

Economics for Social Workers, First Edition

By

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Note

We are working on a second edition, which will be out, hopefully, in 2020

Table of Contents

Chapter 1: The Economic Perspective

Chapter 2: Marginal Analysis

Chapter 3: Perfect Competition and the Supply and Demand Model

Chapter 4: Imperfect Competition

Chapter 5: Market Failure and Government Intervention

Chapter 6: Cost-Benefit and Cost-Effectiveness Analysis

Chapter 7: Government Failure

Chapter 8: The Economics of Labor

Chapter 9: The Economics of Poverty

Chapter 10: Health Economics

Chapter 11: Economic Demography

Table of Contents in Detail

Chapter 1: The Economic Perspective

- 1.1 Goods, Resources, Scarcity, and Opportunity Cost
- 1.2 The Economic Problem
- 1.3 Modeling
- 1.4 Rational Behavior
- 1.5 Microeconomics and Macroeconomics
- 1.6 Positive Economics and Normative Economics
- 1.7 Economics and Mathematics
- 1.8 Why Social Workers Should Study Economics

Chapter 2: Marginal Analysis

- 2.1 The Total and the Margin
- 2.2 The law of diminishing returns.
- 2.3 The optimal quantity
- 2.4 The Assumption of Rational Self-Interested Behavior

Chapter 3: Perfect Competition and the Supply and Demand Model

- 3.1 The assumptions of the perfectly competitive model
- 3.2 Demand
- 3.3 Elasticity of Demand
- 3.4 Supply
- 3.5 Elasticity of Supply

3.6 Equilibrium

3.7 Changes in Demand

3.8 Changes in Supply

3.9 The effects of changes in supply and demand on equilibrium price and quantity.

3.10 Efficiency in the perfectly competitive market

3.11 Policy Application: Rent Control

Chapter 4: Imperfect Competition

4.1 Monopoly

4.2 Monopsony

4.3 Monopolistic Competition

4.4 Oligopoly

4.5 An application: healthcare

Chapter 5: Market Failure and Government Intervention

5.1 Externalities

5.2 Public Goods

5.3 Imperfect Information

5.4 Market Failure and Government Failure

Chapter 6: Cost-Benefit and Cost-Effectiveness Analysis

6.1 The Purpose of Cost-Benefit Analysis

6.2 Measuring the Net Benefits of the Teen Drinking Program

6.3 Criticism of Cost-Benefit Analysis

6.4 Cost-Effectiveness Analysis

Chapter 7: Government Failure

7.1 Rent Seeking

7.2 Bureaucracy

7.3 Rational Non-voting

7.4 Conclusion

Chapter 8: The Economics of Labor

8.1 The Labor-Leisure Trade-Off

8.2 From the Labor-Leisure Trade-Off to the Supply of Labor

8.3 The demand for labor

8.4 Equilibrium in the labor market

8.5 Criticism of the Competitive Theory of the Labor Market

8.6 Labor Market Discrimination

8.7 Unemployment

8.8 Policies to Address Unemployment

Chapter 9: The Economics of Poverty

9.1 The Debate over the Definition of Poverty

9.2 Trends in Poverty and Social Policy in the United States

9.3 Theories about the Causes of Poverty

9.4 The Problem with Poverty Policy: The Efficiency-Equity Tradeoff.

9.5 Policies to Address Poverty

9.6 Aspects of the Current System

9.7 Two reform proposals

9.8 The Normative Economics of Poverty

Chapter 10: Health Economics

10.1 Efficiency-Based Government Interventions

10.2 Equity-Based Government Interventions in Health Care

10.3 The Economics of Organ Transplantation

Chapter 11: Economic Demography

11.1 The Economics of Fertility

11.2 The Economics of Marriage and Divorce

11.3 The Economics of Migration

11.4 Some Economic Consequences of the Aging of the U.S. Population

11.5 Conclusion

CHAPTER ONE

THE ECONOMIC PERSPECTIVE

Economics is one of the five main branches of social science along with sociology, political science, cultural anthropology, and psychology. Social work is considered an applied profession rather than a social science. Social workers are probably more familiar with some of the other branches of social science than economics and it might be best to explain the novel by way of the familiar.

All social sciences study aspects of human behavior. One thing humans do is interact with one another to form social systems such as families, groups, organizations, communities, and nation-states. Sociology is the study of social systems. Another thing humans do is act according to systems of shared rules, values, and beliefs, known as cultures and subcultures. Cultural anthropology is the study of cultures and subcultures.¹ Human beings also create formal systems of governance and authority called political systems. Political science is the study of political systems. In addition creating social systems, behaving in accordance with cultural phenomena, and creating political systems, humans engage in a host of other types of behaviors. For example, they sleep, eat, make love, make war, hear voices no one else hears, and become depressed. Psychology studies human behavior in general.

Humans also interact in the marketplace. An oversimplified view of economics would describe it as the study of the marketplace, but economists define their own discipline more broadly. Economics is the study of how humans decide to use available resources to satisfy their wants. Such decisions (whether made in markets, governments, homes, social service agencies, or anywhere else) all fall within the field of economics economics. In other words, economics is

the study of the allocation of scarce resources among competing ends.² Stated in this way the preceding definition probably doesn't say much to a reader who is new to economics. One reason it's so difficult to understand what economists say is that they often give very technical definitions to familiar words. Therefore, section 1.1 is dedicated to defining several terms commonly used by economists.

1.1 Goods, Resources, Scarcity, and Opportunity Cost

Social workers may not be aware of it but they produce *goods*. The economic definition of a good is anything that at least one person finds valuable, useful, or desirable. It need not be a physical good; it may also be a service. It need not be traded in market place either; as long as it is useful to someone; it is a good. Thus, when social workers provide individual counseling, groups counseling, and community organization they are producing goods; just as automobile workers produce goods when they assemble cars; and as professional basket ball players produce goods when they entertain audiences.

Few goods can be found lying around; most need to be produced using other goods. Any goods used in the production of other goods are called a *resources*, which are also known as *inputs* or *factors of production*. Social workers use resources such as their own time and skills along with physical goods such as computers and office space. Resources are usually divided into the three broad categories of *land*, *labor*, and *capital*. Labor includes not just a worker's time but also her knowledge, ability, and skill. Attributes that make a worker more productive are also known as *human capital* to emphasize the fact that they are products of past investment like capital although it still falls under the broad category of labor. Land includes both land itself

and natural resources such as metals, oil, and coal that are taken from the land. The economic definition of capital is different than the common definition. Noneconomists often use the word capital or investment capital to mean the money businesses use to buy the resources needed to facilitate production. According to the economic definition, however, capital is material resources used to facilitate production such as buildings, machines, paper, and desks. Thus, an investor's money is not capital, but some of what it buys is. Obviously, if you trace it back far enough, all capital is made up of combinations of natural resources that have been put together by labor in the past. But, because capital was in its present state before current production began, it may be best to think of it as a separate factor of production.

Economists define *scarcity* very differently from the way it is defined in plain English. Understanding this concept is central to understanding the economic perspective. If you walk into a store and see an aisle filled with nothing but bread, you probably wouldn't consider bread scarce, because in plain English scarcity means rare or not plentiful. But from an economic point of view bread, and anything else you can buy, is scarce. A good is scarce if there is not enough of it available to put to every conceivable use without sacrificing something else. If there is more of a good available than anyone needs or wants, or more of a good can be consumed without sacrificing anything else, that good is *abundant*. If increasing the total amount of consumption of a good requires some sacrifice, that good is scarce.

For example, air is abundant (in the present day). If a child is born, her family will have to sacrifice consumption of some other goods to provide her with food and clothing but no one will have to sacrifice anything to obtain air for her to breathe. Although there is only a finite amount of air in the atmosphere, there is more than enough air to go around even though every person on the planet consumes as much as they want. When Europeans first colonized

Philadelphia, there was an abundant supply of drinking water in the Delaware River. Anyone could consume as much as they wanted and there was still enough for everyone else. But, thanks to pollution and an increase in population this is no longer the case; drinking water has become a scarce good nearly everywhere in the United States. In order to consume more water, society has to put more resources into wells or dams or pollution control. Land is an example of a scarce good. If more land is used for housing, less is available for social service agencies, public parks, and community centers. More land can be taken for any *one* use, but not without making less land for other uses.

Isn't it true that we're capable of producing more bread than anyone on the planet can eat? Yes, we can, but not without sacrificing something else. The land and labor used to produce bread aren't available to produce anything else. Dedicating more land to growing wheat means less land on which to grow vegetables, build houses, or social service agencies. Dedicating more labor to bake bread means less time to provide social services, build shelters for run-away children, or to stay home and enjoy one's family. Every good traded on the market is produced with scarce land, labor, and capital.

