist.

In *The Theory of Moral Sentiments*, written before *The Wealth of Nations*, Smith says essentially that the foundation of a good society, a virtuous society, is moral sympathy. Today we would recognise this as empathy.

According to Smith, the foundation for a good society is a strong sense of connection to and responsibility for one another. Markets will create wealth, but they will not create a good society, or virtue. ...

Smith essentially says markets don't have morals. They will create wealth, but they won't create it evenly, distribute it fairly, or create a virtuous society. ...

Many societies, as in the West, have solved the problem of supply but found themselves faced with social dislocation: an epidemic of depression, high youth suicide rates, drug addiction and marital breakdown.

Why is this? Philosophers call this 'The Problem of Adam Smith' because the more we emphasise just one limb, the more we risk fragmenting the other. Individuals operating out of pure self-interest become atomised individuals lacking in sympathy, connection and social sustainability.

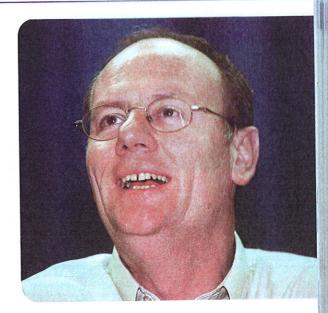
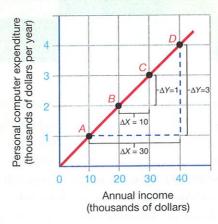


Exhibit A1.1

Expenditure for a personal computer at different annual incomes

Point	Personal computer expenditure (thousands of dollars per year)	Annual income (thousands of dollars)	
Α	\$1	\$10	
В	2	20	
С	3	30	
D	4	40	



The line with a positive slope shows that the expenditure per year on a personal computer has a direct relationship to annual income, ceteris paribus. As annual income increases along the horizontal axis, the amount spent on a personal computer also increases, as measured by the vertical axis. Along the line, each 10-unit increase in annual income results in a 1-unit increase in expenditure on a personal computer. Because the slope is constant along a straight line, we can measure the same slope between any two points. Between points B and C or between points A and D, the slope is $\Delta Y/\Delta X = +3/+30 = 1/10$.

Direct relationship A positive association between two variables. When one variable increases, the other variable increases, and when one variable decreases, the other variable decreases. computer. Thus, the straight line representing the relationship between income and PC expenditure is a **direct relationship**. A direct relationship is a positive association between two variables. When one variable increases, the other variable increases, and when one variable decreases, the other variable decreases. In short, both variables change in the *same* direction.

Finally, a two-variable graph, like any model, isolates the relationship between two variables and holds all other variables constant under the ceteris paribus assumption. In Exhibit A1.1, for example, other possible causal factors such as the prices of PCs and the education level of the individual are held constant by assumption. In Chapter 3, you will learn how to deal with changes in these variables as well.

PART

inverse relationship

consider the relationship between the price of compact discs and the tity consumers will buy per year, shown in Exhibit A1.2. These data cate a *negative* relationship between the price variable and the quantity able. When the price is low, consumers purchase a greater quantity of spact discs than when the price is high.

In Exhibit A1.2 there is an **inverse relationship** between the price per npact disc and the quantity consumers buy. An inverse relationship is a gative association between two variables. When one variable increases, the ner variable decreases, and when one variable decreases, the other variable creases. Stated simply, both variables move in *opposite* directions. Again e are dealing with only two variables, holding constant all other causal ctors such as consumer income and sellers' expenditures on advertising ompact discs.

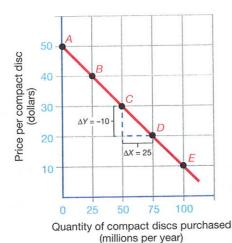
Inverse relationship

A negative association between two variables. When one variable increases, the other variable decreases, and when one variable decreases, the other variable increases.

