Labour Economics for Leaders

LABOUR ECONOMICS FOR LEADERS

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This OER, *Labour Economics for Leaders* , is a collection of resources adapted by Norm Smith to meet the needs of students in labour economics courses. In most sections of this OER, updates have been made to the existing content to improve usability and accessibility, incorporate interactive elements and improve the overall student experience. This collection reuses content from the following key resources:

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CHAPTER 1 - WELCOME TO ECONOMICS!

Learning Objectives

- What Is Economics, and Why Is It Important?
- Microeconomics and Macroeconomics
- How Economists Use Theories and Models to Understand Economic Issues
- How Economies Can Be Organized: An Overview of Economic Systems

Decisions … Decisions in the Social Media Age

To post or not to post? Every day we are faced with a myriad of decisions, from what to have for breakfast, to which route to take to class, to the more complex—"Should I double major and add possibly another semester of study to my education?" Our response to these choices depends on the information we have available at any given moment. Economists call this "imperfect" because we rarely have all the data we need to make perfect decisions. Despite the lack of perfect information, we still make hundreds of decisions a day.

Now we have another avenue in which to gather information—social media. Outlets like Facebook and Twitter are altering the process by which we make choices, how we spend our time, which movies we see, which products we buy, and more. How many of you chose a university without checking out its Facebook page or Twitter stream first for information and feedback?

As you will see in this course, what happens in economics is affected by how well and how fast information disseminates through a society, such as how quickly information travels through Facebook. "Economists love nothing better than when deep and liquid markets operate under

conditions of perfect information," says Jessica Irvine, National Economics Editor for News Corp Australia.

This leads us to the topic of this chapter, an introduction to the world of making decisions, processing information, and understanding behavior in markets —the world of economics. Each chapter in this book will start with a discussion about current (or sometimes past) events and revisit it at chapter's end—to "bring home" the concepts in play.

What is economics and why should you spend your time learning it? After all, there are other disciplines you could be studying, and other ways you could be spending your time. As the Bring it Home feature just mentioned, making choices is at the heart of what economists study, and your decision to take this course is as much as economic decision as anything else.

Economics is probably not what you think. It is not primarily about money or finance. It is not primarily about business. It is not mathematics. What is it then? It is both a subject area and a way of viewing the world.

Attribution

Original Reference

Irvine, Jessica. "Social Networking Sites are Factories of Modern Ideas." *The Sydney Morning Herald*. November 25, 2011.http://www.smh.com.au/federal-politics/society-and-culture/social-networking-sites-are-factories-of-modern-ideas-20111124-1nwy3.html#ixzz2YZhPYeME.

1.1 - WHAT IS ECONOMICS, AND WHY IS IT IMPORTANT?

Learning Objectives

- Discuss the importance of studying economics
- Explain the relationship between production and division of labour
- Evaluate the significance of scarcity

Economics is the study of how humans make decisions in the face of scarcity. These can be individual decisions, family decisions, business decisions or societal decisions. If you look around carefully, you will see that scarcity is a fact of life. **Scarcity** means that human wants for goods, services and resources exceed what is available. Resources, such as labour, tools, land, and raw materials are necessary to produce the goods and services we want but they exist in limited supply. Of course, the ultimate scarce resource is time- everyone, rich or poor, has just 24 expendable hours in the day to earn income to acquire goods and services, for leisure time, or for sleep. At any point in time, there is only a finite amount of resources available.

Think about it this way: In 2015 the labour force in the United States contained over 158 million workers, according to the U.S. Bureau of Labor Statistics. The total land area was 3,794,101 square miles. While these are certainly large numbers, they are not infinite. Because these resources are limited, so are the numbers of goods and services we produce with them. Combine this with the fact that human wants seem to be virtually infinite, and you can see why scarcity is a problem.

Introduction to FRED

Data is very important in economics because it describes and measures the issues and problems that economics seek to understand. A variety of government agencies publish economic and social data. For this

course, we will generally use data from the St. Louis Federal Reserve Bank's FRED database. FRED is very user friendly. It allows you to display data in tables or charts, and you can easily download it into spreadsheet form if you want to use the data for other purposes. The FRED website [New Tab] includes data on nearly 400,000 domestic and international variables over time, in the following broad categories:

- Money, Banking & Finance
- Population, Employment, & Labour Markets (including Income Distribution)
- National Accounts (Gross Domestic Product & its components), Flow of Funds, and International Accounts
- Production & Business Activity (including Business Cycles)
- Prices & Inflation (including the Consumer Price Index, the Producer Price Index, and the Employment Cost Index)
- International Data from other nations
- U.S. Regional Data
- Academic Data (including Penn World Tables & NBER Macrohistory database)

Figure 1.1a. Scarcity of Resources Homeless people are a stark reminder that scarcity of resources is real. Pittsburgh Homeless by daveynin, used under CC BY 2.0 License.

If you still do not believe that scarcity is a problem, consider the following: Does everyone require food to eat? Does everyone need a decent place to live? Does everyone have access to healthcare? In every country in the world, there are people who are hungry, homeless (for example, those who call park benches their beds, as Figure 1.1a shows), and in need of healthcare, just to focus on a few critical goods and services. Why is this the

case? It is because of scarcity. Let's delve into the concept of scarcity a little deeper, because it is crucial to understanding economics.

The Problem of Scarcity

Think about all the things you consume: food, shelter, clothing, transportation, healthcare, and entertainment. How do you acquire those items? You do not produce them yourself. You buy them. How do you afford the things you buy? You work for pay. If you do not, someone else does on your behalf. Yet most of us never have enough income to buy all the things we want. This is because of scarcity. So how do we solve it?

Link It Up

Read How 10 Western Cities Are Dealing with Water Scarcity and Drought [New Tab] (https://stateimpact.npr.org/texas/2013/08/02/how-10-western-cities-are-dealing-with-water-scarcity-and-drought/) to learn more about how the United States is dealing with scarcity in resources.

Every society, at every level, must make choices about how to use its resources. Families must decide whether to spend their money on a new car or a fancy vacation. Towns must choose whether to put more of the budget into police and fire protection or into the school system. Nations must decide whether to devote more funds to national defense or to protecting the environment. In most cases, there just isn't enough money in the budget to do everything. How do we use our limited resources the best way possible, that is, to obtain the most goods and services we can? There are a couple of options. First, we could each produce everything we each consume. Alternatively, we could each produce some of what we want to consume, and "trade" for the rest of what we want. Let's explore these options. Why do we not each just produce all of the things we consume? Think back to pioneer days, when individuals knew how to do so much more than we do today, from building their homes, to growing their crops, to hunting for food, to repairing their equipment. Most of us do not know how to do all—or any—of those things, but it is not because we could not learn. Rather, we do not have to. The reason why is something called *the division and specialization of labour*, a production innovation first put forth by Adam Smith (Figure 1.1b) in his book, *The Wealth of Nations*.

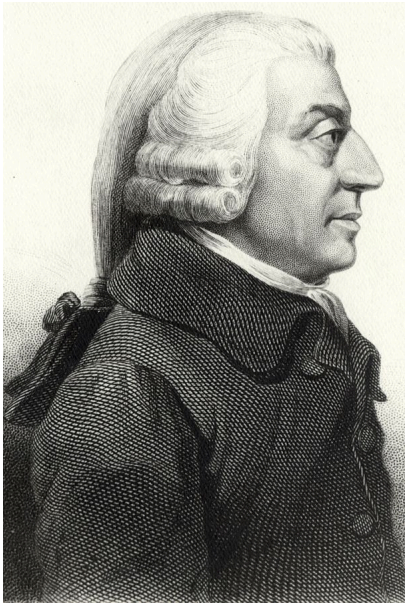

Figure 1.1b. Portrait of Adam Smith (https://commons.wikimedia.org/wiki/File:AdamSmith.jpg) etching created by Cadell & Davies (1811), John Horsburgh (1828) or R.C. Bell (1872), licensed under CC0.

The Division of and Specialization of Labour

The formal study of economics began when Adam Smith (1723–1790) published his famous book *The Wealth of Nations* in 1776. Many authors had written on economics in the centuries before Smith, but he was the first to address the subject in a comprehensive way. In the first chapter, Smith introduces the concept of division of labour, which means that the way one produces a good or service is divided into a number of tasks that different workers perform, instead of all the tasks being done by the same person.

To illustrate division of labour, Smith counted how many tasks went into making a pin: drawing out a piece of wire, cutting it to the right length, straightening it, putting a head on one end and a point on the other, and packaging pins for sale, to name just a few. Smith counted 18 distinct tasks that different people performed—all for a pin, believe it or not!

Modern businesses divide tasks as well. Even a relatively simple business like a restaurant divides the task of serving meals into a range of jobs like top chef, sous chefs, less-skilled kitchen help, servers to wait on the tables, a greeter at the door, janitors to clean up, and a business manager to handle paychecks and bills—not to mention the economic connections a restaurant has with suppliers of food, furniture, kitchen equipment,

and the building where it is located. A complex business like a large manufacturing factory, such as the shoe factory (Figure 1.1c), or a hospital can have hundreds of job classifications.

Figure 1.1c Division of Labour Workers on an assembly line are an example of the divisions of labour. Red Wing Shoes Factory Tour (https://www.flickr.com/photos/94693506@N00/4643862950/in/photolist-85n1EA-85n1Fm-85iS38-85iRV2-85n1oY-85n1KY-85iRXt-85n1wG-85iRY2-85n1Ky-85iS2K-85iRZt-85n1zm-85iRWx-85iRNM-85iRTg-85n1sN-85iRSr-85n1pq-85n1uN-85iS12-85n1DW-2na4tVG-rCifXv-rF2XS7-57MAx5-2ixfqyh-2jtT8Mt-85iS6n-2g68dSS-2j2XqaN-85iRR2-85n1qW-dAtgtJ-2ewZNiy-oF8neX-ddxbsb-2jKB89z-9DzGfv-2h7kVZi-5eWZvZ-fm5CDc-2kiEmMZ-2jtPKsf-2jtRQne-2aqoDbk-kByWAF-2g63cXh-yxSsWo-ETbwFH) by Nina Hale, licensed under CC BY 2.0.

Why the Division of Labour Increases Production

When we divide and subdivide the tasks involved with producing a good or service, workers and businesses can produce a greater quantity of output. In his observations of pin factories, Smith noticed that one worker alone might make 20 pins in a day, but that a small business of 10 workers (some of whom would need to complete two or three of the 18 tasks involved with pin-making), could make 48,000 pins in a day. How can a group of workers, each specializing in certain tasks, produce so much more than the same number of workers who try to produce the entire good or service by themselves? Smith offered three reasons.

First, specialization in a particular small job allows workers to focus on the parts of the production process where they have an advantage. (In later chapters, we will develop this idea by discussing comparative advantage.) People have different skills, talents, and interests, so they will be better at some jobs than at others. The particular advantages may be based on educational choices, which are in turn shaped by interests and

talents. Only those with medical degrees qualify to become doctors, for instance. For some goods, geography affects specialization. For example, it is easier to be a wheat farmer in North Dakota than in Florida, but easier to run a tourist hotel in Florida than in North Dakota. If you live in or near a big city, it is easier to attract enough customers to operate a successful dry cleaning business or movie theater than if you live in a sparsely populated rural area. Whatever the reason, if people specialize in the production of what they do best, they will be more effective than if they produce a combination of things, some of which they are good at and some of which they are not.

Second, workers who specialize in certain tasks often learn to produce more quickly and with higher quality. This pattern holds true for many workers, including assembly line labourers who build cars, stylists who cut hair, and doctors who perform heart surgery. In fact, specialized workers often know their jobs well enough to suggest innovative ways to do their work faster and better.

A similar pattern often operates within businesses. In many cases, a business that focuses on one or a few products (sometimes called its "core competency") is more successful than firms that try to make a wide range of products.

Third, specialization allows businesses to take advantage of economies of scale, which means that for many goods, as the level of production increases, the average cost of producing each individual unit declines. For example, if a factory produces only 100 cars per year, each car will be quite expensive to make on average. However, if a factory produces 50,000 cars each year, then it can set up an assembly line with huge machines and workers performing specialized tasks, and the average cost of production per car will be lower. The ultimate result of workers who can focus on their preferences and talents, learn to do their specialized jobs better, and work in larger organizations is that society as a whole can produce and consume far more than if each person tried to produce all of his or her own goods and services. The division and specialization of labour has been a force against the problem of scarcity.

Trade and Markets

Specialization only makes sense, though, if workers can use the pay they receive for doing their jobs to purchase the other goods and services that they need. In short, specialization requires trade.

You do not have to know anything about electronics or sound systems to play music—you just buy an iPod or MP3 player, download the music, and listen. You do not have to know anything about artificial fibers or the construction of sewing machines if you need a jacket—you just buy the jacket and wear it. You do not need to know anything about internal combustion engines to operate a car—you just get in and drive. Instead of trying to acquire all the knowledge and skills involved in producing all of the goods and services that you wish

to consume, the market allows you to learn a specialized set of skills and then use the pay you receive to buy the goods and services you need or want. This is how our modern society has evolved into a strong economy.