Economics is the study of how humans use scarce resources to satisfy competing wants, which are usually assumed to be unlimited. Would you like to have more leisure time than you do now if you could do so without sacrifice something else?³ Would you like to consume more goods than you do now if you could do so without sacrificing something else? Economists assume that with rare exceptions—such as the very rich—almost everyone would answer yes to both questions. But, it is not possible for everyone to do both of those things at the same time. Consuming more goods means someone must spend more time at work, which means less

consumption of leisure time. Therefore, economists conclude that all goods that are bought and sold, no matter how plentiful, are scarce. Abundant goods are free.

Since resources are scarce, agents (individuals, households, social service agencies, firms governments, etc.) must choose which preferences they most want to attain, and allocate resources accordingly. If agents choose to allocate resources to attain one desire they cannot use those same resources to attain some other desire. In other words, the scarcity constraint means that agents must make tradeoffs; economics is, in short, the science of tradeoffs. Nonmarket goods, such as love and friendship, arguably can be increased without any tradeoff. Such goods are outside of the realm of economics, not because economists don't realize that they are more important than most or all traded goods, but because economists have specialized in the study of how scarce resources are used to satisfy human wants. If there is no tradeoff to study, there is no role for an economist.

Economists measure tradeoffs using the concept *opportunity cost*. The opportunity cost of a good is the goods forgone in order to obtain that good. For example, a child has been given one dollar. She would like a candy bar and a can of soda, but with that dollar she can only buy one or the other. If she chooses the soda she has sacrificed one candy bar. Thus the opportunity cost of a can of soda is one candy bar. Or vice versa, the opportunity cost of a candy bar is one can of soda. When a firm invests money in a business, they must take into account not only the money they invest, but what they would have done with that money. Firms could always put money into a stable safe investment and make say 5 percent interest. Thus, the opportunity cost of business investments includes not only the money invested, but the interest that money could have made in another investment.

The opportunity cost of a government decision is often a little harder to determine. The construction of a battered-women's shelter would require the allocation of a given amount of land, labor, and capital. The opportunity cost of the shelter is not the resources needed to produce the shelter nor is it directly the money used to buy those resources, but the opportunity cost of the shelter depends on what would be produced with those resources if the shelter is not built. The money could be used for a tax cut or to pay off the national debt or to build a CIA training center or many other government projects. If the next best use of the resources is to build the training center, then the opportunity cost of one battered woman's shelter is one CIA training center. Often the money cost of government production is the best available measure of its opportunity cost.

1.2 The Economic Problem

The fact that resources are scarce means that all human societies must answer the question of how the available resources will be used to satisfy competing wants. Following the lead of economics educator Ben Lewis, economists call this "the economic problem."⁴ Lewis defined three aspects of this problem: "what to produce," "how to produce," and "for whom to produce." The answers to any one of these questions affects each of the others. One cannot decide what goods can be produced without knowing how those goods will be produced and who will want them, but understanding the differences between them will be important to answer them.

The "what" aspect of the economic problem is the question of what goods society will produce. Societies must decide which desires they most want to satisfy and allocate their

resources to the production of the goods that will satisfy those desires. How many cherries will be produced? How many movies will be produced? How many oranges, guns, taxi rides, or homeless shelters will be produced? The "how" aspect is the question of what production methods will be employed to produce those goods. What factors of production will be used? What transportation and energy systems will be used? Will production be more capital intensive or more labor intensive? Will inputs be recycled materials or newly mined natural resources? The "to whom" aspect is the question of who gets to consume the output and in what portions. On what basis does a person become eligible for a certain amount of consumption? What portion of output goes to wage laborers, parents, retirees, investors, landowners, or unemployed persons?

All societies construct social systems called economies or economic systems to resolve the economic problem. The two most common ways to address this problem are market exchange or direct government action. An economy in which all economic decisions are made by exchanges between buyers and sellers in markets (see chapters 3 and 4) has been called pure capitalism, a pure market economy, a laissez faire economy, or even a system of natural liberty. An economy in which all economic decisions are made by government has been called a centrally planned economy, a command economy, socialism, or communism. Economies that use both types of decision making are called *mixed economies*. In practice, there is no pure socialism or pure capitalism and all economies are mixed economies. Mostly capitalist economies require at least some government involvement to define and protect property rights before buyers and sellers can exchange goods using natural resources. Economies that rely primarily on exchanges between buyers and sellers to allocate resources are called capitalist although technically they are mixed economies.

One could envision a feudal economy, a hunter-gatherer economy, or an economy with no government at all, but since none of these are common in the world today it is safe to limit the discussion to private and government economic decision making. The methodology of most economists is first to imagine the workings of a hypothetical pure capitalist system and then examine how government can affect different aspects of such a system. This hypothetical thinking explains why economists tend to talk about “before” and “after” government intervention, even though there was no time when a pure capitalist system existed. Economists use this method to isolate the effects of the two types of decision making.

Our characterization of the distinctions among different types of economies comes from mainstream economic theory. Not all economists agree with it. For example, John Roemer, a noted Marxist economist, believes that a socialist economic system does not require that economic decision making be made by government. He feels that a form of market allocation is completely consistent with socialism.⁵ The purpose of this book is to give readers a critical understanding of basic mainstream economics and, therefore, it doesn't spend much time discussing alternatives.

The market plays a large part in resolving these three questions. The what aspect is largely addressed as firms decide what to produce by looking at what consumers are willing to pay for and how much they are willing to pay and as consumers decide what they consume by looking at what firms are willing to sell and for what prices. The how aspect is addressed as firms choose whatever production methods make the largest profit. The for whom aspect is addressed as buyers effectively reward the producers of certain products by purchasing those products.

But the market is not the whole story; the government is involved in all three aspects of the economic problem. The government is both directly and indirectly involved in deciding what

goods are produced. Goods, such as national defense, highways, public schools, and child welfare services, are directly produced by government or government contractors. Other goods, such as drugs, poisons, and weapons are prohibited by the government. Other goods are encourage by the government through its use of selective taxes or tax deductions. For example, by taxing gasoline and automobile sales by an amount that raising far less than the taxes needed to support road and highway maintenance, the government encourages people to consume much more automobile travel than they would if this decision was left entirely to the market. The government affects the “how” aspect by proscribing some production methods or prohibiting others and also by encouraging research and devloped with taxbreaks and grants to firms and educational institutions.

The government is also very heavily involved in the “to whom” aspect. Mostly obviously, the government taxes some individuals and subsidizes others through Social Security, TANF, and other programs. It also gives substantial tax breaks to individuals and corporations for a variety of reasons. But, perhaps the biggest aspect of goverenment’s affect on the “to whom” aspect is easily overlooked. Individual’s are rewarded in the market place not only for what they themselves produce but also for what their property produces. What property people own now depends on what rewards they received in the past, but this in turn depends on what property was owned in the past. If property rights to natural resources are traced back far enough all of them reach a point at which a government decided to sell, lend, rent, or give that property to an individual or a firm. Thus, the reward for every product sold in a market economy is partially determined by a prior government decision about who should own the resources with which that product was produced. The paper in this book was produced from trees that the

government leased or granted to a paper company. Thus, one can see that all aspects of the economic problem are affected partially by government decisions.

1.3 Modeling

It's easy to see how and why an architect builds a model of a shopping center or an office complex. It is less obvious how and why an economist builds a model of a market. Economists do not generally building physical models, but they build models of a sort. A model is a simplified version of reality that allows an analyst to more easily observe causes and consequences. Economists build logical models of the economy using assumptions about the structure of markets and the behavior of individuals and institutions. A model must be more simply than reality to be useful; it is oversimplified only if it misses important features of reality that affect the conclusions that can be derived from the model. Economists are often criticized for the many assumptions of their models. But, much of this criticism comes from the fact that economists often are forthright about specifying their assumptions. Clearly stating assumptions of a model allows critics to point out exactly where they believe it is weak and to build alternative models that may represent reality better. This book will discuss several models of various market structures. Most of them are based on the assumption of rational behavior discussed in the next section.

1.4 Rational Behavior

Rational choice theory is central to the methodology of mainstream economics. It is a method of modeling human behavior using the assumption that agents behave rationally. An agent is any single economic decision maker—an individual, a household, a firm, or a government official. The word rational, in economics, has a different meaning than it has in psychology or in common usage. To a psychologist, an individual is rational, if her behavior coincides with a set of norms so that it can be considered healthy. To an economist, an agent is rational as long as she has well-defined preferences and she behaves consistently with obtaining the most satisfaction she can given her preference and the limited resources available to her. It is fair to say that the economic assumption that people are rational is little different than the assumption that people are consistent.

Thus, the assumption of rationality is much less restrictive than it sounds to someone who is familiar with the psychological definition of rationality. Many behaviors normally considered pathological are rational in the economic sense. For example, which of these three actors are irrational? Joe spends his entire paycheck the night he gets paid and then starves for the rest of the week. Hannibal kills people and eats them. John rides his car without a seatbelt and advocates passing a law to force him to wear a seatbelt. Joe has revealed a strong, but rational, preference for consumption now rather than consumption later. Hannibal has revealed that he prefers eating people so much that he's willing to take this risk that he will be caught and sent to prison; he has also revealed a low amount of sympathy for others. Both Joe and Hannibal display pathological behavior, but because they behave consistently with *some* set of preferences, no matter how crazy those preferences may be, they qualify as economically rational. John, however, by one action reveals a preference for not wearing a seatbelt and by another action

reveals a preference for wearing one. Only he is behaving irrationally in the economic sense because his actions are self-contradictory.