Exhibit A1.2 An inverse relationship between variables

Quantity of compact discs consumers purchase at different prices

Point	Price per compact disc	Quantity of compact discs purchased (millions per year)
A	\$50	0
В	40	25
С	30	50
D	20	75
E	10	100



The line with a negative slope shows an inverse relationship between the price per compact disc and the quantity of compact discs consumers purchase, ceteris paribus. As the price of a compact disc rises, the quantity of compact discs purchased falls. A lower price for compact discs is associated with more compact discs purchased by consumers. Along the line, with each \$10 decrease in the price of compact discs, consumers increase the quantity purchased by 25 units. The slope = $\Delta Y/\Delta X = -10/+25 = -1/2.5$.

The line drawn in Exhibit A1.2 is an inverse relationship. By long-established tradition, economists put price on the vertical axis and quantity on the horizontal axis. In Chapter 3, we will study in more detail the relationship between price and quantity demanded, which is called the *law of demand*.

In addition to the slope, you must interpret the *intercept* at point A in the exhibit. The intercept in this case means that at a price of \$50 no consumer is willing to buy a single compact disc.

The slope of a straight line

Plotting numbers gives a clear visual expression of the relationship between two variables, but it is also important to know how much one variable changes as another variable changes. To find out, we calculate the **slope**. The slope is the ratio of the change in the variable on the vertical axis (the rise or fall) to the change in the variable on the horizontal axis (the run). Algebraically, if Y is on the vertical axis and X on the horizontal axis, the slope is expressed as follows (the delta symbol, Δ , means 'change in'):

Slope =
$$\frac{\text{rise}}{\text{run}}$$
 = $\frac{\text{change in vertical axis}}{\text{change in horizontal axis}}$ = $\frac{\Delta Y}{\Delta X}$

Consider the slope between points B and C in Exhibit A1.1.The change in expenditure on a PC, Y, is equal to +1 (from \$2000 up to \$3000 per year) and the change in annual income, X, is equal to +10 (from \$20 000 up to \$30 000 per year). The slope is therefore +1/+10. The sign is positive because computer expenditure is directly or positively related to annual income. The steeper the line, the greater the slope because the ratio of ΔY to ΔX rises. Conversely, the flatter the line, the smaller the slope. Exhibit A1.1 also illustrates that the slope of a straight line is constant. That is, the slope between any two points along the line, such as between points A and D, is equal to +3/+30 = 1/10.

What does the slope of 1/10 mean? It means that a \$1000 increase (decrease) in PC expenditure each year occurs for each \$10 000 increase (decrease) in annual income. The line plotted in Exhibit A1.1 has a *positive slope*, and we describe the line as 'upward-sloping'.

On the other hand, the line in Exhibit A1.2 has a *negative slope*. The change in Y between points C and D is equal to -10 (from \$30 down to \$20), and the change in X is equal to 25 (from 50 million up to 75 million compact discs purchased per year). The slope is therefore -10/+25 = -1/2.5, and this line is described as 'downward-sloping'.

What does this slope of -1/2.5 mean? It means that raising (lowering) the price per compact disc by \$1 decreases (increases) the quantity of compact discs purchased by 2.5 million per year.

Suppose we calculate the slope between any two points – say, points B and C in Exhibit A1.3. In this case, there is no change in Y (expenditure

Slope The ratio of the changes in the variable on the vertical axis (the rise or fall) to the change in the variable on the horizontal axis (the run). This is where we have to see corporations in the debate. They are not just the first limb of Adam Smith. They are beginning to understand that sustainable business happens in communities that are not fragmented. They need to be socially and environmentally aware of the context that surrounds them, the stakeholder, which is the other.

This is very important, ethically. If it is simply self – the financial bottom line, whatever the other rhetoric – there will be profound disillusionment and, ultimately, damage to the bottom line. ...

But I understand why people get confused, and I understand why business – which asks if it is profitable to be ethical when the price tag is high – finds it difficult to find the answer.

There are no prescriptive answers to these dilemmas, but there is an answer to be found in holding together both limbs of Adam Smith's prose. ...