Why Study Economics?

Now that you have an overview on what economics studies, let's quickly discuss why you are right to study it. Economics is not primarily a collection of facts to memorize, although there are plenty of important concepts to learn. Instead, think of economics as a collection of questions to answer or puzzles to work. Most importantly, economics provides the tools to solve those puzzles. If the economics "bug" has not bitten you yet, there are other reasons why you should study economics.

- Virtually every major problem facing the world today, from global warming, to world poverty, to the conflicts in Syria, Afghanistan, and Somalia, has an economic dimension. If you are going to be part of solving those problems, you need to be able to understand them. Economics is crucial.
- It is hard to overstate the importance of economics to good citizenship. You need to be able to vote intelligently on budgets, regulations, and laws in general. When the U.S. government came close to a standstill at the end of 2012 due to the "fiscal cliff," what were the issues? Did you know?
- A basic understanding of economics makes you a well-rounded thinker. When you read articles about economic issues, you will understand and be able to evaluate the writer's argument. When you hear classmates, co-workers, or political candidates talking about economics, you will be able to distinguish between common sense and nonsense. You will find new ways of thinking about current events and about personal and business decisions, as well as current events and politics.

The study of economics does not dictate the answers, but it can illuminate the different choices.

Key Concepts & Summary

Economics seeks to solve the problem of scarcity, which is when human wants for goods and services exceed the available supply. A modern economy displays a division of labour, in which

people earn income by specializing in what they produce and then use that income to purchase the products they need or want. The division of labour allows individuals and firms to specialize and to produce more for several reasons: a) It allows the agents to focus on areas of advantage due to natural factors and skill levels; b) It encourages the agents to learn and invent; c) It allows agents to take advantage of economies of scale. Division and specialization of labour only work when individuals can purchase what they do not produce in markets. Learning about economics helps you understand the major problems facing the world today, prepares you to be a good citizen, and helps you become a well-rounded thinker.

Attributions

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Access for free at https://openstax.org/books/principles-microeconomics-2e/pages/1-introduction

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1.2 - MICROECONOMICS AND MACROECONOMICS

Learning Objectives

- Describe microeconomics
- Describe macroeconomics
- Contrast monetary policy and fiscal policy

Economics is concerned with the well-being of *all* people, including those with jobs and those without jobs, as well as those with high incomes and those with low incomes. Economics acknowledges that production of useful goods and services can create problems of environmental pollution. It explores the question of how investing in education helps to develop workers' skills. It probes questions like how to tell when big businesses or big labour unions are operating in a way that benefits society as a whole and when they are operating in a way that benefits their owners or members at the expense of others. It looks at how government spending, taxes, and regulations affect decisions about production and consumption.

It should be clear by now that economics covers considerable ground. We can divide that ground into two parts: **Microeconomics** focuses on the actions of individual agents within the economy, like households, workers, and businesses. **Macroeconomics** looks at the economy as a whole. It focuses on broad issues such as growth of production, the number of unemployed people, the inflationary increase in prices, government deficits, and levels of exports and imports. Microeconomics and macroeconomics are not separate subjects, but rather complementary perspectives on the overall subject of the economy.

To understand why both microeconomic and macroeconomic perspectives are useful, consider the problem of studying a biological ecosystem like a lake. One person who sets out to study the lake might focus on specific topics: certain kinds of algae or plant life; the characteristics of particular fish or snails; or the trees surrounding the lake. Another person might take an overall view and instead consider the lake's ecosystem

from top to bottom; what eats what, how the system stays in a rough balance, and what environmental stresses affect this balance. Both approaches are useful, and both examine the same lake, but the viewpoints are different. In a similar way, both microeconomics and macroeconomics study the same economy, but each has a different viewpoint.

Whether you are scrutinizing lakes or economics, the micro and the macro insights should blend with each other. In studying a lake, the micro insights about particular plants and animals help to understand the overall food chain, while the macro insights about the overall food chain help to explain the environment in which individual plants and animals live.

In economics, the micro decisions of individual businesses are influenced by whether the macroeconomy is healthy. For example, firms will be more likely to hire workers if the overall economy is growing. In turn, macroeconomy's performance ultimately depends on the microeconomic decisions that individual households and businesses make.

Microeconomics

What determines how households and individuals spend their budgets? What combination of goods and services will best fit their needs and wants, given the budget they have to spend? How do people decide whether to work, and if so, whether to work full time or part time? How do people decide how much to save for the future, or whether they should borrow to spend beyond their current means?

What determines the products, and how many of each, a firm will produce and sell? What determines the prices a firm will charge? What determines how a firm will produce its products? What determines how many workers it will hire? How will a firm finance its business? When will a firm decide to expand, downsize, or even close? In the microeconomics part of this book, we will learn about the theory of consumer behavior, the theory of the firm, how markets for labour and other resources work, and how markets sometimes fail to work properly.

Macroeconomics

What determines the level of economic activity in a society? In other words, what determines how many goods and services a nation actually produces? What determines how many jobs are available in an economy? What determines a nation's standard of living? What causes the economy to speed up or slow down? What causes firms to hire more workers or to lay them off? Finally, what causes the economy to grow over the long term?

We can determine an economy's macroeconomic health by examining a number of goals: growth in the

standard of living, low unemployment, and low inflation, to name the most important. How can we use government macroeconomic policy to pursue these goals? A nation's central bank conducts **monetary policy**, which involves policies that affect bank lending, interest rates, and financial capital markets. For the United States, this is the Federal Reserve. A nation's legislative body determines **fiscal policy**, which involves government spending and taxes. For the United States, this is the Congress and the executive branch, which originates the federal budget. These are the government's main tools. Americans tend to expect that government can fix whatever economic problems we encounter, but to what extent is that expectation realistic? These are just some of the issues that we will explore in the macroeconomic chapters of this book.

Key Concepts & Summary

Microeconomics and macroeconomics are two different perspectives on the economy. The microeconomic perspective focuses on parts of the economy: individuals, firms, and industries. The macroeconomic perspective looks at the economy as a whole, focusing on goals like growth in the standard of living, unemployment, and inflation. Macroeconomics has two types of policies for pursuing these goals: monetary policy and fiscal policy.

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1.3 - HOW ECONOMISTS USE THEORIES AND MODELS TO UNDERSTAND ECONOMIC ISSUES

Learning Objectives

- Interpret a circular flow diagram
- Explain the importance of economic theories and models
- Describe goods and services markets and labour markets

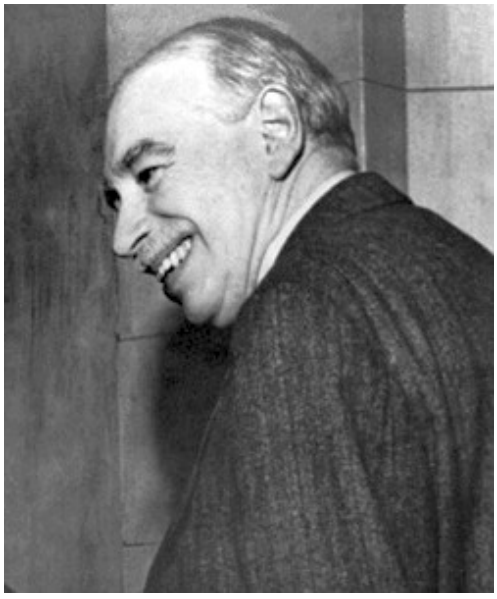

Figure 1.3a John Maynard Keynes. One of the most influential economists in modern times was John Maynard Keynes. John Maynard Keynes (https://commons.wikimedia.org/wiki/File:John_Maynard_Keynes.jpg) by IMF, licensed under CC0. Adapted (cropped) from White and Keynes by IMF, licensed under CC0.

John Maynard Keynes (1883–1946), one of the greatest economists of the twentieth century, pointed out that economics is not just a subject area but also a way of thinking. Keynes (Figure 1.3a) famously wrote in the introduction to a fellow economist's book: "[Economics] is a method rather than a doctrine, an apparatus of the mind, a technique of thinking, which helps its possessor to draw correct conclusions." In other words, economics teaches you how to think, not what to think.

Link It Up

The video Robert Skidelsky on Keynesian Economics – It's All About Spending [New Tab] (https://www.youtube.com/watch?v=ZRvaxUNDTKY) talk about John Maynard Keynes and his influence on economics.

Economists see the world through a different lens than anthropologists, biologists, classicists, or practitioners of any other discipline. They analyze issues and problems using economic theories that are based on particular assumptions about human behavior. These assumptions tend to be different than the assumptions an

anthropologist or psychologist might use. A **theory** is a simplified representation of how two or more variables interact with each other. The purpose of a theory is to take a complex, real-world issue and simplify it down to its essentials. If done well, this enables the analyst to understand the issue and any problems around it. A good theory is simple enough to understand, while complex enough to capture the key features of the object or situation you are studying.

Sometimes economists use the term **model** instead of theory. Strictly speaking, a theory is a more abstract representation, while a model is a more applied or empirical representation. We use models to test theories, but for this course we will use the terms interchangeably.

For example, an architect who is planning a major office building will often build a physical model that sits on a tabletop to show how the entire city block will look after the new building is constructed. Companies often build models of their new products, which are more rough and unfinished than the final product, but can still demonstrate how the new product will work.

A good model to start with in economics is the **circular flow diagram** (Figure 1.3b). It pictures the economy as consisting of two groups—households and firms—that interact in two markets: the **goods and services market** in which firms sell and households buy and the **labour market** in which households sell labour to business firms or other employees.

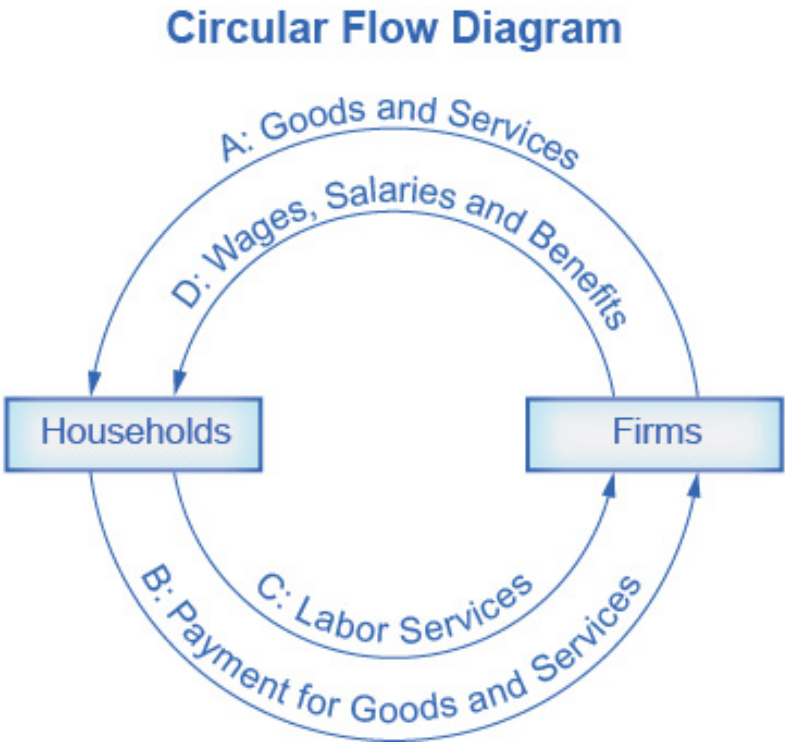

Figure 1.3b The Circular Flow Diagram. The flow diagram showing how households and firms interact in the goods and services market, and in the labour market. The direction of the arrows shows that in the goods and services market, households receive goods and services and pay firms for them. In the labour market, households provide labour and receive payment from firms through wages, salaries, and benefits. The circular flow diagram's outer arrows represent a goods and services market, and the inner arrows represent a labour market. The Circular Flow Diagram by Steven A. Greenlaw & David Shapiro (OpenStax), licensed under CC BY 4.0.

Firms produce and sell goods and services to households in the market for goods and services (or product market), indicated by Arrow A. Households pay for goods and services, which becomes the revenues to firms, indicated by Arrow B. Arrows A and B represent the two sides of the product market. Where do households obtain the income to buy goods and services? They provide the labour and other resources (e.g. land, capital, raw materials) firms need to produce goods and services in the market for inputs (or factors of production), indicated by Arrow C. In return, firms pay for the inputs (or resources) they use in the form of wages and other factor payments, indicated by Arrow D. Arrows C and D represent the two sides of the factor market.