The assumption of rational behavior boils down to the assumption that people want to maximize their benefits and minimize costs. Every agent faces a budget constraint. That is, she only has a limited amount of money (or resources) with which to satisfy their material wants. Thus, for every desire they satisfy by consuming one thing, they must leave some other desire unsatisfied. A rational agent tries to satisfy as many of her wants as she can with her limited budget. Thus, she buys things that have a greater benefit to her than their opportunity cost. For consumers, the benefit of buying a material good is called *utility*. It is the subjective satisfaction a consumer experiences from satisfying her desires. A good is worth consuming if the utility it provides is higher than its opportunity cost. Because utility exists only within the psyche of an individual, it cannot be measured directly but only indirectly through the economic method of revealed preference.

If Dr. Jeckel buys a pickle for a nickel, he reveals that the pickle will be of more use to him than anything else he could have bought with that nickel. He has revealed that the pickle provides at least 5 cents worth of utility. If Mr. Hyde passes up a pickle for a nickel he has revealed that a pickle is not worth a nickel to him at this time. That is, there are other things he can buy with a nickel that will produce greater utility. Worth or value, in the utility sense, have nothing to do with costs or with what could be called a fair price. There is no fair or unfair price in mainstream economic theory. Utility entirely depends on the use a consumer receives from using a good. The consumer has no control over the price and no knowledge of what the right price is. She simply compares the market price to the utility she receives from using the item and decides whether to purchase the good.

There are three important kinds of agents in economics—households, firms, and government. Households may be either individuals or families. They act as consumers (chapters 2, 3, and 4), laborers (chapter 8), and owners of firms. As consumers, households decide which goods to purchase by comparing the costs and benefits of each in order to rationally maximize their utility. As laborers, households compare the benefit they receive from work (their wage) to the time they sacrifice to the employer. Firms, although they are ultimately owned by consumers, are treated as separate entities whose goal is to maximize profit the difference between the total revenue they receive from sales and the total cost of the inputs they need to produce the goods they sell. Thus, a rational profit maximizing firm tries to maximize the difference between revenue and costs. Economics studies the interaction of firms and households in the marketplace using rational choice theory.

Government (see chapters 5, 6, and 7) is treated differently in economic models. Government does not have a simple goal like maximizing utility, but all of the individuals that can affect government decisions have different goals. Thus, the same rational choice theory is not as easily applied to government. Sometimes the government is treated like an outside force (i.e. if government does X, how will rational households and firms react?). Sometimes government is supposed to have an idea of what is good for society and is treated as if it maximizes the benefit to society as a whole. Sometimes the individual decisionmakers within government are treated as rational agents out to maximize their own utility or profit and government decisions are treated as the outcome of political interactions of competing interest groups.

Being a mathematically oriented bunch, economists are typically interested in quantifying benefits and the costs incurred in attaining them. They often do so in terms of money. Imagine

Jack is feeling a little depressed and thinks he might benefit from seeing a social worker. He finds out that the social worker he's considering charges \$35 a session. Upon discovering this Jack exclaims, "I am not paying \$35 a session just to talk to someone!" Jack appears to be telling us something about how much he expects talking with the social worker would benefit him. According to the economic method of revealed preference, Jack doesn't think the benefit he'd receive from talking to a social worker is greater than something else he could buy for \$35. Suppose the maximum amount Jack is willing to pay for a social work session is \$25. Economists would say that Jack has revealed that he receives \$25 worth of value from talking to a social worker.

Another person may be willing to pay \$150 for the same service. Someone else might not even be willing to pay only \$1. Economists don't ask what this service is "really worth." Any good is worth to an individual whatever she is willing to pay for it. So economists measure benefit or utility by the maximum amount a consumer is willing to pay to for a good. Costs are measured by the amount a consumer actually has to pay to realize his preferences (plus the time and effort costs of obtaining it, which may not always be easily measured in dollars and cents).

If Jack is willing to pay \$25 for a session with a social worker, this means he's willing to use this money for counseling instead of to attain other things he wants. In other words, Jack is willing to give up or incur an opportunity cost of \$25 worth of other goods. For example, suppose Jack likes social work books and could purchase two of them with \$25. It follows that Jack is willing to give up two social work books for one counseling session. In other words, the true cost of the social work session is not \$25 but the preferences forgone that the \$25 represents. If Jack uses \$25 to purchase a social work session instead of two social work texts, an economist would say this reveals that Jack wants one social work session more than he wants two social

work books. Note that only the maximum a person is willing to pay for a good reveals the utility she receives from it. Anyone would gladly pay less if they can. However, as chapters three shows, the market often forces people into the position in which they pay the most they are willing for the last unit the purchase of each good.

It might be inferred that rational choice theory assumes that agents are selfish, because they are concerned with maximizing their own benefits and minimizing their own costs. Indeed Adam Smith, an 18th century philosopher who is widely regarded as being the founder of modern economics, said, “It is not from the benevolence of the butcher, the brewer or baker, that we expect our dinner, but from their regard to their own self-interest. We address ourselves, not to their humanity but their self-love, and never talk to them of our necessities but of their advantages.”⁶ It might strike you as unrealistic to assume that all people are selfish, but three qualifications should be mentioned about this assumption. First, the assumption that people maximize their own utility does not always mean that they are selfish. Although generally economists do assume that people’s own satisfaction is all that goes into their utility function, they do use the assumption that one’s utility is affected by the wellbeing of others when it is thought to be appropriate. For example, rational models of charitable giving assume that people get utility from knowing that other people are not living in poverty, and rational choice models of parental behavior usually assume a mother gets utility from knowing that her child is well fed and cared for.⁷ Second, in the realm in which economists are usually concerned, selfishness may be the norm. Economics deals mostly with buying and selling in the market place. It doesn’t usually deal with the spiritual side of people. When a person goes to the store to buy a tube of toothpaste it is not so unrealistic to think that he has only his own benefit in mind and isn’t really thinking about what’s good for the owner of the store or the workers in the toothpaste

manufacturing plant. Smith, for example, limited his discussion to situations in which one could benefit oneself without harming another. It is far less cynical to assume this kind of selfishness than to assume that people are willing to harm anyone else to satisfy their own desires. Third, people know a lot about their own preferences and not so much about others. They may be unaware of how their own buying and selling decisions affect others, so they may behave in a manner that can be called selfish, not because they do not care about others, but because they don't perceive whether or how their actions affect others.

1.5 Microeconomics and Macroeconomics

Economists make a distinction between two broad areas of economics called *microeconomics* and *macroeconomics*. Microeconomics is the study of markets for particular goods and services and the differences among economic agents. Which specific goods does a society produce? What affects the distribution of income? What is the price of beans? Macroeconomics is the study of the economy as a whole without concern for the different ways it affects different markets and different people. What is the total output of goods and services in the economy? What is the level of unemployment? What is the inflation rate? This book is mainly, but not exclusively, about microeconomics because this is the area of economics most relevant to analyzing the social welfare issues social workers are interested in.

1.6 Positive Economics and Normative Economics

Another important distinction within the field is between positive and normative economics. Positive economics is concerned with factual issues. Normative economics is concerned with ethical or moral questions. The statement, “an income tax increase would cause a decrease in work effort” is a positive statement. It may be either true or false, but is neither morally right nor wrong. The statement, “therefore, we should not increase the income tax,” is a normative statement. It cannot be judged as true or false but only, depending on one’s values, as morally right or wrong. Some philosophers might take issue with economists’ distinction between positive and normative economics. As they see it, it may be possible for a normative statement like, “therefore we should not increase the income tax,” to be true or false. Philosophers who hold this point of view are called *naturalists* and *intuitionists*.⁸ This book isn’t the place to delve into the complicated issues raised by these philosophers’ point of view.

This book is mainly about positive economics, but it addresses normative issues as well, because both positive and normative economics are useful for analyzing the social policy issues social workers tend to be interested in. One can’t make a good decision about what a policy should be (normative) unless one has a good idea of its potential effects (positive). This book emphasizes positive economics because economists have been more concerned about positive contributions to the field than normative ones.

1.7 Economics and Mathematics

Economics, as practiced by modern mainstream economists and many dissenters, is highly mathematical. Those unfamiliar with calculus, matrix algebra, econometrics, set theory, and game theory would have a difficult time understanding most journals in the field. This book

contains a more user friendly approach to economics. Readers don't need backgrounds in complex mathematics to understand this book. An understanding of simple arithmetic, algebra, and the ability to read two-dimensional graphs will do and even that is kept to a minimum. The goal of this book is quite modest. It is not intended to make readers into economists, but simply to demonstrate the usefulness of economics to social workers by applying some of the most basic economic ideas to issues that interest them, and to help them better understand how economic methodology is used in discussions of social policy.