People – whether they are corporate directors, finance managers or consumers – are simultaneously self-regarding and, to use Smith's words, other-regarding – self-seeking and other-seeking.

In that balance lie some of the answers to good corporate practice, good business and good ethics.¹

Using the information you have just read, answer the following questions:

- 1 Identify two positive and two normative statements relating to business ethics.
- 2 Give a positive and a normative argument as to why a business leader would take up Costello's challenge to have their business become more other-regarding as well as self-regarding.
- 3 Explain your own position on the issue of business being more ethically responsible. Identify positive and normative reasons for your decision. Are there alternative ways to ensure that businesses are good citizens?
 - 1 Tim Costello, 'Adam Smith problem offers ethical answers', Weekend Australian Financial Review, 25–26 September 2004, p. 62.

PART 1



Key concepts

Scarcity
Resources
Land
Labour
Entrepreneurship
Capital
Economics

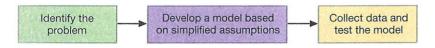
Macroeconomics
Microeconomics
Model
Ceteris paribus
Positive economics
Normative economics
Enlightened self-interest

Summary

- Scarcity is the fundamental economic problem that human wants exceed the availability of time, goods, services and resources. Individuals and society therefore can never have everything they desire.
- Resources are factors of production classified as land, labour and capital. Entrepreneurship is a special type of labour. An entrepreneur combines resources to produce products.
- Economics is the study of how individuals and society choose to allocate scarce resources in order to satisfy unlimited wants. Faced with unlimited wants and scarce resources, we must make choices among alternatives.



- Macroeconomics applies an economy-wide perspective that focuses on such issues as inflation, unemployment, the growth rate of the economy and international trade.
- Microeconomics examines individual decision-making units within an economy. Microeconomics studies such topics as a consumer's response to changes in the price of coffee and the reasons for changes in the market price of personal computers.
- Models are simplified descriptions of reality used to understand and predict economic events. An economic model can be stated verbally or in a table, graph or equation. If the evidence is not consistent with the model, the model is rejected.



- Ceteris paribus means that all other factors that might affect a particular relationship remain unchanged. If this assumption is violated, a model cannot be tested. Another reasoning pitfall is to think that association means causation.
- Use of positive versus normative economic analysis is a major reason for disagreement among economists. Positive economics uses testable statements. Often a positive argument is expressed as an 'if-then' statement. Normative economics is based on value judgements or opinions and uses words such as good, bad, ought to and ought not to.
- Enlightened self-interest involves members of the community respecting the laws and social mores of society while they pursue their own individual goals.

Study questions and problems

- 1 Explain why nations with high living standards and nations with low living standards face the problem of scarcity. If you won \$1 million in a lottery, would you escape the scarcity problem?
- 2 Why isn't money considered capital in economics?
- 3 Computer software programs are an example of
 - a capital.
 - labour. b
 - a natural resource.
 - none of the above.
- 4 Explain the difference between macroeconomics and microeconomics. Give examples of the areas of concern to each branch of economics.
- 5 Which of the following are microeconomic issues? Which are macroeconomic issues?
 - How will an increase in the price of Coca-Cola affect the quantity of Pepsi-Cola sold?
 - What will cause the rate of inflation in the nation to fall?
 - How does a quota on textile imports affect the textile industry?
 - Does a large federal budget deficit reduce the rate of unemployment in the economy?
- 6 A model is defined as a
 - a value judgement of the relationship between variables.
 - presentation of all relevant aspects of realworld events.
 - simplified description of reality used to understand the way variables are related.
 - data set adjusted for irrational actions of people.
- 7 Explain the importance of an economic model being an abstraction from the real world.
- 8 Explain the importance of the ceteris paribus assumption for an economic model.
- 9 Not long after the completion of the Petronas Towers in Kuala Lumpur, the Malaysian economy experienced a recession. Is there causation in this situation, or are we observing an association between events?
- 10 Which of the following statements about Australian federal politics is an example of a

proposition from normative economics?