Of course, in the real world, there are many different markets for goods and services and markets for many different types of labour. The circular flow diagram simplifies this to make the picture easier to grasp. In the diagram, firms produce goods and services, which they sell to households in return for revenues. The outer circle shows this, and represents the two sides of the product market (for example, the market for goods and services) in which households demand and firms supply. Households sell their labour as workers to firms in

return for wages, salaries, and benefits. The inner circle shows this and represents the two sides of the labour market in which households supply and firms demand.

This version of the circular flow model is stripped down to the essentials, but it has enough features to explain how the product and labour markets work in the economy. We could easily add details to this basic model if we wanted to introduce more real-world elements, like financial markets, governments, and interactions with the rest of the globe (imports and exports).

Economists carry a set of theories in their heads like a carpenter carries around a toolkit. When they see an economic issue or problem, they go through the theories they know to see if they can find one that fits. Then they use the theory to derive insights about the issue or problem. Economists express theories as diagrams, graphs, or even as mathematical equations. (Do not worry. In this course, we will mostly use graphs.) Economists do not figure out the answer to the problem first and then draw the graph to illustrate. Rather, they use the graph of the theory to help them figure out the answer. Although at the introductory level, you can sometimes figure out the right answer without applying a model, if you keep studying economics, before too long you will run into issues and problems that you will need to graph to solve. We explain both micro and macroeconomics in terms of theories and models. The most well-known theories are probably those of supply and demand, but you will learn a number of others.

Key Concepts & Summary

Economists analyze problems differently than do other disciplinary experts. The main tools economists use are economic theories or models. A theory is not an illustration of the answer to a problem. Rather, a theory is a tool for determining the answer.

Attribution

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1.4 - HOW TO ORGANIZE ECONOMIES: AN OVERVIEW OF ECONOMIC SYSTEMS

Learning Objectives

- Contrast traditional economies, command economies, and market economies
- Explain gross domestic product (GDP)
- Assess the importance and effects of globalization

Think about what a complex system a modern economy is. It includes all production of goods and services, all buying and selling, all employment. The economic life of every individual is interrelated, at least to a small extent, with the economic lives of thousands or even millions of other individuals. Who organizes and coordinates this system? Who ensures that, for example, the number of televisions a society provides is the same as the amount it needs and wants? Who ensures that the right number of employees work in the electronics industry? Who ensures that televisions are produced in the best way possible? How does it all get done?

There are at least three ways that societies organize an economy. The first is the **traditional economy**, which is the oldest economic system and is used in parts of Asia, Africa, and South America. Traditional economies organize their economic affairs the way they have always done (i.e., tradition). Occupations stay in the family. Most families are farmers who grow the crops using traditional methods. What you produce is what you consume. Because tradition drives the way of life, there is little economic progress or development.

Figure 1.4a. A Command Economy Ancient Egypt and was an example of a command economy. Pyramids at Giza (https://www.flickr.com/photos/jaybergesen/3335698859) by Jay Bergesen, licensed under CC BY.

Command economies are very different. In a **command economy**, economic effort is devoted to goals passed down from a ruler or ruling class. Ancient Egypt was a good example: a large part of economic life was devoted to building pyramids, like those in Figure 1.4a, for the pharaohs. Medieval manor life is another example: the lord provided the land for growing crops and protection in the event of war. In return, vassals provided labour and soldiers to do the lord's bidding. In the last century, communism emphasized command economies.

In a command economy, the government decides what goods and services will be produced and what prices it will charge for them. The government decides what methods of production to use and sets wages for workers. The government provides many necessities like healthcare and education for free. Currently, Cuba and North Korea have command economies.

Figure 1.4b A Market Economy. Nothing says "market" more than The New York Stock Exchange. New York Stock Exchange (https://www.flickr.com/photos/edrost88/6279266131/) by Erik Drost, licensed under CC BY.

Although command economies have a very centralized structure for economic decisions, market economies have a very decentralized structure. A **market** is an institution that brings together buyers and sellers of goods or services, who may be either individuals or businesses. The New York Stock Exchange (Figure 1.4b) is a prime example of a market which brings buyers and sellers together. In a **market economy**, decision-making is decentralized. Market economies are based on **private enterprise**: the private individuals or groups of private individuals own and operate the means of production (resources and businesses). Businesses supply goods and services based on demand. (In a command economy, by contrast, the government owns resources and businesses.) Supply of goods and services depends on what the demands are. A person's income is based on his or her ability to convert resources (especially labour) into something that society values. The more society values the person's output, the higher the income (think Lady Gaga or LeBron James). In this scenario, market forces, not governments, determine economic decisions.

Most economies in the real world are mixed. They combine elements of command and market (and even traditional) systems. The U.S. economy is positioned toward the market-oriented end of the spectrum. Many countries in Europe and Latin America, while primarily market-oriented, have a greater degree of government involvement in economic decisions than the U.S. economy. China and Russia, while over the past several decades have moved more in the direction of having a market-oriented system, remain closer to the command

economy end of the spectrum. The Heritage Foundation provides perspective on countries' economic freedom, as the following Clear It Up feature discusses.

Clear It UP

What countries are considered economically free?

Who is in control of economic decisions? Are people free to do what they want and to work where they want? Are businesses free to produce when they want and what they choose, and to hire and fire as they wish? Are banks free to choose who will receive loans, or does the government control these kinds of choices? Each year, researchers at the Heritage Foundation and the *Wall Street Journal* look at 50 different categories of economic freedom for countries around the world. They give each nation a score based on the extent of economic freedom in each category. Note that while the Heritage Foundation/WSJ index is widely cited by an array of scholars and publications, it should be regarded as only one viewpoint. Some experts indicate that the index's category choices and scores are politically biased. However, the index and others like it provide a useful resource for critical discussion of economic freedom.

The 2016 Heritage Foundation's Index of Economic Freedom report ranked 178 countries around the world: Table 1.4a lists some examples of the most free and the least free countries. Although technically not a separate country, Hong Kong has been granted a degree of autonomy such that, for purposes of measuring economic statistics, it is often treated as a separate country. Several additional countries were not ranked because of extreme instability that made judgments about economic freedom impossible. These countries include Afghanistan, Iraq, Libya, Syria, Somalia, and Yemen.

The assigned rankings are inevitably based on estimates, yet even these rough measures can be useful for discerning trends. In 2015, 101 of the 178 included countries shifted toward greater economic freedom, although 77 of the countries shifted toward less economic freedom. In recent decades, the overall trend has been a *higher level of economic freedom around the world.*

Table 1.4a Economic Freedoms, 2016 (The Heritage Foundation, 2016)

Most Economic Freedom	Least Economic Freedom
1. Hong Kong	167. Timor-Leste
2. Singapore	168. Democratic Republic of Congo
3. New Zealand	169. Argentina
4. Switzerland	170. Equatorial Guinea
5. Australia	171. Iran
6. Canada	172. Republic of Congo
7. Chile	173. Eritrea
8. Ireland	74. Turkmenistan
9. Estonia	175. Zimbabwe
10. United Kingdom	176. Venezuela
11. United States	177. Cuba
12. Denmark	178. North Korea

Regulations: The Rules of the Game

Markets and government regulations are always entangled. There is no such thing as an absolutely free market. Regulations always define the "rules of the game" in the economy. Economies that are primarily market-oriented have fewer regulations—ideally just enough to maintain an even playing field for participants. At a minimum, these laws govern matters like safeguarding private property against theft, protecting people from violence, enforcing legal contracts, preventing fraud, and collecting taxes. Conversely, even the most command-oriented economies operate using markets. How else would buying and selling occur? The government heavily regulates decisions of what to produce and prices to charge. Heavily regulated economies often have **underground economies** (or black markets), which are markets where the buyers and sellers make transactions without the government's approval.The question of how to organize economic institutions is typically not a black-or-white choice between all market or all government, but instead involves a balancing act over the appropriate combination of market freedom and government rules.

Figure 1.4c. Globalization Cargo. Ships are one mode of transportation for shipping goods in the global economy. Cargo Ship (https://www.flickr.com/photos/ducatistaraul/4130178584/) by Raul valdez, licensed under CC BY 2.0.

The Rise of Globalization

Recent decades have seen a trend toward **globalization**, which is the expanding cultural, political, and economic connections between people around the world. One measure of this is the increased buying and selling of goods, services, and assets across national borders—in other words, international trade and financial capital flows.

Globalization has occurred for a number of reasons. Improvements in shipping, as illustrated by the container ship in Figure 1.4c, and air cargo have driven down transportation costs. Innovations in computing and telecommunications have made it easier and cheaper to manage long-distance economic connections of production and sales. Many valuable products and services in the modern economy can take the form of information—for example: computer software; financial advice; travel planning; music, books and movies; and blueprints for designing a building. These products and many others can be transported over telephones and computer networks at ever-lower costs. Finally, international agreements and treaties between countries have encouraged greater trade.

Table 1.4b. presents one measure of globalization. It shows the percentage of domestic economic production that was exported for a selection of countries from 2010 to 2015, according to an entity known as The World Bank. **Exports** are the goods and services that one produces domestically and sells abroad. **Imports** are the goods and services that one produces abroad and then sells domestically. **Gross domestic product (GDP)**

measures the size of total production in an economy. Thus, the ratio of exports divided by GDP measures what share of a country's total economic production is sold in other countries.

Table 1.4b. The Extent of Globalization (exports/GDP) (The World Bank, n.d.)

Country	2010	2011	2012	2013	2014	2015
Higher Income Countries						
United States	12.4	13.6	13.6	13.5	13.5	12.6
Belgium	76.2	81.4	82.2	82.8	84.0	84.4
Canada	29.1	30.7	30.0	30.1	31.7	31.5
France	26.0	27.8	28.1	28.3	29.0	30.0
Middle Income Countries						
Brazil	10.9	11.9	12.6	12.6	11.2	13.0
Mexico	29.9	31.2	32.6	31.7	32.3	35.3
South Korea	49.4	55.7	56.3	53.9	50.3	45.9
Lower Income Countries						
Chad	36.8	38.9	36.9	32.2	34.2	29.8
China	29.4	28.5	27.3	26.4	23.9	22.4
India	22.0	23.9	24.0	24.8	22.9	–
Nigeria	25.3	31.3	31.4	18.0	18.4	–

In recent decades, the export/GDP ratio has generally risen, both worldwide and for the U.S. economy.Interestingly, the share of U.S. exports in proportion to the U.S. economy is well below the global average, in part because large economies like the United States can contain more of the **division of labour** inside their national borders.However, smaller economies like Belgium, Korea, and Canada need to trade across their borders with other countries to take full advantage of division of labour, **specialization**, and **economies of scale**. In this sense, the enormous U.S. economy is less affected by globalization than most other countries.

Table 1.4b indicates that many medium and low income countries around the world, like Mexico and China, have also experienced a surge of globalization in recent decades. If an astronaut in orbit could put on special glasses that make all economic transactions visible as brightly colored lines and look down at Earth, the astronaut would see the planet covered with connections.

Despite the rise in globalization over the last few decades, in recent years we've seen significant pushback

against globalization from people across the world concerned about loss of jobs, loss of political sovereignty, and increased economic inequality. Prominent examples of this pushback include the 2016 vote in Great Britain to exit the European Union (i.e. Brexit), and the election of Donald J. Trump for President of the United States.

Bring It Home

Decisions in the Social Media Age

The world we live in today provides nearly instant access to a wealth of information. Consider that as recently as the late 1970s, the *Farmer's Almanac*, along with the Weather Bureau of the U.S. Department of Agriculture, were the primary sources American farmers used to determine when to plant and harvest their crops. Today, farmers are more likely to access, online, weather forecasts from the National Oceanic and Atmospheric Administration or watch the Weather Channel. After all, knowing the upcoming forecast could drive when to harvest crops. Consequently, knowing the upcoming weather could change the amount of crop harvested.

Some relatively new information forums, such as Facebook, are rapidly changing how information is distributed; hence, influencing decision making. In 2014, the Pew Research Center reported that 71% of online adults use Facebook. This social media forum posts topics ranging from the National Basketball Association, to celebrity singers and performers, to farmers.

Information helps us make decisions as simple as what to wear today to how many reporters the media should send to cover a crash. Each of these decisions is an economic decision. After all, resources are scarce. If the media send ten reporters to cover an accident, they are not available to cover other stories or complete other tasks. Information provides the necessary knowledge to make the best possible decisions on how to utilize scarce resources. Welcome to the world of economics!

Key Concepts & Summary

We can organize societies as traditional, command, or market-oriented economies. Most societies are a mix. The last few decades have seen globalization evolve as a result of growth in commercial

and financial networks that cross national borders, making businesses and workers from different economies increasingly interdependent.

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Except where otherwise noted, this chapter is adapted from "How To Organize Economies: An Overview of Economic Systems (https://openstax.org/books/principles-microeconomics-2e/pages/1-4-how-to-organize-economies-an-overview-of-economic-systems) and "Key Concepts and Summary (https://openstax.org/books/principles-microeconomics-2e/pages/1-key-concepts-and-summary)"" In *Principles of Microeconomics 2e* (https://openstax.org/books/principles-microeconomics-2e/pages/1-introduction) (Open Stax) by Steven A. Greenlaw & David Shapiro, licensed under CC BY 4.0. / Adaptations include formatting and accessibility fixes, addition of key concepts and summary.