1.8 Why Social Workers Should Study Economics

Schools of social work typically require students to take a course in social policy, presumably to provide social workers with tools they need to be able to understand how policies affect their clients. Another intention behind the requirement appears to be to provide students with information they need to be able to advocate policies that might serve the needs of clients better. The lack of attention to economics prevents these courses from achieving their as well as they could.

Economics has exerted considerable influence on how social policy debates are framed. For example, consider the current debate about welfare reform. Welfare reform advocates claim that welfare causes recipients to work less than they would if they were not receiving public assistance, causes families to break up, and causes female recipients to have children to increase their benefits. These views are based on a straightforward application of rational choice theory. Those who don't know rational choice theory cannot adequately address these arguments.

A perennial policy debate has been about the minimum wage. Because that minimum wage laws are intended to prevent people from living in poverty, policy oriented social workers have often supported such laws. Opponents claim that minimum wage laws increase unemployment among unskilled workers—the very group the laws are largely designed to help. This view is based on an application of the simple economic model of supply and demand. Social workers interested in addressing this view must first understand it.

The dominance of economics in social policy debates means that advocates of policies must demonstrate at least a basic understanding of the economic aspects of their proposals if they want to be considered credible participants in such debates. Yet, social policy courses in schools of social work typically don't contain much content on those areas of economics most relevant to examining social policy issues. This book is an attempt to rectify this problem by providing social workers with a basic understanding of economics, in hope that this understanding will help them become more credible participants in the social policy struggles of the day.

CHAPTER TWO

MARGINAL ANALYSIS

Most economists working today are part of the Neoclassical school of thought. A school of thought is a group of scientists who use the same methodology or have the same beliefs about how problems can be solved. There are other schools of thought in economics—such as Post Keynesian, Institutionalist, Austrian, and Marxian economics. This book focuses on Neoclassical economics because it is the mainstream methodology. Other schools will appear in this books as critics of mainstream methods.

Neoclassical Economists have used a mathematical approach to modeling human behavior for more than one hundred years. This methodology has often baffled and sometimes enraged critics, but it is as popular now as it has ever been and a good understanding of it is essential to understanding economics. This methodology allows economists to use mathematics and graphs to predict how people and markets will react to changes in economic conditions, but it involves considerable abstraction from reality.

This methodology is complex, based on assumptions about how an optimal decision is made and how humans behave. This chapter discusses five parts of the Neoclassical method:

1. The mathematical concepts of the *total* and the *margin*.
2. The law of *diminishing returns*.
3. The marginal method for finding the optimal quantity.
4. The assumption that people actually use the marginalist method for determining the optimal quantity.
5. The use of perfect competition as the primary model to study real world markets.

The first four parts of the Neoclassical methodology are the subjects of this chapter; the fifth is the subject of chapter three. Other models of markets based on similar principles are discussed in chapter four. Neoclassical economics uses the concept of the margin along with the law of diminishing returns to determine a rule for optimal decision making. By assuming that individuals actually use the rules for optimal decision making it provides a theory of how consumers and firms behave in markets. By adding additional assumptions about how markets are structured, neoclassical economics builds a theory of how the economy works, which is used both to determine when a market does or does not produce a socially desirable outcome and to predict how changes in market conditions and the actions of government will affect the economy. Once you get there, you will have a basic understanding about how mainstream economics works, but to get there requires you to make it through two chapters of sometimes tedious theories and definitions. Hang in there; it's worth it.

2.1 The Total and the Margin

Neoclassical economists' focus on the *margin* is so central their methodology that this school of thought was originally known as the Marginalist school. The margin is the change in the total caused by the last unit. The *total*, in economics, is always a running total and so every unit is at one point the last unit. The margin will become important in determining the optimal quantity, but first it must be understood for what it is: a basic mathematical concept. An example should make it easier to understand the mathematical relationship between the margin and the total. Suppose Bob gets in his car and drives in a straight line away from his home. He drives 60

miles in the first hour, 40 miles in the second hour, 20 miles in the third hour, and then stops and drives none at all the the fourth hour. It is easy to determine the total distance from Bob's home at any point in time by adding up the distance he travelled in each hour. The marginal distance from Bob's home, is simply the amount of distance he travelled in the last unit of time, which in this case is hours, but it could as easily be minutes or seconds or days or whatever unit is most appropriate. Table 1 summarizes the total and marginal distances. At the end of the first hour, Bob's total distance from home is 60 miles. His marginal distance is 60 because he added 60 miles to the total in the last hour. At the end of the second hour he is a total of 100 miles from home. His marginal distance is 40. At the end of the third hour, the total is 120 and the margin is 20. At the end of the fourth hour, he hasn't added any distance to his total so the total remains at 120 and the margin has fallen to 0. Notice that at any point the total is the sum of all the marins up to that point and the margin is the difference between the current total and the total one unit before.

Table 1- Total and Marginal distance in Bob's trip

Unit of time in Hours	Total distance	Marginal distance
1	60	60
2	100	40
3	120	20
4	120	0

What does this have to do with the behavior of consumers and firms in the market? Economists apply these notions of the total and the margin to the variables that enter into firms' and consumers' decision making processes. Consumers have two things to worry about when they make a purchase—utility and cost. Marginal utility and marginal cost are crucial to consumers' decisions. Firms are concerned with revenue and production cost. Marginal revenue and marginal cost are crucial in firms' decisions making.

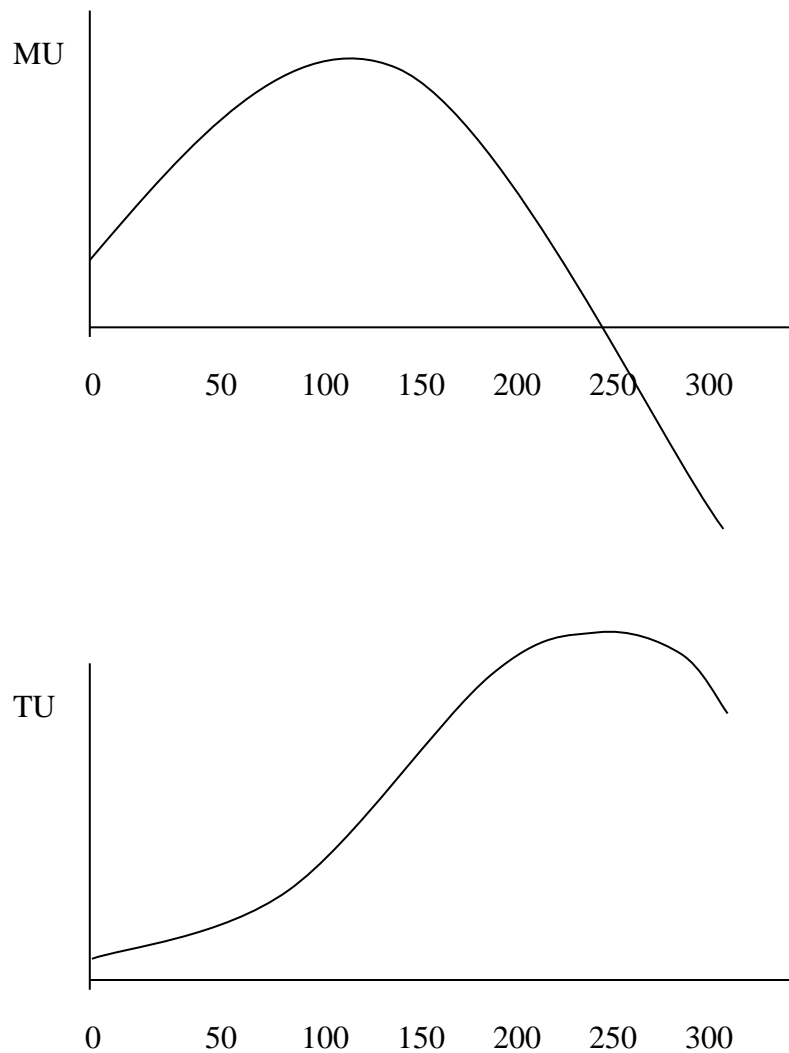
Total utility is the enjoyment a consumer gets from all the units of a good he has consumed thus far. *Marginal utility* is the additional enjoyment of the last unit. The *marginal cost* to a consumer is the price of the good (so long as the price does not vary with the number of units purchased). *Total cost* is the number of units multiplied by the price. *Total revenue* is the amount a firm receives from all the units it sell. *Marginal revenue* is the addition to total revenue caused by the last until (if the price does not vary with the number of units cost marginal revenue is simple the price). The *total cost* to a firm is the production cost of producing a given amount of output. *Marginal cost*, to a firm, is the addition to total cost caused by the last unit.

2.2 The law of diminishing returns.

The law of diminishing returns is an assumption about the nature of costs and benefits. It states that as the number of units increases, the marginal benefits tend to fall and the marginal costs tend to rise. This law doesn't state that benefits always fall or that costs always rise (either may rise for any given range of units); it merely states that eventually cost will begin to rise and benefits will begin to fall. If a firm produces more and more of one thing, eventually it will stretch its capacity and the marginal cost will increase. If a consumer consumes more and more of one good, eventually she will reach a satiation point where she doesn't enjoy additional units as much as she enjoyed earlier units.