- If the Labor Party is in power, individual taxpayers will pay more tax than if the Coalition is in office.
- b The average rate of inflation has been higher during periods when the Labor Party has been in power.
- The Coalition's economic policies are better for the economy.
- Labor policies will result in a more equal distribution of income.
- 11 'The government should collect higher taxes from the rich and use the additional revenues to provide greater benefits to the poor.' This statement is an illustration of a
 - a testable statement.
 - basic principle of economics.
 - statement of positive economics.
 - statement of normative economics.
- 12 Is there a contradiction in the behaviour of economists who profess to be adherents of a religious faith that emphasises regard for others but who also argue that people should pursue their own self-interest?
- 13 Analyse the positive versus normative arguments in the following case. Which are the positive statements used and which are normative?

Should airbags be compulsory in all new motor cars?

Airbag advocates say airbags will save lives and the government should make them compulsory in all cars. Airbags are estimated to add up to \$1000 to the cost of a car, compared to about \$160 for a set of seatbelts. Opponents argue that, because airbags are electronic devices, they are subject to failures and have caused injury or death. Opponents therefore believe the government should leave the decision about whether to spend an extra \$1000 or so for an airbag to the consumer. They say the role of the government should be limited to providing information on the risks of having or not having an airbag.

Online exercises

Exercise 1

Does the Internet raise or lower the cost of purchasing goods such as antiques and collectables rom other countries? As you ponder this question, risit an online auction site such as eBay (www.ebay.com). Which costs has the Internet reduced and which costs might it raise? Remember that we are considering all costs, not just monetary costs.

Exercise 2

Visit World Factbook (www.odci.gov/cia/ publications/factbook/index.html) and follow these steps:

- 1 Select Australia.
- Note the land area and population size of Australia.
- **3** Compute the land area per person by dividing the land area of Australia by its population size.
- 4 Select Japan. Repeat steps 2 and 3 for Japan.
- 5 How does the scarcity of land influence land-use choices? Would you find as many golf courses per capita in Japan as in Australia? Explain.

Exercise 3

Visit Job Openings for Economists (www.aeaweb. org/joe/) and select the most recent issue. Browse through the academic, foreign and non-academic job openings for economists. Study the job descriptions and earnings for economists. Can you explain why there are differences in salaries for different jobs where the qualifications and experience required are similar?

Exercise 4

Visit the official website of the Prime Minister of New Zealand (www.primeminister.govt.nz). Click on Speeches & releases. Choose a topic you think pertains to economics. Does the subject matter pertain to macroeconomics or microeconomics? Is the analysis primarily normative or positive?

Answers to 'You make the call'

Can the free market eliminate scarcity?

Scarcity is the condition in which human wants are forever greater than the resources available to satisfy those wants. Although the use of markets free from government interference will prevent shortages in these markets, it will not solve the scarcity problem. Scarcity exists at any price for a good or service. This means scarcity occurs at any price regardless

of whether the price is determined in a capitalist, free market economy or in a government-controlled command economy. If you said you disagreed because free markets cannot eliminate scarcity, YOU ARE CORRECT.

Can simple models explain house price movements?