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1.5 - DEMAND AND SUPPLY IN FINANCIAL MARKETS

Learning Objectives

- Identify the demanders and suppliers in a financial market
- Explain how interest rates can affect supply and demand
- Analyze the economic effects of U.S. debt in terms of domestic financial markets
- Explain the role of price ceilings and usury laws in the U.S.

United States' households, institutions, and domestic businesses saved almost $1.3 trillion in 2015. Where did that savings go and how was it used? Some of the savings ended up in banks, which in turn loaned the money to individuals or businesses that wanted to borrow money. Some was invested in private companies or loaned to government agencies that wanted to borrow money to raise funds for purposes like building roads or mass transit. Some firms reinvested their savings in their own businesses.

In this section, we will determine how the demand and supply model links those who wish to supply financial capital (i.e., savings) with those who demand financial capital (i.e., borrowing). Those who save money (or make financial investments, which is the same thing), whether individuals or businesses, are on the supply side of the financial market. Those who borrow money are on the demand side of the financial market.

Who Demands and Who Supplies in Financial Markets?

In any market, the price is what suppliers receive and what demanders pay. In financial markets, those who supply financial capital through saving expect to receive a rate of return, while those who demand financial capital by receiving funds expect to pay a rate of return. This rate of return can come in a variety of forms, depending on the type of investment.

The simplest example of a rate of return is the **interest rate**. For example, when you supply money into a savings account at a bank, you receive interest on your deposit. The interest the bank pays you as a percent of your deposits is the interest rate. Similarly, if you demand a loan to buy a car or a computer, you will need to pay interest on the money you borrow.

Let's consider the market for borrowing money with credit cards. In 2015, almost 200 million Americans were cardholders. Credit cards allow you to borrow money from the card's issuer, and pay back the borrowed amount plus interest, although most allow you a period of time in which you can repay the loan without paying interest. A typical credit card interest rate ranges from 12% to 18% per year. In May 2016, Americans had about $943 billion outstanding in credit card debts. About half of U.S. families with credit cards report that they almost always pay the full balance on time, but one-quarter of U.S. families with credit cards say that they "hardly ever" pay off the card in full. In fact, in 2014, 56% of consumers carried an unpaid balance in the last 12 months. Let's say that, on average, the annual interest rate for credit card borrowing is 15% per year. Thus, Americans pay tens of billions of dollars every year in interest on their credit cards—plus basic fees for the credit card or fees for late payments.

Figure 1.5a illustrates demand and supply in the financial market for credit cards. The horizontal axis of the financial market shows the quantity of money loaned or borrowed in this market. The vertical or price axis shows the rate of return, which in the case of credit card borrowing we can measure with an interest rate. Table 1.5a shows the quantity of financial capital that consumers demand at various interest rates and the quantity that credit card firms (often banks) are willing to supply.

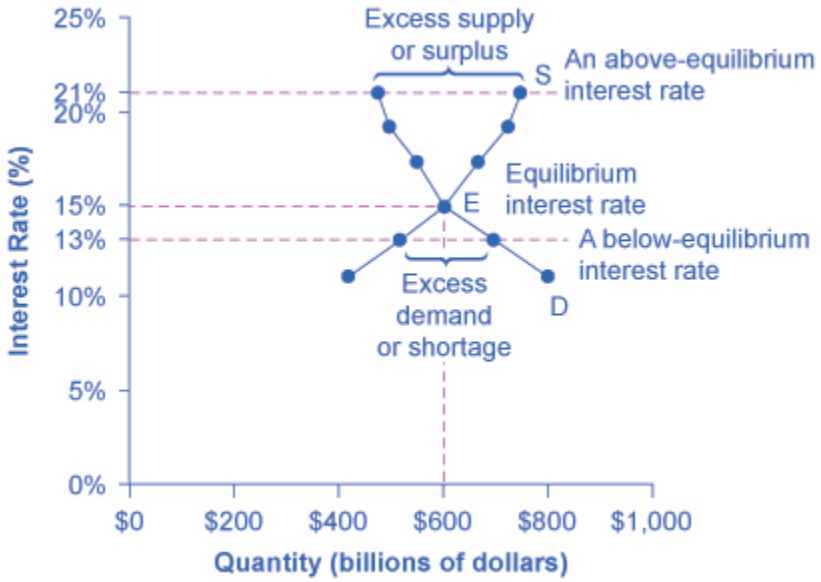

Figure 1.5a Demand and Supply for Borrowing Money with Credit Cards. In this market for credit card borrowing, the demand curve (D) for borrowing financial capital intersects the supply curve (S) for lending financial capital at equilibrium (E). At the equilibrium (E), the interest rate (the "price" in this market) is 15% and the quantity of financial capital loaned and borrowed is $600 billion. The equilibrium price is where the quantity demanded and the quantity supplied are equal. At an above-equilibrium interest rate like 21%, the quantity of financial capital supplied would increase to $750 billion, but the quantity demanded would decrease to $480 billion. At a below-equilibrium interest rate like 13%, the quantity of financial capital demanded would increase to$700 billion, but the quantity of financial capital supplied would decrease to $510 billion. Figure by Steven A. Greenlaw & David Shapiro (OpenStax), licensed under CC BY 4.0.

Table 1.5a: Demand and Supply for Borrowing Money with Credit Cards

Interest Rate (%)	Quantity of Financial Capital Demanded (Borrowing) ($ billions)	Quantity of Financial Capital Supplied (Lending) ($ billions)
11	800	420
13	700	510
15	600	600
17	550	660
19	500	720
21	480	750

The laws of demand and supply continue to apply in the financial markets. According to the law of demand, a higher rate of return (that is, a higher price) will decrease the quantity demanded. As the interest rate rises, consumers will reduce the quantity that they borrow. According to the law of supply, a higher price increases

the quantity supplied. Consequently, as the interest rate paid on credit card borrowing rises, more firms will be eager to issue credit cards and to encourage customers to use them. Conversely, if the interest rate on credit cards falls, the quantity of financial capital supplied in the credit card market will decrease and the quantity demanded will increase.

Equilibrium in Financial Markets

In the financial market for credit cards in Figure 1.5a, the supply curve (S) and the demand curve (D) cross at the equilibrium point (E). The equilibrium occurs at an interest rate of 15%, where the quantity of funds demanded and the quantity supplied are equal at an equilibrium quantity of $600 billion.

If the interest rate (remember, this measures the "price" in the financial market) is above the equilibrium level, then an excess supply, or a surplus, of financial capital will arise in this market. For example, at an interest rate of 21%, the quantity of funds supplied increases to $750 billion, while the quantity demanded decreases to $480 billion. At this above-equilibrium interest rate, firms are eager to supply loans to credit card borrowers, but relatively few people or businesses wish to borrow. As a result, some credit card firms will lower the interest rates (or other fees) they charge to attract more business. This strategy will push the interest rate down toward the equilibrium level.

If the interest rate is below the equilibrium, then excess demand or a shortage of funds occurs in this market. At an interest rate of 13%, the quantity of funds credit card borrowers demand increases to $700 billion, but the quantity credit card firms are willing to supply is only $510 billion. In this situation, credit card firms will perceive that they are overloaded with eager borrowers and conclude that they have an opportunity to raise interest rates or fees. The interest rate will face economic pressures to creep up toward the equilibrium level.

The FRED database publishes some two dozen measures of interest rates, including interest rates on credit cards, automobile loans, personal loans, mortgage loans, and more. You can find these at the FRED website [New Tab] (https://fred.stlouisfed.org/categories/22).

Shifts in Demand and Supply in Financial Markets

Those who supply financial capital face two broad decisions: how much to save, and how to divide up their savings among different forms of financial investments. We will discuss each of these in turn.

Participants in financial markets must decide when they prefer to consume goods: now or in the future. Economists call this intertemporal decision making because it involves decisions across time. Unlike a decision about what to buy from the grocery store, people make investment or savings decisions across a period of time, sometimes a long period.

Most workers save for retirement because their income in the present is greater than their needs, while the opposite will be true once they retire. Thus, they save today and supply financial markets. If their income increases, they save more. If their perceived situation in the future changes, they change the amount of their saving. For example, there is some evidence that Social Security, the program that workers pay into in order to qualify for government checks after retirement, has tended to reduce the quantity of financial capital that workers save. If this is true, Social Security has shifted the supply of financial capital at any interest rate to the left.

By contrast, many college students need money today when their income is low (or nonexistent) to pay their college expenses. As a result, they borrow today and demand from financial markets. Once they graduate and become employed, they will pay back the loans. Individuals borrow money to purchase homes or cars. A business seeks financial investment so that it has the funds to build a factory or invest in a research and development project that will not pay off for five years, ten years, or even more. Thus, when consumers and businesses have greater confidence that they will be able to repay in the future, the quantity demanded of financial capital at any given interest rate will shift to the right.

For example, in the technology boom of the late 1990s, many businesses became extremely confident that investments in new technology would have a high rate of return, and their demand for financial capital shifted to the right. Conversely, during the 2008 and 2009 Great Recession, their demand for financial capital at any given interest rate shifted to the left.

To this point, we have been looking at saving in total. Now let us consider what affects saving in different types of financial investments. In deciding between different forms of financial investments, suppliers of financial capital will have to consider the rates of return and the risks involved. Rate of return is a positive attribute of investments, but risk is a negative. If Investment A becomes more risky, or the return diminishes, then savers will shift their funds to Investment B—and the supply curve of financial capital for Investment A will shift back to the left while the supply curve of capital for Investment B shifts to the right.

The United States as a Global Borrower

In the global economy, trillions of dollars of financial investment cross national borders every year. In the early 2000s, financial investors from foreign countries were investing several hundred billion dollars per year more in the U.S. economy than U.S. financial investors were investing abroad. The following Work It Out deals with one of the macroeconomic concerns for the U.S. economy in recent years.

Work It Out

The Effect of Growing U.S. Debt

Imagine that foreign investors viewed the U.S. economy as a less desirable place to put their money because of fears about the growth of the U.S. public debt. Using the four-step process for analyzing how changes in supply and demand affect equilibrium outcomes, how would increased U.S. public debt affect the equilibrium price and quantity for capital in U.S. financial markets?

Step 1. Draw a diagram showing demand and supply for financial capital that represents the original scenario in which foreign investors are pouring money into the U.S. economy. Figure 1.5b. has the vertical axis is Rate of Return (R) and the horizontal axis is Quantity of Financial Capital (Q). Figure 1.5b shows a demand curve (D_0) and a supply curve (S_0) where the supply of capital includes the funds arriving from foreign investors. (D_0) slopes downward from left to right and (S_0) slopes upward from left to right. The original equilibrium E_0 occurs where S_0 and D_0 intersect, at interest rate R_0 and quantity of financial investment Q_0.

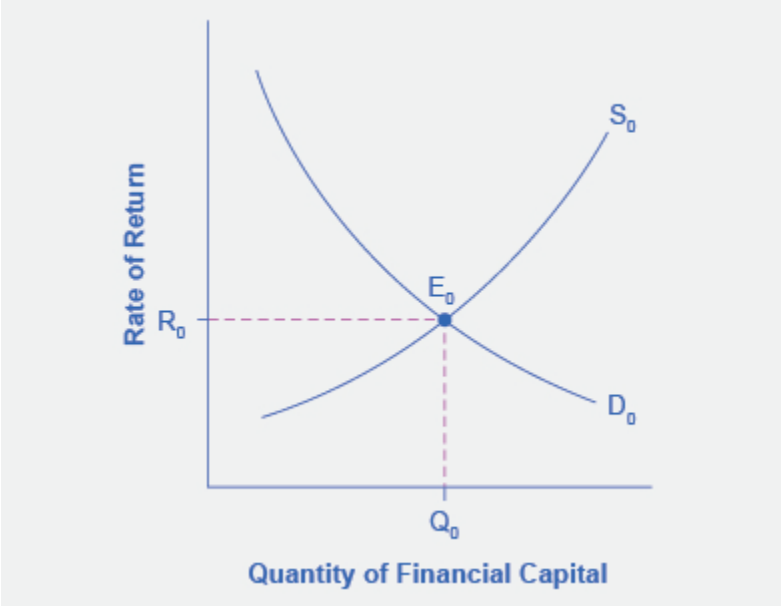

Figure 1.5b The United States as a Global Borrower Before U.S. Debt Uncertainty. The graph shows the demand for financial capital from and supply of financial capital into the U.S. financial markets by the foreign sector before the increase in uncertainty regarding U.S. public debt. Figure by Steven A. Greenlaw & David Shapiro (OpenStax), licensed under CC BY 4.0.