For example, suppose the following graphs show Michael's marginal and total utility for salty corn chips:

Figure 1. Total and Marginal utility.



Michael can't eat just one chip. One chip wets his appetite and he enjoys the second one even more than the first. He enjoys each chip more than the last until he begins to get full as his enjoyment of each chip begins to decline after he has eaten about 100 of them. This is the point at which diminishing returns sets in. The marginal utility of each chip declines from then on, but his total utility continues to rise as long as his marginal utility is greater than zero (as long as he gets some positive enjoyment out of the last chip his total utility rises even if he didn't enjoy the

last chip as much as the previous chip). Total utility rises more slowly after the point of diminishing return; the higher the marginal utility the faster total utility rises. Eventually, if he keeps on eating chips he gets so full that he begins to get a stomach ache, and each chip takes away from his enjoyment rather than adding to it and the marginal utility of each chip is less than zero. In Michael's case this happens after he's eaten about 250 chips.

The law of diminishing returns also applies to costs. That is, as you do more and more of something eventually the marginal cost begins to rise. This is most easily seen from the firm's perspective. Suppose a firm has a factory of a given size. If it wants to increase output it can put more workers in the factory. Eventually the factory is going to get pretty crowded and the firm might start having workers work on nights and weekends. If a firm has to pay workers time and a half to get them to work the night shift, marginal cost will increase. Eventually, if the firm keeps increasing production, the plant will be full of workers 24 hours a day and adding more workers adds very little to output, and the cost per unit of output increases.

2.3 The optimal quantity

The determination of the optimal quantity (given one's preferences) is a central concept of Neoclassical economics. When you think of preferences you probably think of a simple rank order, such as I like apples better than oranges and oranges better than toaster ovens, and toaster ovens better than unrefined iron ore. But a simple ordering of your favorite goods isn't very useful to economists interested in building a mathematical model that will predict the quantity of each good that will be sold in a market. People buy various quantities of many products. More important than the question "which good do I like best?" is the question "how much of each

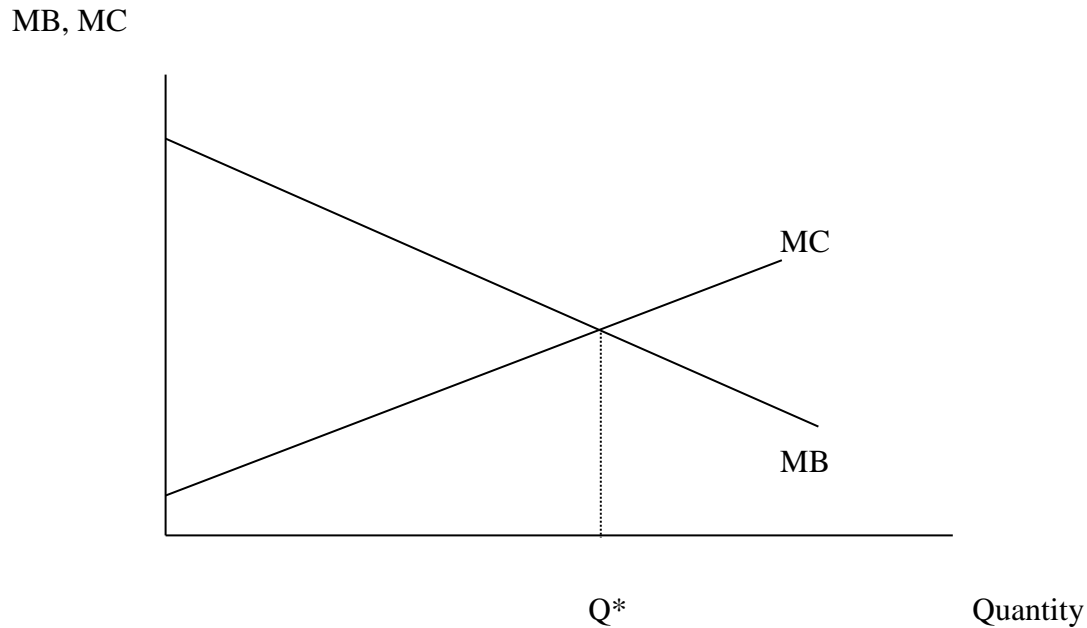
good do I want given my limited resources.” The question is not simply yes or no, but how many? How does one determine the optimal quantity of each product? How many apples should I buy? 0? 3? 26? 153? How many units should a firm produce? 0? 1? 10? 200? or 7,584? There are an infinite number of possible combinations of goods people can buy. How does a person decide what amount is optimal of each good?

To do this one must start with an objective. Economists believe the objective in any endeavor can be summed up in the phrase: maximize the total net benefit. The optimal quantity is the quantity that maximizes the difference between benefits and costs. In consumption, benefit is utility. In production, benefit is revenue and net benefit is profit. Thus, the complex question of what quantity of each good I should buy out of the infinite number of goods that I could buy can be simplified to a basic question. Start with one unit of one good. Is the marginal benefit higher than the marginal cost of that good? If the benefit is greater than the cost, buy it. If the benefit is greater than the cost, it has a positive net benefit; it adds more to total utility than it does to total cost. Repeat this procedure for the second unit. Keep on repeating it as long as the marginal benefit exceeds the marginal cost. Eventually, the law of diminishing returns will come into play and either the benefits will fall or the costs will rise until the marginal cost equals the marginal benefit. Stop, that’s the optimal quantity. When the marginal benefit is just equal to the marginal cost you are indifferent to purchasing the last unit. That also means that you’ve gotten every last bit of net benefit out of this consumption you can.

This whole procedure can be stated concisely by saying that the optimal quantity is the point at which the marginal cost equals the marginal benefit. At that point the total net benefit (the sum of all the marginal benefits of each unit minus the marginal costs of each unit) is maximized. Economists typically use mathematical equations to represent costs and benefits and

calculus to determine the optimal quantity. This book spares you all that and illustrates it with the figure 2.

Figure 2, The optimal quantity.



Marginal benefit (MB) starts high and falls, and marginal cost starts small and then rises. Each unit smaller than Q^* (to the left of Q^* on the graph), has benefits greater than cost and thus adds to the total net benefit. Each unit to the right of Q^* has a negative net benefit. Consuming the amount Q^* then, takes advantage of all the possible net gains. Keep in mind that costs are, as always, measured in opportunity cost. The cost is not simply the money cost but the utility that money could generate if it was used to purchase any other good. Therefore, if the benefit is

higher than the cost, buying this good is more worthwhile than using this amount of money to buy any other good.

This method can be used for any type of decision making. How many workers should a firm hire? Until the marginal benefit (measured by what she produces) of the last worker is equal to her marginal cost (her wage). How much money should the government spend on the production of homeless shelters? It should spend the amount where the marginal cost of an additional shelter equals the marginal benefit. How many cookies should an economist eat? She should eat the amount where the marginal utility of the last cookie equals its marginal cost.

But how can you measure the marginal utility of a cookie (or any other consumer product)? This can be done using the opportunity cost principle outlined in chapter one. The marginal cost of a cookie, in opportunity cost sense, is quite simple: it's the price. The price represents the amount of other goods a consumer must give up in order to buy one cookie. If a cookie costs one dollar, then for every cookie I eat I have one less dollar to spend on all other goods. The marginal benefit of a cookie is a little bit trickier. You have to ask yourself how much would I pay for this cookie? What would be the *most* I would give up for this cookie if I had to? Suppose you eat one cookie and it tastes so good you'd be willing to sacrifice \$4 dollars worth of other goods to buy it. That's your marginal utility. Luckily you only had to pay \$1, so it was a good deal for you. So have another. Now that you've already had a cookie the second one isn't nearly so satisfying, but it's still good so you'd pay \$2 for it. Still a good deal. Now that you are becoming satisfied the third cookie is only worth \$1 to you. It costs \$1 so it's worth it, but just barely. You are indifferent to this third unit. That's how you know you've reached the optimum and it's time to stop eating cookies. If you apply this principle to all goods that you purchase you will be indifferent to the last unit of each good you consume.

2.4 The Assumption of Rational Self-Interested Behavior

In practice, the assumption that agents are rational, discussed in chapter one, means that that people actual make decisions by comparing the marginal cost and marginal benefits to deterimine the optimal quantity. It's one thing to say that the marginal method will determine the optimal quantity, but it's quite another to say that people actually behave that way. Yet this is just what's stated by the assumption of rational self-interested behavior. Neoclassical economists treat consumers and producers as if they were little calculating machines who have a given set of goals and behave consistently with those goals, using the rules of optimal decision making to make choices. Even if you've never heard the term marginal utility before, neoclassical economists believe that you've been using it all your life to determine how much of each good to buy. The reason for the assumption that people act rationally, is so that the people in economic models act predictably. This predicatbility allows economists to use mathematical equations and graphs to desribe peoples preferences and to predict how people will respond to changes in prices and market conditions.