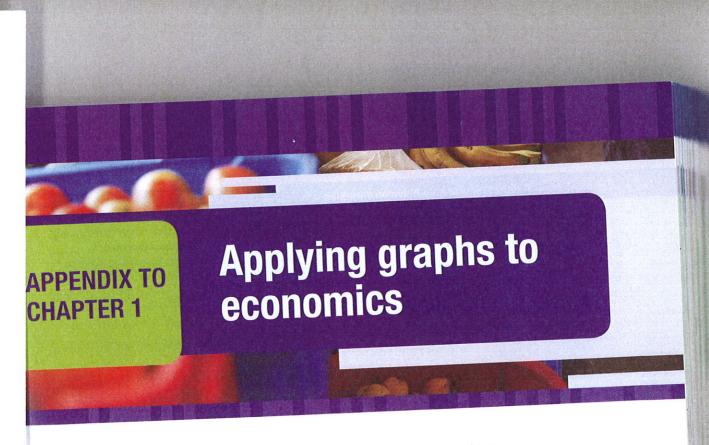
The commentators' explanations of the relationship between certain events and past or expected future house price movements are not necessarily based on true causal relationships because determination of the precise causes of house price movements would require surveys of the thousands of home buyers and sellers who operate in the market each year. Although there are some researchers whose analysis is based on sound models, what many commentators are doing is simply observing an association between certain events and movements in the market, and then attributing a causal role to the events they have observed. In some instances the link will be a causal one, but in others there will only be an association between the variables. Furthermore, even in cases where there is a causal link, other factors that would normally remain constant may change, with the result that the causal link no longer predominates. If you said that poor predictive power of the simple models linking house price movements to certain events can result from the confusion of association with causation or because the ceteris paribus assumption does not hold, YOU ARE CORRECT.

Multiple-choice questions

- 1 Scarcity exists
 - a when people consume beyond their needs.
 - b only in rich nations.
 - c in all countries of the world.
 - d only in poor nations.
- 2 Which of the following would eliminate scarcity as an economic problem?
 - a moderation of people's competitive instincts.
 - b discovery of sufficiently large new energy reserves.
 - c resumption of steady productivity growth.
 - d none of the above because scarcity cannot be eliminated.
- 3 Which of the following is *not* a factor of production?
 - a land

- **b** labour
- c a financial asset
- d capital
- 4 Economics is the study of
 - a how to make money.
 - b how to operate a business.
 - c people making choices because of the problem of scarcity.
 - d the government decision-making process.
- 5 Microeconomics approaches the study of economics from the viewpoint of
 - a individual or specific markets.
 - b the operation of the Reserve Bank of Australia.
 - c economy-wide effects.
 - d the national economy.
- 6 A review of the performance of the Korean economy during the 1990s is primarily the concern of
 - a macroeconomics.
 - b microeconomics.
 - c both macroeconomics and microeconomics.
 - d neither macroeconomics nor microeconomics.
- 7 An economic model indicates that a rise in petrol prices will cause petrol purchases to fall, ceteris paribus. The phrase 'ceteris paribus' means that
 - a other relevant factors like consumer incomes must be held constant.
 - b the petrol prices must first be adjusted for inflation.
 - c the theory is widely accepted, but cannot be accurately tested.
 - d consumers' need for petrol remains the same regardless of price.
- 8 An economist notices that eclipses of the moon have preceded recessions, and concludes that these eclipses cause recessions. The economist has
 - a confused association and causation.
 - misunderstood the ceteris paribus assumption.
 - used normative economics to answer a positive question.
 - d built an untestable model.

- **9** Which of the following is a statement of positive economics?
 - a The income tax system collects a lower percentage of the incomes of the poor.
 - b Governments should attempt to reduce unemployment.
 - Tax rates ought to be raised to finance health
 - d All of the above are primarily statements of positive economics.
- **10** Which of the following is a statement of positive economics?
 - a An unemployment rate greater than 8 per cent is good because prices will fall.
 - **b** An unemployment rate of 7 per cent is a serious problem.
 - c If the overall unemployment rate is 7 per cent, youth unemployment rates will average 20 per cent.
 - **d** Unemployment is a more severe problem than inflation.
- **11** Which of the following is a statement of normative economics?
 - a The minimum wage is good because it raises wages for low-income earners.
 - b The minimum wage is supported by unions.
 - c The minimum wage reduces jobs for less skilled workers.
 - d The minimum wage encourages firms to substitute capital for labour.
- 12 Which of the following statements best encapsulates the idea of enlightened self-interest?
 - a consumers making choices on the basis of complete information about the goods or services they are buying.
 - **b** businesses maximising their profits in a self-interested way.
 - c greed is good.
 - d individuals respecting socially derived constraints on their self-interested behaviour.