Step 2. Will the diminished confidence in the U.S. economy as a place to invest affect demand or supply of financial capital? Yes, it will affect supply. Many foreign investors look to the U.S. financial markets

to store their money in safe financial vehicles with low risk and stable returns. Diminished confidence means U.S. financial assets will be seen as more risky.

Step 3. Will supply increase or decrease? When the enthusiasm of foreign investors' for investing their money in the U.S. economy diminishes, the supply of financial capital shifts to the left. Using the same base graph above (Figure 1.5b) , Figure 1.5c shows the supply curve shift to the left from S_0 to S_1.

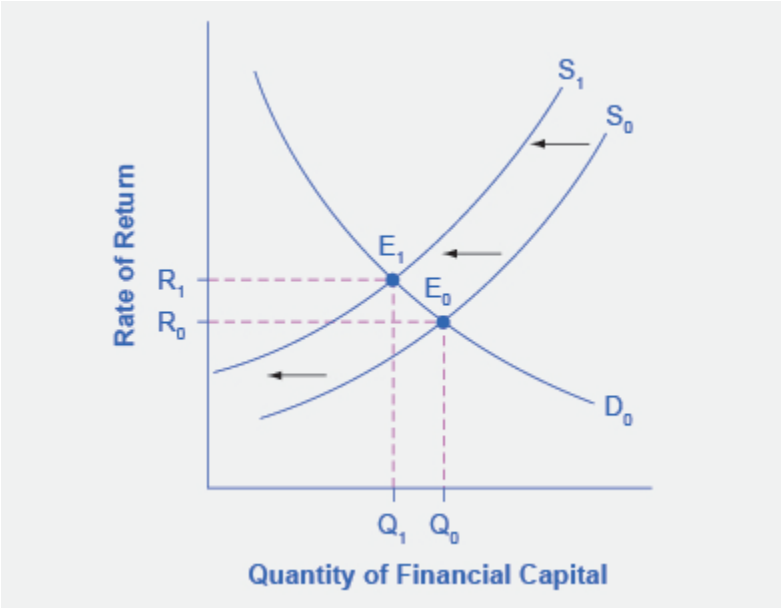

Figure 1.5c. The United States as a Global Borrower Before and After U.S. Debt Uncertainty. The graph shows the demand for financial capital and supply of financial capital into the U.S. financial markets by the foreign sector before and after the increase in uncertainty regarding U.S. public debt. The original equilibrium (E_0) occurs at an equilibrium rate of return (R_0) and the equilibrium quantity is at Q_0. Figure by Steven A. Greenlaw & David Shapiro (OpenStax), licensed under CC BY 4.0.

Step 4. Thus, foreign investors' diminished enthusiasm leads to a new equilibrium (E_1) occurring where S_1 and D_0 intersect at the higher interest rate, R_1, and the lower quantity of financial investment, Q_1. In short, U.S. borrowers will have to pay more interest on their borrowing.

The economy has experienced an enormous inflow of foreign capital. According to the U.S. Bureau of Economic Analysis, by the third quarter of 2015, U.S. investors had accumulated $23.3 trillion of foreign assets, but foreign investors owned a total of $30.6 trillion of U.S. assets. If foreign investors were to pull their money out of the U.S. economy and invest elsewhere in the world, the result could be a significantly lower quantity of financial investment in the United States, available only at a higher interest rate. This reduced

inflow of foreign financial investment could impose hardship on U.S. consumers and firms interested in borrowing.

In a modern, developed economy, financial capital often moves invisibly through electronic transfers between one bank account and another. Yet we can analyze these flows of funds with the same tools of demand and supply as markets for goods or labour.

Price Ceilings in Financial Markets: Usury Laws

As we noted earlier, about 200 million Americans own credit cards, and their interest payments and fees total tens of billions of dollars each year. It is little wonder that political pressures sometimes arise for setting limits on the interest rates or fees that credit card companies charge. The firms that issue credit cards, including banks, oil companies, phone companies, and retail stores, respond that the higher interest rates are necessary to cover the losses created by those who borrow on their credit cards and who do not repay on time or at all. These companies also point out that cardholders can avoid paying interest if they pay their bills on time.

Consider the credit card market as Figure 1.5d illustrators. In this financial market, the vertical axis shows the interest rate (which is the price in the financial market). Demanders in the credit card market are households and businesses. Suppliers are the companies that issue credit cards. This figure does not use specific numbers, which would be hypothetical in any case, but instead focuses on the underlying economic relationships. Imagine a law imposes a price ceiling that holds the interest rate charged on credit cards at the rate Rc, which lies below the interest rate R_0 that would otherwise have prevailed in the market. The horizontal dashed line at interest rate R_c in Figure 1.5d shows the price ceiling. The demand and supply model predicts that at the lower price ceiling interest rate, the quantity demanded of credit card debt will increase from its original level of Q_0 to Qd; however, the quantity supplied of credit card debt will decrease from the original Q_0 to Qs. At the price ceiling (Rc), quantity demanded will exceed quantity supplied. Consequently, a number of people who want to have credit cards and are willing to pay the prevailing interest rate will find that companies are unwilling to issue cards to them. The result will be a credit shortage.

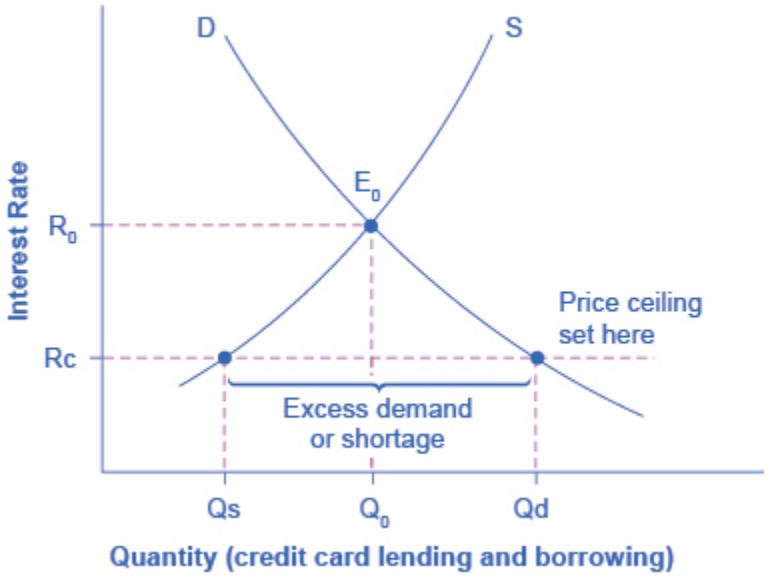

Figure 1.5d Credit Card Interest Rates: Another Price Ceiling Example. The original intersection of demand D and supply S occurs at equilibrium E_0. However, a price ceiling is set at the interest rate Rc, below the equilibrium interest rate R_0, and so the interest rate cannot adjust upward to the equilibrium. At the price ceiling, the quantity demanded, Q_d, exceeds the quantity supplied, Qs. There is excess demand, also called a shortage. Figure by Steven A. Greenlaw & David Shapiro (OpenStax), licensed under CC BY 4.0.

Figure 1.5d Credit Card Interest Rates: Another Price Ceiling Example Text Verision

The vertical axis is interest rate and the horizontal axis is quantity (credit card lending and borrowing). The demand curve (D) slopes downward left to right and the supply curve (S) slopes upward from right to left. The original intersection of demand (D) and supply (S) occurs at equilibrium E_0 at point R_0 and Q_0. The price ceiling indicated by a doted line is set at interest R_c and occurs below the interest rate R_0. At the lower price ceiling interest rate, the quantity demanded of credit card debt will increase it shifting from its original level of Q_0 to the right to Q_d . The quantity supplied of credit card debt will decrease from the original Q_0 to Qs, shifting to the left. At the price ceiling (Rc), quantity demanded will exceed quantity supplied. The difference between Qs and Q_d is the excess demand also called shortage.

Many states do have **usury laws**, which impose an upper limit on the interest rate that lenders can charge. However, in many cases these upper limits are well above the market interest rate. For example, if the interest rate is not allowed to rise above 30% per year, it can still fluctuate below that level according to market forces. A price ceiling that is set at a relatively high level is nonbinding, and it will have no practical effect unless the equilibrium price soars high enough to exceed the price ceiling.

Key Concepts & Summary

In the demand and supply analysis of financial markets, the "price" is the rate of return or the interest rate received. We measure the quantity by the money that flows from those who supply financial capital to those who demand it. Two factors can shift the supply of financial capital to a certain investment: if people want to alter their existing levels of consumption, and if the riskiness or return on one investment changes relative to other investments. Factors that can shift demand for capital include business confidence and consumer confidence in the future—since financial investments received in the present are typically repaid in the future.

Attribution

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1.6 - THE MARKET SYSTEM AS AN EFFICIENT MECHANISM FOR INFORMATION

Learning Objectives

- Apply demand and supply models to analyze prices and quantities
- Explain the effects of price controls on the equilibrium of prices and quantities

Prices exist in markets for goods and services, for labour, and for financial capital. In all of these markets, prices serve as a remarkable social mechanism for collecting, combining, and transmitting information that is relevant to the market—namely, the relationship between demand and supply—and then serving as messengers to convey that information to buyers and sellers. In a market-oriented economy, no government agency or guiding intelligence oversees the set of responses and interconnections that result from a change in price. Instead, each consumer reacts according to that person's preferences and budget set, and each profit-seeking producer reacts to the impact on its expected profits. The following Clear It Up feature examines the demand and supply models.

Clear It Up

Why are demand and supply curves important?

The demand and supply model is the second fundamental diagram for this course. (The opportunity set model that we introduced in the Choice in a World of Scarcity chapter was the first.) Just as it would be foolish to try to learn the arithmetic of long division by memorizing every possible combination of numbers that can be divided by each other, it would be foolish to try to memorize every specific example of demand and supply in this chapter, this textbook, or this course. Demand and

supply is not primarily a list of examples. It is a model to analyze prices and quantities. Even though demand and supply diagrams have many labels, they are fundamentally the same in their logic. Your goal should be to understand the underlying model so you can use it to analyze any market.

Figure 1.6a displays a generic demand and supply curve. The horizontal axis shows the different measures of quantity: a quantity of a good or service, or a quantity of labour for a given job, or a quantity of financial capital. The vertical axis shows a measure of price: the price of a good or service, the wage in the labour market, or the rate of return (like the interest rate) in the financial market.

The demand and supply model can explain the existing levels of prices, wages, and rates of return. To carry out such an analysis, think about the quantity that will be demanded at each price and the quantity that will be supplied at each price—that is, think about the shape of the demand and supply curves—and how these forces will combine to produce equilibrium.

We can also use demand and supply to explain how economic events will cause changes in prices, wages, and rates of return. There are only four possibilities: the change in any single event may cause the demand curve to shift right or to shift left, or it may cause the supply curve to shift right or to shift left. The key to analyzing the effect of an economic event on equilibrium prices and quantities is to determine which of these four possibilities occurred. The way to do this correctly is to think back to the list of factors that shift the demand and supply curves. Note that if more than one variable is changing at the same time, the overall impact will depend on the degree of the shifts. When there are multiple variables, economists isolate each change and analyze it independently.

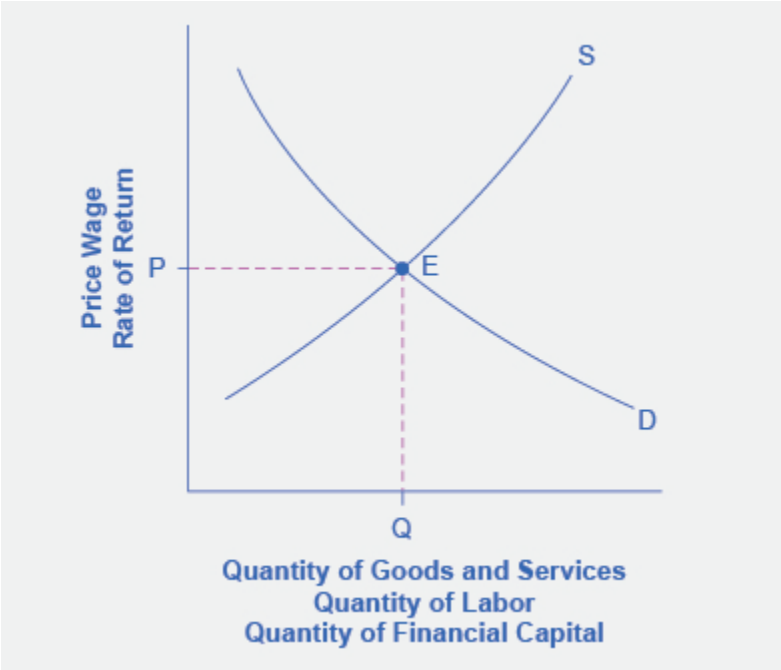

Figure 1.6a Demand and Supply Curves. The figure displays a generic demand and supply curve. The horizontal axis shows the different measures of quantity: a quantity of a good or service, a quantity of labour for a given job, or a quantity of financial capital. The vertical axis shows a measure of price: the price of a good or service, the wage in the labour market, or the rate of return (like the interest rate) in the financial market. We can use the demand and supply curves explain how economic events will cause changes in prices, wages, and rates of return. Figure by Steven A. Greenlaw & David Shapiro (OpenStax), licensed under CC BY 4.0.