The assumption that people follow the optimal decision making rule reveals more information about the example from the last chapter. Chapter one said that the amount of utility Jack would obtain from seeing a social worker is measured by how much he'd be willing to pay for it and that he must value the good at least as much as its price or he would not purchase it. If Jack is willing to pay a maximum of \$25 (give up a maximum of \$25 worth of other goods) for a social work session, \$25 dollars is the marginal utility of this session. If his marginal utility was so high that he was willing to pay \$150 for a session, he would purchase a large number of

sessions until his marginal utility fell to \$25. If Jack's marginal utility was less than \$25 he wouldn't purchase any sessions. Using the theory of rational behavior, and the optimal decision making rule, the price reveals a lot of information about consumer preferences. All consumers who purchase the good receive a marginal utility of exactly \$25 from the last unit they purchased (although the marginal utility for earlier quantities might be much higher), all consumers who do not purchase it value the good at less than \$25.

While consumers maximize utility firms maximize *profit*. Profit, also known as rent, is defined differently in economics than in ordinary English and so it they are sometimes called economic profit or economic rent. In ordinary English profit is the rate of return on investment, so that if you invest \$100 and you make back \$104 you have made a profit of 4 percent. But to an economist, profit must be defined in an opportunity cost sense. If you invest \$100 in industry A, you have only profited if you make more than you could have if you put that money into another investment. Suppose that the normal rate of return is 2 percent. The opportunity cost of investing \$100 in industry A is \$102. If the investment pays back less than \$102, the investor wishes he did not invest in that industry. If the investment pays exactly \$102, the investor is indifferent between this investment and any other normal investment. Any return over \$102 is profit. Thus the economic profit of an investment that pays back \$104 is only 2 percent. The reason the term profit or rent is important is because any return equal to or above the normal rate of return is sufficient to keep investment in this industry anything more is just gravy for the investor. Rent does not only apply to firms; it can also apply to any return over what is needed to keep a resource in its present employment. For example, suppose Jay is a social worker who earns \$40,000 a year. Jay would be willing to remain in his current job for any salary that's at least \$30,000 a year. Jay receives an economic rent of \$10,000 a year. Neoclassical theory assumes

that a firm's goal is to maximize economic profit and that it uses the optimal decisionmaking rule to do so.

Keynesian (or Post Keynesian) economists, who stress the economics of uncertainty, often break with neoclassical economists over the assumption of rational utility (or profit) maximizing behavior. They may agree that equating marginal cost and benefit would determine the optimal quantity if the correct information were available but often it is not. People might not know all of the costs and benefits that they would receive from consuming any given quantity of any given good so they have to guess. Firms face even more barriers to rational behavior. They would need to know exactly how many goods consumers want to buy and exactly what they would pay for those goods in order to rationally determine the optimal quantity of goods to produce and of workers to hire. Keynesians stress the fact that firms cannot know this information and so will have to guess and will often guess wrong. They believe that uncertainty will make it nearly impossible for consumers and firms to determine the optimal quantity and that recessions and depressions will result.

Not every critic of neoclassical economics criticizes the rational decision making assumption. But nearly every critic of neoclassical economics has some objection to the perfectly competitive model of the market place. Although there are several other neoclassical models of market structure (discussed in chapter 4), perfect competition is the neoclassical economist's primary model to study the economy. The next chapter describes how it works, and how it is used, and then discusses common criticisms of it.

CHAPTER THREE

PERFECT COMPETITION AND SUPPLY AND DEMAND

In economic theory, a *market* is a place where buyers and sellers come together to make exchanges. The boundaries of a market depend on the good in question. For two sellers to be considered part of the same market they must be close enough so consumers could reasonably view the two as substitutes. For example, the corner supermarket is not a market in the economic sense. The local market for groceries consists of all the grocery transactions in a neighborhood, but it would not include a store across town if consumers believed it was too far to go to buy groceries. But the housing market may extend across a city or a metropolitan area. A market is not necessarily a physical space. For example internet travel agencies are a market that potentially stretches across the entire world. Economists have several different models they use to study various kinds of markets, and they focus most of their attention on one particular type called *perfect competition*. This chapter discusses the perfectly competitive market and the next chapter discusses other types of markets.

3.1 The assumptions of the perfectly competitive model

Perfect competition (or “competition” for short) is a theory of how some markets operate. It is a highly simplified (and some would say idealized) theory. Economists use it both to predict how market prices and quantities react to changes in market conditions and to demonstrate the efficiency of the market system. The following conditions must hold for a market to be perfectly competitive:

1. *Small buyers and sellers.* There are many buyers and sellers all of whom are too small relative to the size of the market for the behavior of any one them to affect the market price and any firm or consumer can sell or buy all it wants without affecting the market price.
2. *Homogeneous product.* The goods sold by one firm in the market is identical to the goods sold by any other firm in the market.
3. *Perfect information.* All buyers and sellers know everything there is to know about quality, prices, locations, and any other relevant factors that may affect their decision to buy or sell goods in the market.
4. *Free entry and exit.* There are no barriers that would prevent buyers and sellers from entering or exiting the market at will.

There are not many markets in the real world that meet these conditions, but that does not mean that the model of perfect competition is useless. There are at least four reasons why you should have a good understand of the perfectly competitive model. First, there are some actual markets that approximate perfect competition (such as stock markets or farming). Second, even markets that are further from the perfectly competitive model (such as the housing market) may be similar enough to make the theory useful in understanding how that market works. Third, as discussed below, the absence of any one of these conditions is a standard justification for government intervention. Fourth, the perfect competitive model is so widely used to examine the effects of economic policy that anyone who hopes to understand policy debates must understand it whether she believes it is useful or not.

The rest of this chapter demonstrates that if the four assumptions of the perfectly competitive model hold, three important conclusions follow: First, all transactions in the market take place at the same price and all buyers and sellers take the market price as given. Second, the market price and quantity are determined impersonally by the interaction of supply and demand. Third, the equilibrium quantity is socially optimal (as defined below).

The conclusion that all buyers and sellers take the market price as given follows from the first three assumptions. Firms can't use tactics like restricting their output to achieve a higher price than every other firm charges, because they are small relative to the size of the market. If a firm charges a price higher than the market price, consumers will simply buy from one of the many other sellers in the market and the firm will lose all its sales. Perfectly competitive firms can't use a claim of high quality to obtain a higher price because perfectly informed consumers know that all firms sell an identical product. Firms have no incentive to sell below the going rate because they are small in relation to the size of the market. No profit-maximizing firm that can sell all it wants at the going price would ever sell it for a lower price; that would just be turning away money. For similar reasons, consumers must also take the market price as given.

Although individual firms and consumers have no control over the price of the good, they have complete control over the quantity they want to exchange. Consumers ask themselves, given the market price, what quantity should I buy to maximize my utility? Firms ask themselves, given the market price, what quantity should I sell to maximize my profit? One must wonder, if firms don't set the price and consumers don't set the price, who or what does? In a perfectly competitive market the price is set by the interaction of supply and demand. How this works is the subject of the next several sections of this chapter.

3.2 Demand

Demand is the relationship between price and the quantity consumers are willing to buy holding all else equal. This relationship must be defined for a given market over a given period of time. The phrase “all else equal” means that any other factors besides price that may affect the quantity consumers are willing to buy do not change. If they do change the relationship between price and the amount consumers are willing to buy will also change (such changes in demand are discussed below). Consumers’ willingness to buy must mean that they actually will buy it, given their income and other factors. The amount consumers would be willing to buy if they had more money is not relevant to the determination of market price and quantity and is best left out of the discussion.

Demand, then, is the entire relationship between all prices and the quantity consumers are willing to buy at those prices. The quantity consumers are willing to buy is called the “quantity demanded.” Although the terms “demand” and “quantity demanded” sound similar the distinction between the two of them is extremely important: Quantity demanded is one quantity at one given price; demand is the entire relationship between all quantities demanded and all possible prices.

Generally, the relationship between price and the quantity demanded is inverse (or negative). That is, when the price goes up the quantity demanded goes down, and when the price goes down the quantity demanded goes up. This general relationship is called the *law of demand*. This relationship exists for two main reasons. First, when a good becomes cheaper people who are already buying it have an incentive to buy more; two, people who previously weren’t buying it may decide to start buying it. Second, when the price increases some people may buy less and others may stop buying it altogether. It is possible that some consumers will buy the same amount when

price changes slightly, but if enough consumers in the market change their behavior because of the price change the law of demand will still hold for the market as a whole.

Economists use the word “law” a lot, and perhaps they exaggerate a bit. The word law implies that the principle is true at all times and all places, like the “law of gravity.” But economic laws aren’t as strict as the laws of physics; they all have exceptions. Economists believe that there is a general tendency for price and the quantity demanded to be negatively related, but there might be some goods for some given range of prices for which this law does not hold. For example, if the price of insulin doubled diabetics may still buy the same amount. Or, there might be certain goods that have snob appeal that may be more attractive to consumers if they cost more. However, economists generally believe these exceptions to be rare. And of course, there is some price that is so high that even a diabetic will not be able to afford insulin and even a snobby billionaire cannot afford a watch.