Economists are well known for their use of graphs. The reason is that 'a picture is worth a thousand words.' Graphs are used throughout this text to present economic models. By drawing a line in a designated space, you can create a two-dimensional illustration to analyse the effects of a change in one variable on another. You could describe the same information using other devices, such as verbal statements, tables or equations. But the graph provides one of the simplest ways to present and understand relationships between economic variables.

Don't worry if graphs are unfamiliar to you. This appendix explains all the basic graphical language you will need for the economic analysis in this text.

A direct relationship

Basic economic analysis typically concerns the relationship between two variables, both of which have positive values. Thus we can confine our graphs to the upper tight-hand (north-east) quadrant of the coordinate number system. In Exhibit A1.1, notice that the scales on the horizontal axis (x-axis) and the vertical axis (y-axis) do not necessarily measure the same variables.

The horizontal axis in Exhibit A1.1 measures annual income, and the vertical axis shows the amount spent per year on a personal computer (PC). The intersection of the horizontal and the vertical axes is the *origin* and the point where both income and expenditure are zero. In Exhibit A1.1, each point a coordinate that matches the dollar value of income and the corresponding expenditure on a PC. For example, point A on the graph shows that people with an annual income of \$10 000 spent \$1000 per year on a PC. Other incomes are associated with different expenditure levels. For example, at \$30 000 per year (point C), \$3000 will be the annual amount spent on a PC.

The straight line in Exhibit A1.1 allows us to determine the direction of change in PC expenditure as annual income changes. This relationship is *positive* because PC expenditure, measured along the vertical axis, and annual income, measured along the horizontal axis, move in the same direction. PC expenditure increases as along the horizontal axis, move declines, so does the amount spent on a personal

toothpaste) as X (annual income) increases. Consumers spend \$20 per ar on toothpaste regardless of annual income. It follows that $\Delta Y = 0$ for $y \Delta X$, so the slope is equal to 0. When the relationship between two riables is indicated by a horizontal line (or a vertical line) there is an **dependent relationship**. An independent relationship means there is no sociation between two variables. When one variable changes, the other triable remains unchanged.

Independent relationship No association between two variables. When one variable changes, the other variable remains unchanged.

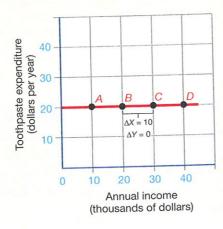
The slope of a curve

of far we have looked at straight-line or linear relationships. Now we examine relationships between two variables that result in a curved-line or non-linear relationship. The slope of a curved line changes from one point to mother. Suppose the relationship between the expenditure on a PC per year and annual income is not a straight line, but an upward-sloping curved line,

Exhibit A1.3 An independent relationship between variables

Expenditure for toothpaste at different annual incomes

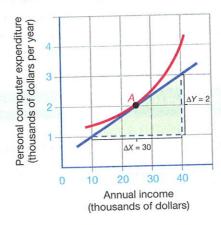
Experiation of the same		
Point	Toothpaste expenditure (dollars per year)	Annual income (thousands of dollars)
A	\$20	\$10
В	20	20
	20	30
С	20	40
D	20	



The horizontal line with a zero slope shows that the expenditure per year for toothpaste is unrelated to annual income. As annual income increases along the horizontal axis, the amount spent each year for toothpaste remains unchanged at 20 units. If annual income increases 10 units, the corresponding change in expenditure is zero. The slope = $\Delta Y/\Delta X = 0/+10 = 0$.

as drawn in Exhibit A1.4. The slope of the curve is *positive*, but it changes as we move along the curve. To calculate the slope of a given point on the curve requires two steps. For example, at point A, the first step is to draw a tangent line that just touches the curve at this point without crossing it. The second step is to determine the slope of the tangent line. In Exhibit A1.4, the slope of the tangent line, and therefore the slope of the curve at point A, is +2/+30 = 1/15. What does this slope of 1/15 mean? It means that at point A there will be a \$1000 increase (decrease) in PC expenditure each year resulting from a \$15 000 increase (decrease) in annual income.