An increase in the price of some product signals consumers that there is a shortage; therefore, they may want to economize on buying this product. For example, if you are thinking about taking a plane trip to Hawaii, but the ticket turns out to be expensive during the week you intend to go, you might consider other weeks when the ticket might be cheaper. The price could be high because you were planning to travel during a holiday when demand for traveling is high. Maybe the cost of an input like jet fuel increased or the airline has raised the price temporarily to see how many people are willing to pay it. Perhaps all of these factors are present at the same time. You do not need to analyze the market and break down the price change into its underlying factors. You just have to look at the ticket price and decide whether and when to fly.

In the same way, price changes provide useful information to producers. Imagine the situation of a farmer who grows oats and learns that the price of oats has risen. The higher price could be due to an increase in

demand caused by a new scientific study proclaiming that eating oats is especially healthful. Perhaps the price of a substitute grain, like corn, has risen, and people have responded by buying more oats. The oat farmer does not need to know the details. The farmer only needs to know that the price of oats has risen and that it will be profitable to expand production as a result.

The actions of individual consumers and producers as they react to prices overlap and interlock in markets for goods, labour, and financial capital. A change in any single market is transmitted through these multiple interconnections to other markets. The vision of the role of flexible prices helping markets to reach equilibrium and linking different markets together helps to explain why price controls can be so counterproductive. Price controls are government laws that serve to regulate prices rather than allow the various markets to determine prices. There is an old proverb: "Don't kill the messenger." In ancient times, messengers carried information between distant cities and kingdoms. When they brought bad news, there was an emotional impulse to kill the messenger. However, killing the messenger did not kill the bad news. Moreover, killing the messenger had an undesirable side effect: Other messengers would refuse to bring news to that city or kingdom, depriving its citizens of vital information.

Those who seek price controls are trying to kill the messenger—or at least to stifle an unwelcome message that prices are bringing about the equilibrium level of price and quantity. However, price controls do nothing to affect the underlying forces of demand and supply, and this can have serious repercussions. During China's "Great Leap Forward" in the late 1950s, the government kept food prices artificially low, with the result that 30 to 40 million people died of starvation because the low prices depressed farm production. This was communist party leader Mao Zedong's social and economic campaign to rapidly transform the country from an agrarian economy to a socialist society through rapid industrialization and collectivization. Changes in demand and supply will continue to reveal themselves through consumers' and producers' behavior. Immobilizing the price messenger through price controls will deprive everyone in the economy of critical information. Without this information, it becomes difficult for everyone—buyers and sellers alike—to react in a flexible and appropriate manner as changes occur throughout the economy.

Bring It Home

Baby Boomers Come of Age

The theory of supply and demand can explain what happens in the labour markets and suggests that the demand for nurses will increase as healthcare needs of baby boomers increase, as Figure 1.6b shows. The impact of that increase will result in an average salary higher than the $67,490 earned in 2015 referenced in the first part of this case. The new equilibrium (E_1) will be at the new equilibrium price (Pe_1).Equilibrium quantity will also increase from Qe_0 to Qe_1.

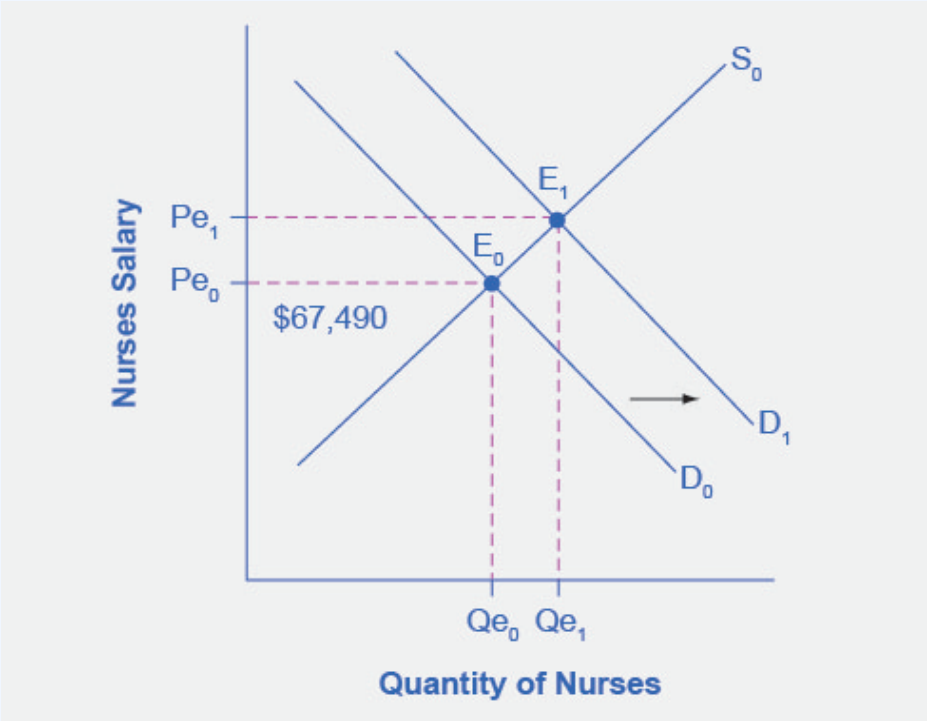

Figure 1.6b Impact of Increasing Demand for Nurses 2014-2024. In 2014, the median salary for nurses was $67,490. As demand for services increases, the demand curve shifts to the right (from D_0 to D_1) and the equilibrium quantity of nurses increases from Qe_0 to Qe_1. The equilibrium salary increases from Pe_0 to Pe_1. Figure by Steven A. Greenlaw & David Shapiro (OpenStax), licensed under CC BY 4.0.

Figure 1.6b Impact of Increasing Demand for Nurses 2014-2024 Text Version

The vertical axis is nurses salary (P) and the horizontal axis is the quantity of nurses (Q). The supply curve (S_0) is a straight line trending upwards from left to right and the demand curve (D_0) is a straight line trending upwards from left to right. The Equilibrium (E_0) occurs where S_0 and D_0 intersect at point Qe_0 and Pe_0 . As demand for services increases, the demand curve shifts to the right from D_0 to D_1 . The equilibrium quantity of nurses increases from Qe_0 to Qe_1 and the equilibrium salary increases from Pe_0 to Pe_1. The new equilibrium (E_1) occurs where S_0 and D_1 intersect at point Qe_1 and Pe_1.

Suppose that as the demand for nurses increases, the supply shrinks due to an increasing number of nurses entering retirement and increases in the tuition of nursing degrees. The leftward shift of the supply curve in Figure 1.6c captures the impact of a decreasing supply of nurses. The shifts in the two curves result in higher salaries for nurses, but the overall impact in the quantity of nurses is uncertain, as it depends on the relative shifts of supply and demand.

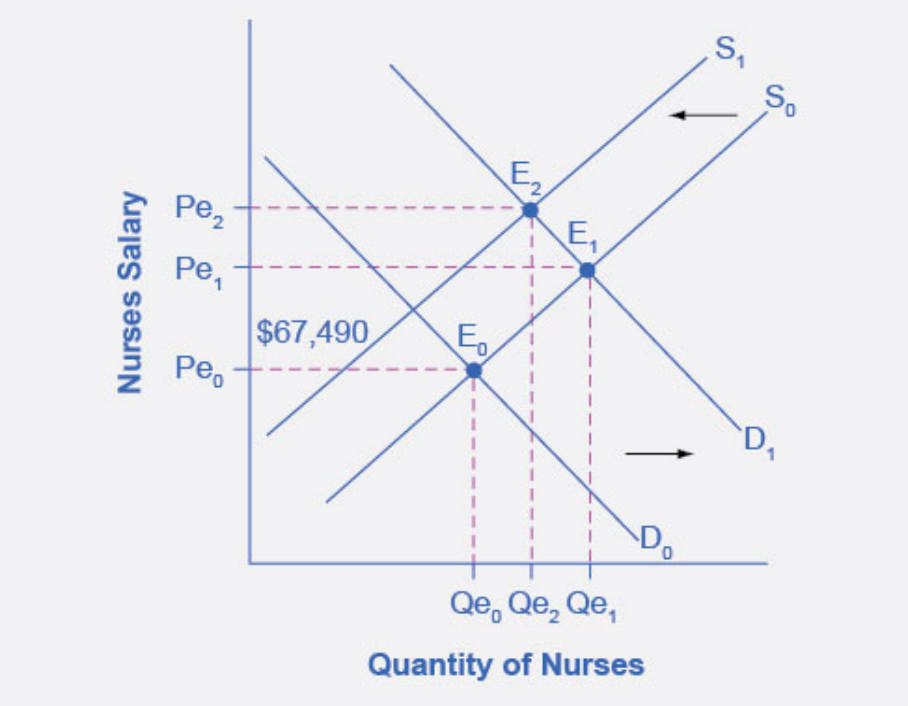

Figure 1.6c Impact of Decreasing Supply of Nurses between 2014 and 2024. The increase in demand for nurses shown in Figure 4.10 leads to both higher prices and higher quantities demanded. As nurses retire from the work force, the supply of nurses decreases, causing a leftward shift in the supply curve, from S_0 to S_1, and higher salaries for nurses at Pe_2. The net effect on the equilibrium quantity of nurses is uncertain, which in this representation is less than Qe_1, but more than the initial Qe_0. Figure by Steven A. Greenlaw & David Shapiro (OpenStax), licensed under CC BY 4.0.

Figure 1.6c Impact of Decreasing Supply of Nurses between 2014 and 2024 Text Version

The same as Figure 4.10: The vertical axis is nurses salary (P) and the horizontal axis is the quantity of nurses (Q). The supply curve (S_0) is a straight line trending upwards from left to right and the demand curve (D_0) is a straight line trending upwards from left to right. The Equilibrium (E_0) occurs where S_0 and D_0 intersect at point Qe_0 and Pe_0 . As demand for services increases, the demand curve shifts to the right from D_0 to D_1 . The equilibrium quantity of nurses increases from Qe_0 to Qe_1 and the equilibrium salary increases from Pe_0 to Pe_1. The new equilibrium (E_1) occurs where S_0 and D_1 intersect at point Qe_1 and Pe_1.

As nurses retire from the work force, the supply of nurses decreases causing a leftward shift in the supply curve, from S_0 to S_1. The equilibrium salary increases from Pe_1 to Pe_2 and the equilibrium quantity of nurses is uncertain shifting to left from Qe_1 to Qe_2 , but is still more than the initial Qe_0 . The equilibrium shifts from E_1 to E_2 occurring where S_1 and D_1 intersect at point Qe_2 and Pe_2.

While we do not know if the number of nurses will increase or decrease relative to their initial employment, we know they will have higher salaries.

Key Concepts & Summary

The market price system provides a highly efficient mechanism for disseminating information about relative scarcities of goods, services, labour, and financial capital. Market participants do not need to know why prices have changed, only that the changes require them to revisit previous decisions they made about supply and demand. Price controls hide information about the true scarcity of products and thereby cause misallocation of resources.

Attribution

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1.7 - SELF-CHECK, CRITICAL THINKING & REVIEW QUESTIONS

Self Check Questions

1. What is scarcity? Can you think of two causes of scarcity?
2. Residents of the town of Smithfield like to consume hams, but each ham requires 10 people to produce it and takes a month. If the town has a total of 100 people, what is the maximum amount of ham the residents can consume in a month?
3. A consultant works for$200 per hour. She likes to eat vegetables, but is not very good at growing them. Why does it make more economic sense for her to spend her time at the consulting job and shop for her vegetables?
4. A computer systems engineer could paint his house, but it makes more sense for him to hire a painter to do it. Explain why.
5. What would be another example of a "system" in the real world that could serve as a metaphor for micro and macroeconomics?
6. Suppose we extend the circular flow model to add imports and exports. Copy the circular flow diagram onto a sheet of paper and then add a foreign country as a third agent. Draw a rough sketch of the flows of imports, exports, and the payments for each on your diagram.
7. What is an example of a problem in the world today, not mentioned in the chapter, that has an economic dimension?
8. The chapter defines *private enterprise* as a characteristic of market-oriented economies. What would *public enterprise* be? *Hint* : It is a characteristic of command economies.
9. Why might Belgium, France, Italy, and Sweden have a higher export to GDP ratio than the United States?

Check your answers

1. Scarcity means human wants for goods and services exceed the available supply. Supply is

limited because resources are limited. Demand, however, is virtually unlimited. Whatever the supply, it seems human nature to want more.