Demand can be represented mathematically, graphically, or in the form of a table. The graphic representation of demand is called the demand curve. The representation of demand in the form of a table is called a demand schedule. The mathematical representation of demand is called a demand function. All of these representations are tools to help one better use and understand and use the concept of demand. The focus of this book is to understand the concepts; it uses graphs and tables to aid this understanding, but it keeps them to a minimum, and leaves mathematics to more advanced textbooks.

Table 1 shows a hypothetical demand schedule for rental housing in Metropolis.

Table 1-Market Demand for Rental Housing

Price (Monthly Rent)	Quantity (Units per Month)
\$450	2 million
\$350	4 million
\$250	6 million
\$150	8 million
\$50	10 million

Price in the rental market is called rent, but the word rent is also used for the act of buying or selling a rental unit. In plain English you wouldn't say that you bought a rental item you would say, "I didn't buy it I rented it." But in economics, renting is just buying a good that is differently defined: The good in purchased is not the apartment but the use of an apartment for one month. At a price of \$450 a month, consumers are willing to rent 2 million units. At a price of \$350, they are willing to rent 4 million units. At a price of \$250, they are willing to rent 6 million units, etc. In accordance with the law of demand, consumers buy more at lower prices and less at higher prices.

Figure 1 shows the demand curve for the same rental housing market. The fact that the curve slopes down (as you read from left to right) illustrates the law of demand. A demand curve gives a more complete picture of demand. Remember that demand relates all possible prices to the quantities demanded at those prices. A table can only show a few representative prices and quantities while a graph can show many more. For those unfamiliar with graphs, the number on the vertical axis (the numbers on the left side) show the prices; the numbers on the horizontal axis show the quantities (the numbers on the bottom). The demand curve is read by finding the price on the

vertical axis, looking straight across to the demand curve, and then straight down to the horizontal axis to find the quantity demanded that goes with that price.

Insert graph of table 1 here.

3.3 Elasticity of Demand

Elasticity of demand or, more precisely, *price elasticity of demand* is a measure of the sensitivity of the quantity demanded to the price. It is often not enough to say that the quantity decreases when the price increases, but it is important to measure how much quantity responds to changes in price. Businesses want to know whether an increase in their price will cause a major decline in sales. Policy makers want to know whether a sales tax will significantly affect the local economy. Elasticity of demand is used to measure such effects in percentage terms. It is the percentage change in quantity demanded for a given percentage change in price. There is a formula for calculating price elasticity of demand but we will spare readers the burden of having to learn it. The importance of measuring sensitivity of demand in percentage terms is that the number one gets does not depend on the units in which the prices and quantities are measured. Whether the good is measured in pounds, tons, meters, gallons, hours, or anything else, has no affect on how its elasticity is measured. Thus, elasticity allows one to compare the sensitivity of demand in any market to any other.

If the elasticity of demand is greater than one, the percentage change in quantity is larger than the percentage change in price. That is, the quantity demanded is rather sensitive to price changes. If elasticity of demand is greater than one, demand is elastic. If the elasticity of demand is

less than one, the percentage change in quantity is smaller than the percentage change in price. That is, the quantity demanded is relatively insensitive to price. This is not to say that demand is completely insensitive to price; increases in price still cause decreases in the quantity demanded, but that decrease in demand is smaller (in percentage terms) than the increase in price. If the elasticity of demand is zero, demand is completely insensitive to price and consumers purchase the same amount regardless of price.

For example, if price elasticity of demand for healthcare is $\frac{1}{2}$, and the price of health care increased by 10 percent, the quantity demanded of healthcare would fall by only 5 percent. The demand for healthcare is inelastic, because the percentage change in the quantity demanded was smaller than the percentage change in price. If the price elasticity of theater tickets is 2, a 10 percent decrease in the price of theater tickets would cause a 20 percent increase in the number of tickets sold. The demand for theater tickets is elastic, because the percentage change in the quantity demanded was larger than the percentage change in price. Notice that even though the law of demand holds in both cases (the quantity demanded goes up when the price goes down and vice versa), the sensitivity of demand to price is quite different.

Price elasticity of demand is also useful for social policy analysis. Suppose Congress enacts a cigarette tax to discourage smoking. However, some economists have found empirical evidence to support that the demand for cigarettes is very inelastic, and so a substantial increase in price will have little effect on smoking. This could be because smokers are addicts who find it very painful to reduce their cigarette consumption. If so, increased taxes would not be very effective in reducing the number of smokers, although they may be useful to raise revenue, which can be used to hire social workers to discourage people from smoking. Some studies have shown that although the demand

for cigarettes is inelastic in the short run, high prices discourage people from starting to smoke and so may have a substantial long-run effect on smoking.

3.4 Supply

Supply is the relationship between price and the quantity firms are willing to sell, holding all else equal. As with demand, this relationship must be defined for a given market over a given period of time. Firms' willingness to sell must mean that they actually will sell it, given their cost of production and other factors. Like demand, supply is the entire relationship between all prices and the quantity firms are willing to sell at those prices. The quantity sellers are willing to sell is called the "quantity supplied." Quantity supplied is one quantity at one given price; supply is the entire relationship between all the quantities supplied and all possible prices.

Generally, the relationship between price and the quantity supplied is positive. That is, when the price goes up the quantity supplied goes up, and when the price goes down the quantity supplied goes down. This general relationship is called the *law of supply*. This relationship holds because when the market price of a good increases, it becomes more profitable to sell that good so firms have an incentive to put more resources into producing and selling that good rather than other goods. Like demand, supply can be represented mathematically, graphically, or in the form of a table. The graphic representation of supply is called the supply curve. The representation of supply in the form of a table is called a supply schedule. The mathematical representation of supply is called a supply function.

Table 2 shows a hypothetical supply schedule for rental housing in Metropolis.

Table 2: Market Supply for Rental Housing

Price	Quantity (Units per Month)
\$450	10 million
\$350	8 million
\$250	6 million
\$150	4 million
\$50	2 million

At a price of \$450 a month, landlords offer 10 million units. At a price of \$350, they offer 8 million. At a price of \$250, they offer 6 million units, etc. In accordance with the law of supply, firms sell more at higher prices and less at lower prices. Figure 2 shows the supply curve for the same rental housing market. The fact that the curve slopes up (as you read from left to right) illustrates the law of supply. The supply curve is read by finding the price on the vertical axis, looking straight across to the supply curve, and then straight down to the horizontal axis to find the quantity supplied that goes with that price.

Insert graph of table 2 here.

3.5 Elasticity of Supply

Elasticity of supply or, more precisely, *price elasticity of supply* is a measure of the sensitivity of the quantity supplied to price. If the elasticity of supply is greater than one, the

percentage change in quantity supplied will be larger than the percentage change in price. That is, the quantity supplied is rather sensitive to price changes. If elasticity of supply is greater than one, supply is elastic. If the elasticity of supply is less than one, the percentage change in quantity supplied is smaller than the percentage change in price. That is, the quantity demanded is relatively insensitive to price. If price elasticity of supply of bread is 2, a one percentage point increase in price causes a 2 percentage point increase in quantity supplied.

3.6 Equilibrium

The equilibrium price in a perfectly competitive market is determined by the intersection of supply and demand—the one point at which the quantity demanded equals the quantity supplied. It is called equilibrium because at that price there is no tendency to change and at any other price there is a tendency from the price to change to the equilibrium price. At any price above the equilibrium price, the quantity supplied is greater than the quantity demanded; firms cannot sell all they want at the going price, creating pressure for the price to fall until it reaches equilibrium. At any price below the equilibrium, the quantity demanded is greater than the quantity supplied; consumers cannot buy all they want at the going price, creating pressure for the price to rise until it reaches equilibrium. At the equilibrium, quantity demanded equals the quantity supplied, and there is no pressure for the price to change.

Table 3 and figure 3 illustrate equilibrium in the housing market in Metropolis

Table 3-Market Demand and Supply Schedules for Rental Housing

Price (Monthly Rent)	Quantity Demanded (Units per Month)	Quantity Supplied (Units per Month)
\$450	2 million	10 million
\$350	4 million	8 million
\$250	6 million	6 million
\$150	8 million	4 million
\$50	10 million	2 million

At a price of \$250, quantity demanded and quantity supplied are both 6 million units. This is the equilibrium. At a price of \$450, consumers demand only 2 million dwellings, while landlords are willing to supply 10 million. Landlords cannot sell all they want, and so they have an incentive to lower their price. A lower price would lead to an increase in the quantity demanded and a decrease in the quantity supplied, reducing the pressure for prices to fall, but the pressure for prices to fall would not be eliminated until the price reached equilibrium. At a price of \$50, consumers demand 10 million dwellings, but landlords are only willing to supply 2 million. Consumers cannot buy all they want at the market price so they have an incentive to bid the price up until it reaches equilibrium.