Exhibit A1.4 The slope of an upward-sloping, non-linear curve

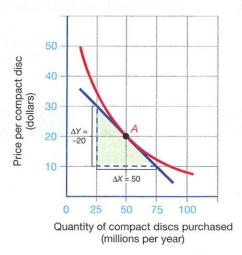


The slope of a curve at any given point, such as point A, is equal to the slope of the straight line drawn tangent to the curve at that point. The tangent line just touches the curve at point A without crossing it. The slope of the upward-sloping curve at point A is +2/+30 = +1/+15 = 1/15.

Now consider that the relationship between the price per compact disc and the quantity demanded by consumers per year is the downward-sloping, non-linear curve shown in Exhibit A1.5. In this case, the slope of the curve is *negative*, but again it changes as we move along the curve. To calculate the slope at point A, draw a line tangent to the curve at point A. Thus, the slope of the curve at point A is -20/+50 = -1/2.5.

Introducing a third variable to the graph

The two-variable relationships drawn so far conform to a two-dimensional flat piece of paper. For example, the vertical axis measures the price per compact disc variable, and the horizontal axis measures the quantity of



In this exhibit, the negative slope changes as one moves from point to point along the curve. The slope at any given point, such as point A, can be determined by the slope of the straight line tangent to that point. The slope of the downward-sloping curve at point A is -20/+50 = -1/+2.5 = -1/2.5.

compact discs purchased variable. All other factors, such as consumer income, that may affect the relationship between the price and quantity variables are held constant by the ceteris paribus assumption. But reality is frequently not so accommodating. Often a model drawn on a two-dimensional piece of graph paper must take into account the impact of changes in a third variable (say consumer income).

The method used to depict a three-variable relationship is shown in Exhibit A1.6. As explained earlier, the cause-and-effect relationship between price and quantity of compact discs determines the downward-sloping curve. A change in the price per compact disc causes a movement downward along either of the two separate curves in Exhibit A1.6. As the price falls, consumers increase the quantity of compact discs demanded. The location of each curve on the graph, however, depends on the annual income of consumers. As the annual income variable increases from \$30 000 to \$60 000 and as consumers choose to purchase more at each possible price, the price—quantity demanded curve shifts rightward. Conversely, as the annual income variable decreases and as consumers choose to buy less at each possible price, the price—quantity demanded curve shifts leftward.

This is an extremely important concept you must understand: throughout this book, you must distinguish between *movements along* and *shifts in* a curve. Here is how you tell the difference. A change in one of the variables shown

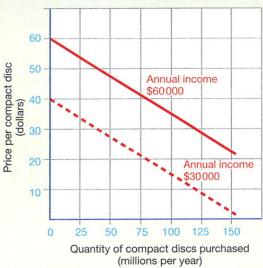
on either of the coordinate axes of the graph causes *movement along* a curve. On the other hand, a change in a variable not shown on one of the coordinate axes of the graph causes a *shift in* a curve's position on the graph.



A shift in a curve occurs only when the ceteris paribus assumption is relaxed and a third variable not on either axis of the graph is allowed to change.

Exhibit A1.6

Changes in price, quantity and income in two dimensions



(millions per year)

Economists use a multi-curve graph to represent a three-variable relationship in a two-dimensional graph. A decrease in the price per compact disc causes a movement downward along each curve. As the annual income of consumers rises, there is a shift rightward in the position of the demand curve.

A helpful study hint using graphs

Don't be the student who tries to memorise the graphs and then wonders why he or she failed economics. Instead of memorising graphs, you should use them as a valuable aid to learning the economic concepts they illustrate. After studying a chapter, go back to the graphs one by one. Hide the brief description accompanying each graph, and describe to yourself or other students what the graph means. Next, uncover the description and check your interpretation. If you still fail to understand the graph, read the text again and correct the problem before proceeding to the next chapter.