2. 100 people/10 people per ham = a maximum of 10 hams per month if all residents produce ham. Since consumption is limited by production, the maximum number of hams residents could consume per month is 10.
3. She is very productive at her consulting job, but not very productive growing vegetables. Time spent consulting would produce far more income than it what she could save growing her vegetables using the same amount of time. So on purely economic grounds, it makes more sense for her to maximize her income by applying her labour to what she does best (i.e. specialization of labour).
4. The engineer is better at computer science than at painting. Thus, his time is better spent working for pay at his job and paying a painter to paint his house. Of course, this assumes he does not paint his house for fun!
5. There are many physical systems that would work, for example, the study of planets (micro) in the solar system (macro), or solar systems (micro) in the galaxy (macro).
6. Draw a box outside the original circular flow to represent the foreign country. Draw an arrow from the foreign country to firms, to represents imports. Draw an arrow in the reverse direction representing payments for imports. Draw an arrow from firms to the foreign country to represent exports. Draw an arrow in the reverse direction to represent payments for imports.
7. There are many such problems. Consider the AIDS epidemic. Why are so few AIDS patients in Africa and Southeast Asia treated with the same drugs that are effective in the United States and Europe? It is because neither those patients nor the countries in which they live have the resources to purchase the same drugs.
8. Public enterprise means the factors of production (resources and businesses) are owned and operated by the government.
9. The United States is a large country economically speaking, so it has less need to trade internationally than the other countries mentioned. (This is the same reason that France and Italy have lower ratios than Belgium or Sweden.) One additional reason is that each of the other countries is a member of the European Union, where trade between members occurs without barriers to trade, like tariffs and quotas.

Critical Thinking Questions

1. Suppose you have a team of two workers: one is a baker and one is a chef. Explain why the kitchen can produce more meals in a given period of time if each worker specializes in what they do best than if each worker tries to do everything from appetizer to dessert.
2. Why would division of labour without trade not work?
3. Can you think of any examples of *free* goods, that is, goods or services that are not scarce?
4. A balanced federal budget and a balance of trade are secondary goals of macroeconomics, while growth in the standard of living (for example) is a primary goal. Why do you think that is so?
5. Macroeconomics is an aggregate of what happens at the microeconomic level. Would it be possible for what happens at the macro level to differ from how economic agents would react to some stimulus at the micro level? *Hint:* Think about the behavior of crowds.
6. Why is it unfair or meaningless to criticize a theory as "unrealistic?"
7. Suppose, as an economist, you are asked to analyze an issue unlike anything you have ever done before. Also, suppose you do not have a specific model for analyzing that issue. What should you do? *Hint:* What would a carpenter do in a similar situation?
8. Why do you think that most modern countries' economies are a mix of command and market types?
9. Can you think of ways that globalization has helped you economically? Can you think of ways that it has not?

Review Questions

1. Give the three reasons that explain why the division of labour increases an economy's level

of production.

2. What are three reasons to study economics?
3. What is the difference between microeconomics and macroeconomics?
4. What are examples of individual economic agents?
5. What are the three main goals of macroeconomics?
6. How did John Maynard Keynes define economics?
7. Are households primarily buyers or sellers in the goods and services market? In the labour market?
8. Are firms primarily buyers or sellers in the goods and services market? In the labour market?
9. What are the three ways that societies can organize themselves economically?
10. What is globalization? How do you think it might have affected the economy over the past decade?

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1.8 - SELF-CHECK, CRITICAL THINKING & REVIEW QUESTIONS FOR DEMAND MARKETS

Self Check Questions

1. In the labour market, what causes a movement along the demand curve? What causes a shift in the demand curve?
2. In the labour market, what causes a movement along the supply curve? What causes a shift in the supply curve?
3. Why is a living wage considered a price floor? Does imposing a living wage have the same outcome as a minimum wage?
4. In the financial market, what causes a movement along the demand curve? What causes a shift in the demand curve?
5. In the financial market, what causes a movement along the supply curve? What causes a shift in the supply curve?
6. If a usury law limits interest rates to no more than 35%, what would the likely impact be on the amount of loans made and interest rates paid?
7. Which of the following changes in the financial market will lead to a decline in interest rates:

    a. a rise in demand
    b. a fall in demand
    c. a rise in supply
    d. a fall in supply

8. Which of the following changes in the financial market will lead to an increase in the quantity of loans made and received:

    a. a rise in demand

b. a fall in demand
c. a rise in supply
d. a fall in supply

9. Identify the most accurate statement. A price floor will have the largest effect if it is set:

    a. substantially above the equilibrium price
    b. slightly above the equilibrium price
    c. slightly below the equilibrium price
    d. substantially below the equilibrium price

    Sketch all four of these possibilities on a demand and supply diagram to illustrate your answer

10. A price ceiling will have the largest effect:

    a. substantially below the equilibrium price
    b. slightly below the equilibrium price
    c. substantially above the equilibrium price
    d. slightly above the equilibrium price

    Sketch all four of these possibilities on a demand and supply diagram to illustrate your answer.

11. Select the correct answer. A price floor will usually shift:

    a. demand
    b. supply
    c. both
    d. neither

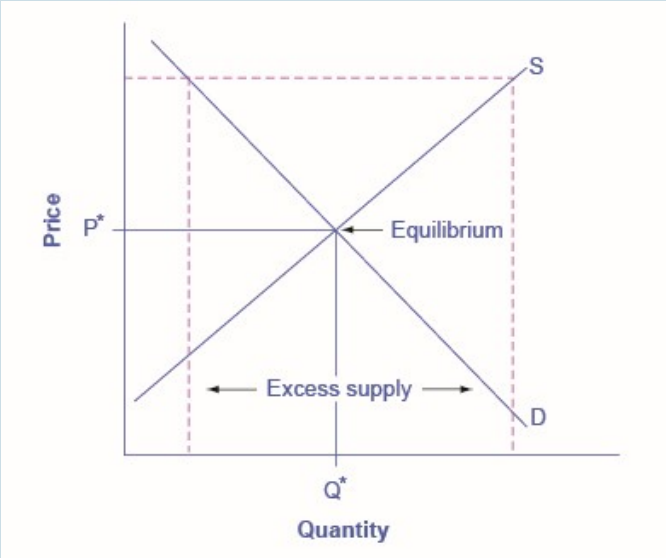
    Illustrate your answer with a diagram.

12. Select the correct answer. A price ceiling will usually shift:

    a. demand
    b. supply
    c. both
    d. neither

Check your Answer

1. Changes in the wage rate (the price of labour) cause a movement along the demand curve. A change in anything else that affects demand for labour (e.g., changes in output, changes in the production process that use more or less labour, government regulation) causes a shift in the demand curve.
2. Changes in the wage rate (the price of labour) cause a movement along the supply curve. A change in anything else that affects supply of labour (e.g., changes in how desirable the job is perceived to be, government policy to promote training in the field) causes a shift in the supply curve.
3. Since a living wage is a suggested minimum wage, it acts like a price floor (assuming, of course, that it is followed). If the living wage is binding, it will cause an excess supply of labour at that wage rate.
4. Changes in the interest rate (i.e., the price of financial capital) cause a movement along the demand curve. A change in anything else (non-price variable) that affects demand for financial capital (e.g., changes in confidence about the future, changes in needs for borrowing) would shift the demand curve.
5. Changes in the interest rate (i.e., the price of financial capital) cause a movement along the supply curve. A change in anything else that affects the supply of financial capital (a non-price variable) such as income or future needs would shift the supply curve.
6. If market interest rates stay in their normal range, an interest rate limit of 35% would not be binding. If the equilibrium interest rate rose above 35%, the interest rate would be capped at that rate, and the quantity of loans would be lower than the equilibrium quantity, causing a shortage of loans.
7. b and c will lead to a fall in interest rates. At a lower demand, lenders will not be able to charge as much, and with more available lenders, competition for borrowers will drive rates down.
8. a and c will increase the quantity of loans. More people who want to borrow will result in more loans being given, as will more people who want to lend.
9. A price floor prevents a price from falling below a certain level, but has no effect on prices above that level. It will have its biggest effect in creating excess supply (as measured by the entire area inside the dotted lines on the graph, from D to S) if it is substantially above the equilibrium price. This is illustrated in the following figure.

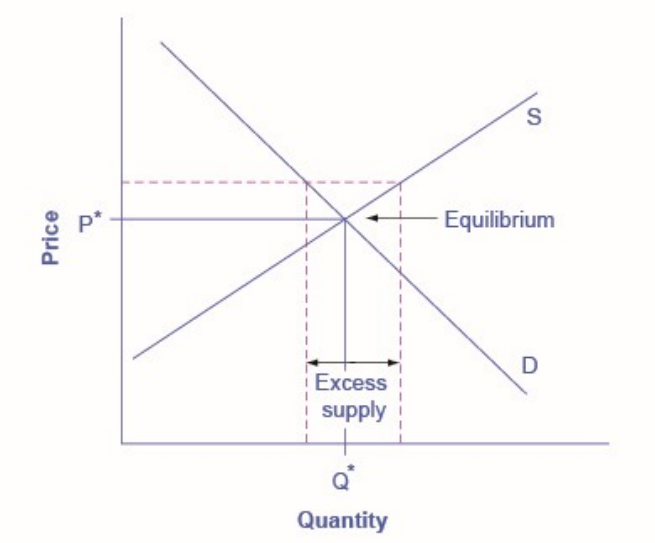


Question 9 Figure 1.8A: Substantially Above Equilibrium Price. Figure by Steven A. Greenlaw & David Shapiro (OpenStax), licensed under CC BY 4.0.

Question 9 Figure 1.8A: Substantially Above Equilibrium Price (Text Version)

The vertical axis is Price (P) and the horizontal axis is Quantity (Q). The supply curve (S) slopes upward from left to right the demand curve (D) slopes downward from left to right. The equilibrium occurs where S and D intersect, at point P* and Q*. The graph shows a dashed price floor line substantially above the equilibrium price with excess supply beneath the equilibrium.

It will have a lesser effect if it is slightly above the equilibrium price. This is illustrated in the next figure.

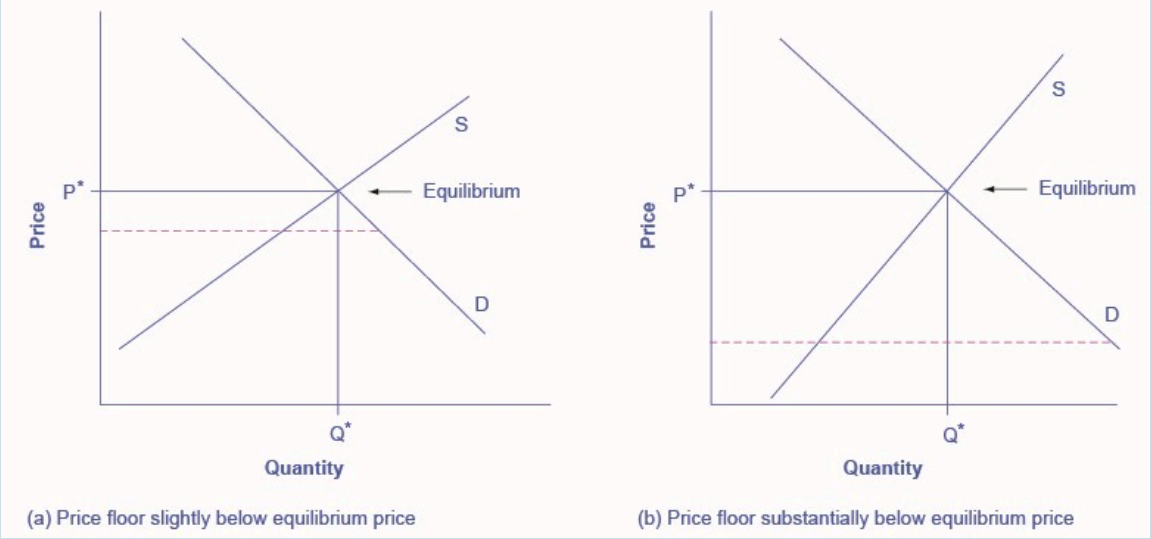


Question 9 Figure 1.8B: Slightly Above Equilibrium Price. Figure by Steven A. Greenlaw & David Shapiro (OpenStax), licensed under CC BY 4.0.

Question 9 Figure 1.8B: Slightly Above Equilibrium Price (Text Version)

The vertical axis is Price (P) and the horizontal axis is Quantity (Q). The supply curve (S) slopes more gradually upward from left to right then Question 9 Figure 1.8A . The demand curve (D) slopes downward from left to right. The equilibrium occurs where S and D intersect, at point P* and Q*. The graph shows a dashed price floor line that is just slightly above equilibrium and there is less excess supply.

It will have no effect if it is set either slightly or substantially below the equilibrium price, since an equilibrium price above a price floor will not be affected by that price floor. The following figure illustrates these situations.