ART 1

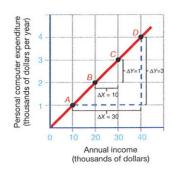
Independent relationship



Summary

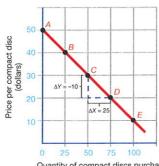
- Graphs provide a means of clearly showing economic relationships in twodimensional space. Economic analysis is often concerned with two variables confined to the upper right-hand (north-east) quadrant of the coordinate number system.
- A direct relationship is one in which two variables change in the *same* direction.

Direct relationship



An inverse relationship is one in which two variables change in opposite directions.

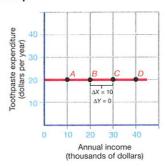
Inverse relationship



Quantity of compact discs purchased (millions per year)

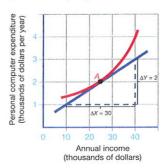
■ An independent relationship is one in which two variables are unrelated.

Independent relationship

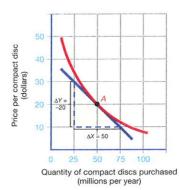


■ Slope is the ratio of the vertical change (the rise or fall) to the horizontal change (the run). The slope of an *upward-sloping* line is *positive*, and the slope of a *downward-sloping* line is *negative*.

Positive slope of an upward-sloping curve



Negative slope of a downward-sloping curve



- Movements along a curve occur when there is a change in one of the variables shown on the coordinate axes of the graph.
- Shifts in a curve occur when there is a change in a variable that is not shown on the coordinate axes of the graph that is, when the ceteris paribus assumption is relaxed.

Study questions and problems

- Without using specific data, draw a graph for the expected relationship between the following variables:
 - a life expectancy and age
 - b annual income and years of education
 - c rainfall and sales of umbrellas
 - distance from the equator and mean summer temperature

In each case, state whether the expected relationship is direct or inverse. Explain an additional factor that would be included in the ceteris paribus assumption because it might change and influence your theory.

Assume a research firm collects survey sales data that reveal the relationship between the possible selling prices of hamburgers and the quantity of hamburgers consumers would purchase per year at alternative prices. The report states that if the price of a hamburger is \$4.00, 20 000 will be bought. However, at a price of \$3.00, 40 000 hamburgers will be bought. At \$2.00, 60 000 hamburgers will be bought, and at \$1.00, 80 000 hamburgers will be purchased.

Based on these data, describe the relevant relationship between the price of a hamburger and the quantity consumers are willing to purchase, using

- a a verbal statement.
- a numerical table.
- a graph.

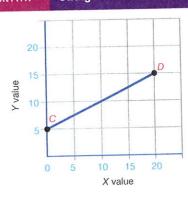
Which device do you prefer and why?

Multiple-choice questions

- Straight line CD in Exhibit A1.7 shows that
 - increasing the value of X will increase the value
 - decreasing the value of X will decrease the
 - there is a direct relationship between X and Y.
 - all of the above are true.
- In Exhibit A1.7, the slope of straight line CD is
 - a 3.
- c -1.
 - 1/2.
- In Exhibit A1.7, the slope of straight line CD is
 - positive.
- c negative.
- zero.
- variable.

Exhibit A1.7

Straight line



- Straight line AB in Exhibit A1.8 shows that
 - increasing the value of X reduces the value of Y.
 - decreasing the value of X increases the value
 - there is an inverse relationship between X and Y.
 - all of the above are true.
- 5 As shown in Exhibit A1.8, the slope of straight line AB
 - a decreases with increases in X.
 - increases with increases in X.
 - increases with decreases in X.
 - remains constant with changes in X.
- In Exhibit A1.8, the slope for straight line AB is
- c -1.
- b 1.
- d -5.
- A shift in a curve represents a change in
 - the variable on the horizontal axis.
 - the variable on the vertical axis.
 - a third variable that is not on either axis.
 - none of the above.

Exhibit A1.8

Straight line