Question 9 Figure 1.8C: Set Either Slightly or Substantially Below the Equilibrium Price. Figure by Steven A. Greenlaw & David Shapiro (OpenStax), licensed under CC BY 4.0.

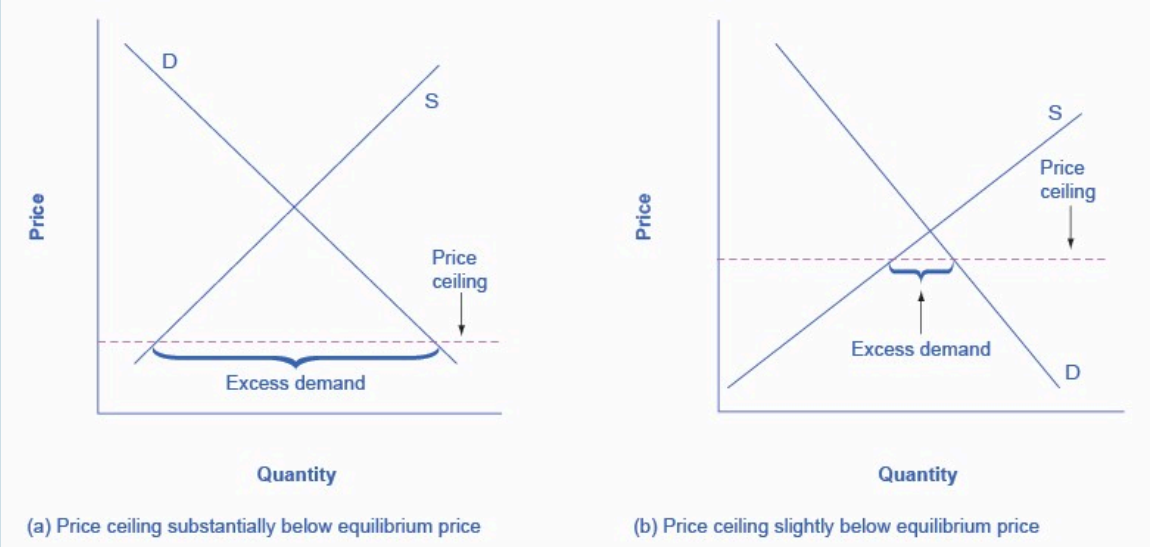
Question 9 Figure 1.8C: Set Either Slightly or Substantially Below the Equilibrium Price (Text Version)

There are two graphs with the same vertical axis is Price (P) and the horizontal axis is Quantity (Q).

Graph A: The supply curve (S) slopes more gradually upward from left to right and the demand curve (D) slopes downward from left to right. The equilibrium occurs where S and D intersect, at point P* and Q*. Shows a dashed price floor line that is just slightly below equilibrium

Graph B: The supply curve (S) slopes upward from left to right and the demand curve (D) slopes downward from left to right. The equilibrium occurs where S and D intersect, at point P* and Q*. Shows a dashed price floor line that is substantially below equilibrium.

10. **Question 10)** A price ceiling prevents a price from rising above a certain level, but has no effect on prices below that level. It will have its biggest effect in creating excess demand if it is substantially below the equilibrium price. The following figure illustrates these situations.



Question 10 Figure 1.8D: Excess Demand if it is Substantially Below the Equilibrium Price. Figure by Steven A. Greenlaw & David Shapiro (OpenStax), licensed by CC BY 4.0.

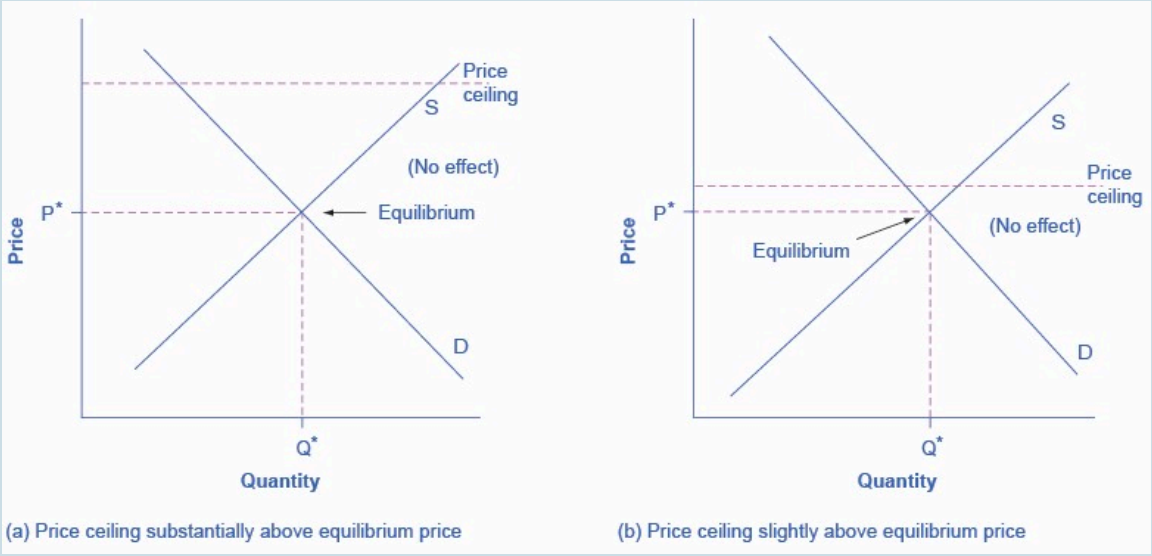
Question 10 Figure 1.8D: Excess Demand if it is Substantially Below the Equilibrium Price (Text Version)

There are two graphs with the same vertical axis is Price (P) and the horizontal axis is Quantity (Q).

Graph A: Price ceiling substantially below equilibrium price. The supply curve (S) slopes upward from left to right. The demand curve (D) occurs slightly to the left slopes downward from left to right. Shows a dashed price ceiling line that is substantially below equilibrium has more excess demand.

Graph B: Price ceiling slightly below equilibrium price. The supply curve (S) occurs slightly to lower to the left and slopes more gradually upward from left to right. The demand curve (D) slopes downward from left to right. Shows a dashed price floor line that is just slightly below equilibrium has less excess demand.

When the price ceiling is set substantially or slightly above the equilibrium price, it will have no effect on creating excess demand. The following figure illustrates these situations.



Question 10 Figure 1.8E: Price Ceiling is Set Substantially or Slightly Above the Equilibrium Price. Figure by Steven A. Greenlaw & David Shapiro (OpenStax), licensed under CC BY 4.0.

Question 10 Figure 1.8E: Price Ceiling is Set Substantially or Slightly Above the Equilibrium Price (Text Version)

There are two graphs with the same vertical axis is Price (P) and the horizontal axis is Quantity (Q).

Graph A: Price ceiling substantially above equilibrium price. The supply curve (S) slopes upward from left to right and the demand curve (D) slopes downward from left to right. The equilibrium occurs where S and D intersect, at point P* and Q*. Shows a dashed price ceiling line that is substantially above equilibrium.

Graph B: Price ceiling slightly above equilibrium price. The supply curve (S) slopes upward from left to right and the demand curve (D) slopes downward from left to right. The equilibrium occurs where S and D intersect, at point P* and Q*. Shows a dashed price ceiling line that is just slightly above equilibrium.

11. Neither. A shift in demand or supply means that at every price, either a greater or a lower quantity is demanded or supplied. A price floor does not shift a demand curve or a supply curve. However, if the price floor is set above the equilibrium, it will cause the quantity supplied on the supply curve to be greater than the quantity demanded on the demand curve, leading to excess supply.
12. Neither. A shift in demand or supply means that at every price, either a greater or a lower quantity is demanded or supplied. A price ceiling does not shift a demand curve or a supply

curve. However, if the price ceiling is set below the equilibrium, it will cause the quantity demanded on the demand curve to be greater than the quantity supplied on the supply curve, leading to excess demand.

Critical Thinking Questions

1. Other than the demand for labour, what would be another example of a "derived demand?"
2. Suppose that a 5% increase in the minimum wage causes a 5% reduction in employment. How would this affect employers and how would it affect workers? In your opinion, would this be a good policy?
3. Under what circumstances would a minimum wage be a nonbinding price floor? Under what circumstances would a living wage be a binding price floor?
4. Suppose the U.S. economy began to grow more rapidly than other countries in the world. What would be the likely impact on U.S. financial markets as part of the global economy?
5. If the government imposed a federal interest rate ceiling of 20% on all loans, who would gain and who would lose?
6. Why are the factors that shift the demand for a product different from the factors that shift the demand for labour? Why are the factors that shift the supply of a product different from those that shift the supply of labour?
7. During a discussion several years ago on building a pipeline to Alaska to carry natural gas, the U.S. Senate passed a bill stipulating that there should be a guaranteed minimum price for the natural gas that would flow through the pipeline. The thinking behind the bill was that if private firms had a guaranteed price for their natural gas, they would be more willing to drill for gas and to pay to build the pipeline.

    a. Using the demand and supply framework, predict the effects of this price floor on the price, quantity demanded, and quantity supplied.
    b. With the enactment of this price floor for natural gas, what are some of the likely unintended consequences in the market?

c. Suggest some policies other than the price floor that the government can pursue if it wishes to encourage drilling for natural gas and for a new pipeline in Alaska.

Review Questions

1. What is the "price" commonly called in the labour market?
2. Are households demanders or suppliers in the goods market? Are firms demanders or suppliers in the goods market? What about the labour market and the financial market?
3. Name some factors that can cause a shift in the demand curve in labour markets.
4. Name some factors that can cause a shift in the supply curve in labour markets.
5. How do economists define equilibrium in financial markets?
6. What would be a sign of a shortage in financial markets?
7. Would usury laws help or hinder resolution of a shortage in financial markets?
8. Whether the product market or the labour market, what happens to the equilibrium price and quantity for each of the four possibilities: increase in demand, decrease in demand, increase in supply, and decrease in supply.

Exercises

1. Identify each of the following as involving either demand or supply. Draw a circular flow diagram and label the flows A through F. (Some choices can be on both sides of the goods market.)

    a. Households in the labour market

b. Firms in the goods market
c. Firms in the financial market
d. Households in the goods market
e. Firms in the labour market
f. Households in the financial market

2. Predict how each of the following events will raise or lower the equilibrium wage and quantity of oil workers in Texas. In each case, sketch a demand and supply diagram to illustrate your answer.

    a. The price of oil rises.
    b. New oil-drilling equipment is invented that is cheap and requires few workers to run.
    c. Several major companies that do not drill oil open factories in Texas, offering many well-paid jobs outside the oil industry.
    d. Government imposes costly new regulations to make oil-drilling a safer job.

3. Predict how each of the following economic changes will affect the equilibrium price and quantity in the financial market for home loans. Sketch a demand and supply diagram to support your answers.

    a. The number of people at the most common ages for home-buying increases.
    b. People gain confidence that the economy is growing and that their jobs are secure.
    c. Banks that have made home loans find that a larger number of people than they expected are not repaying those loans.
    d. Because of a threat of a war, people become uncertain about their economic future.
    e. The overall level of saving in the economy diminishes.
    f. The federal government changes its bank regulations in a way that makes it cheaper and easier for banks to make home loans.

4. Table 1.8a (seen below) shows the amount of savings and borrowing in a market for loans to purchase homes, measured in millions of dollars, at various interest rates. What is the equilibrium interest rate and quantity in the capital financial market? How can you tell? Now, imagine that because of a shift in the perceptions of foreign investors, the supply curve shifts so that there will be $10 million less supplied at every interest rate. Calculate the new equilibrium interest rate and quantity, and explain why the direction of the interest rate shift makes intuitive sense.

Table 1.8a

Interest Rate (%)	Qs	Qd
5	130	170
6	135	150
7	140	140
8	145	135
9	150	125
10	155	110

5. Imagine that to preserve the traditional way of life in small fishing villages, a government decides to impose a price floor that will guarantee all fishermen a certain price for their catch.
    1. Using the demand and supply framework, predict the effects on the price, quantity demanded, and quantity supplied.
    2. With the enactment of this price floor for fish, what are some of the likely unintended consequences in the market?
    3. Suggest some policies other than the price floor to make it possible for small fishing villages to continue.
6. What happens to the price and the quantity bought and sold in the cocoa market if countries producing cocoa experience a drought and a new study is released demonstrating the health benefits of cocoa? Illustrate your answer with a demand and supply graph.

Attribution

Access for free at https://openstax.org/books/principles-microeconomics-2e/pages/1-introduction

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1.9 - READING LIST

1. Artificial Intelligence has changed our world [New Tab] (https://www.meer.com/en/64215-artificial-intelligence-has-changed-our-world)
2. Everything you need to know about the Fourth Industrial Revolution [New Tab] (https://www.cnbc.com/2019/01/16/fourth-industrial-revolution-explained-davos-2019.html)

Reading List compiled by Norm Smith.