Only at equilibrium can both Consumers purchase all they want and firms sell all they want at the going price, and so non one has an incentive to change their behavior. Only at a price of \$250 is there no pressure for the price of rental housing to change. In other words, the \$250 price is the one at which the market stabilizes. Once consumers are willing to buy exactly the quantity of dwellings that landlords are willing to sell, no one has any incentive for anyone to change their

behavior. Thus, consumers will exchange their money for the 6 million dwellings, and both they and the landlords with whom they have done business will be satisfied. This does not mean that everyone is happy. Consumers would rather buy more at a lower price, but firms will not go along; firms would rather sell more at a higher price, but consumers will not go along. Equilibrium is simply a point where the behavior of firms matches the behavior of consumers.

INSERT FIGURE 3 HERE

The vertical axis of Figure 3 displays price while the horizontal axis displays quantity. This graph is another way to present the information in table 3. The demand and supply curves intersect at the point where price is \$250 and quantity is 6 million, the equilibrium price and quantity. Notice that at prices above \$250 quantity demanded is less than the quantity supplied, and at prices less than \$250 the quantity demanded is greater than the quantity supplied. Graphic displays of supply and demand are useful because they allow one to clearly depict what happens when supply and demand changes. The next two sections will discuss such changes.

Free entry and exit assures that there will be no economic profit (also known as economic rent) at equilibrium in perfectly competitive. Remember that economic profit is a return over and above the normal rate of return. Therefore, saying that there are no profits does not mean that firms are not making money; it simply means that firms are not making any more money than they could if they invested their money in their next best option. Thus, it saying there are no economic profits just means that the rate of return equalizes across all industries that have free entry and exit. If there are profits in one market, firms realize that they can make more money in this market than other markets and thus firms enter the market until those profits disappear. If there are negative profits,

firms realize that they can do better in other markets and thus firms exit the market until a normal rate or return is reestablished.⁹

3.7 Changes in Demand

Demand only remains stable as long as all other factors that affect demand do not change. Other factors can either increase or decrease the entire demand relationship. An increase in demand means that at any given price consumers are willing to buy more than before. As illustrated in figure 4 (page ?), the entire demand curve shifts to the right showing that at any particular price consumers will now buy more. A decrease in demand means that, at any given price, consumers are willing to buy less than they did before. A decrease in demand is illustrated in figure 5. The factors that can cause a change in demand are consumers' preferences, consumers' income, the prices of other goods, the size of the population, and climate.

Preferences: Consumers' preferences are considered by most economists to be outside their realm of study. Consumers occasionally change their preferences for whatever reason. If consumers decide they like a good more than they used to demand will increase; if they find that they do not like it as much as before demand will decrease. For example, if consumers become worried about the health effects of smoking they may decide they are not willing to purchase as many cigarettes as before.

Income: A change in consumers' incomes will affect not only how many goods a consumer can afford, but also, it often changes the types of goods consumers buy. As consumers' incomes rise, they will demand more of most goods at each price than before the income changes. Goods for which this is the case are called *normal goods* or *superior goods*. There are some goods, called

inferior goods, for which demand **decreases** when incomes increase. These are typically goods that people buy when they can't afford other, more desirable goods. For example, suppose hamburger helper is an inferior good and filet mignon is a normal good. If consumers income rises their demand for filet mignon will increase and their demand for hamburger helper will decrease.

Price of related goods: Prices of other goods and services can affect demand in two different ways. *Compliments* are goods that are used together. An increase in the price of one compliment decreases the demand for the other. For example, if the price of tennis rackets decrease, demand for tennis balls will increase, because people will play more tennis. Substitutes are goods that can be used in place of one another. If the price of one increases, the demand for the other increases. For example, if the price of tea increases, the demand for coffee will increase, because people will be looking for something hot to drink besides tea.

Climate: Demand for some goods may be very affected by the weather. Demand for air conditioners is higher during hot summers than cool ones. Global warming will cause the demand for air conditioners to increase and the demand for snow shovels to decrease.

Population: The more consumers live in a given area the more demand there will be in a for goods sold in that area. Changes in population may affect some goods more than others, but in general an increase in the population increases demand for all goods.

3.8 Changes in Supply

Like demand supply only remains stable as long as all other factors that affect supply do not change. Other factors can either increase or decrease the entire supply relationship. An increase in supply means that at any given price firms are willing to sell more than before. The entire supply

curve shifts to the right showing that at any particular price firms are willing to sell more. A decrease in supply means that, at any given price, firms are willing to sell less than before. An increase in supply is illustrated in figure 6, and decrease in supply is illustrated in figure 7. These figures may be a little confusing because when supply increases the curve does not go up it goes out and when supply decreases it does not move down it moves in. This happens because an increase in supply means that for any given price firms are willing to sell more and a decrease means that at any given price firms are willing to sell less. If you compare the second supply curve in figure 7 with the first supply curve you will see that the quantity demanded at any given price is less after the shift than before. There are several factors that can cause shifts in supply, including the size of the industry, changes in technology, prices of inputs, and the prices of related outputs.

The size of the industry: An increase in the size of the industry, that is an increase in the number of firms in the industry, causes the supply curve to increase. The larger the number of firms in an industry, the higher will be the quantity supplied at any given price. The smaller the number of firms the smaller the quantity supplied.¹⁰

Technology: A change in technology shifts the supply curve. If some technological development allows firms to produce more goods out of a given amount of inputs, they will be able to increase output at any given price and the supply curve will shift to the right (increase).

The price of inputs: Inputs (or resources) also affect supply. If a firm has to pay more for workers, rent, or raw materials, it reduce the quantity supplied at any given price. In other words, it will need a higher price in order to sell the same level of output.

Prices of related outputs: The price of other outputs can affect supply in two different ways. Substitute outputs are goods that can be produced using the same resources, and firms must decide whether to produce one or the other. For example, dairy farmers can either sell cheese or

milk from the same cow. If cheese prices rise, farmers will sell more cheese, thereby reducing the supply of milk. Outputs can also be byproducts of each other. For example, beef and leather are both made from dead cattle. If the price of beef falls, farmers will raise fewer cattle and the supply of leather will decrease.

3.9 The effects of changes in supply and demand on equilibrium price and quantity.

One of the most important uses of supply and demand is to predict how equilibrium price and quantity will respond to changes in the market. The method is very simple: for any given change, figure out whether it affects supply or demand, figure out whether it is an increase or decrease; draw the shift on a supply and demand graph and observe what happens to equilibrium price and quantity. The following four graphs are the most important graphs in this book. You will be asked to refer back to them throughout this book. If you understand nothing else in this book besides these graphs you will still have learned something significant about how economic theory works.

Figure 4, An increase in demand: The demand shifts to the right from the original demand curve (D_1) to the new demand curve (D_2) showing that at any given price consumers are willing to buy more than before. The equilibrium price increases from P_1 to P_2 and the equilibrium quantity increases from Q_1 to Q_2 .

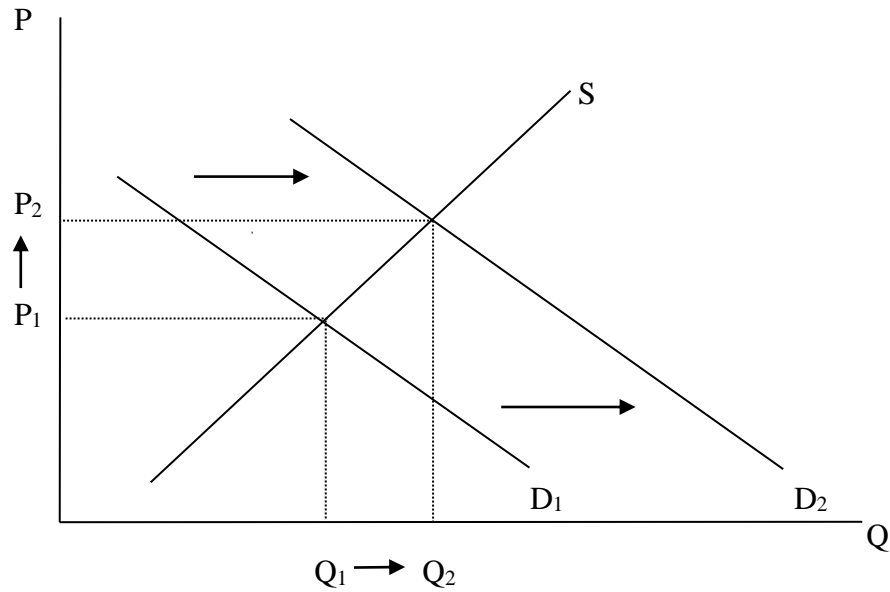


Figure 5, A decrease in demand: The demand shifts to the left from the original demand curve (D_1) to the new demand curve (D_2) showing that at any given price consumers are willing to buy more than before. The equilibrium price increases from P_1 to P_2 and the equilibrium quantity increases from Q_1 to Q_2 .

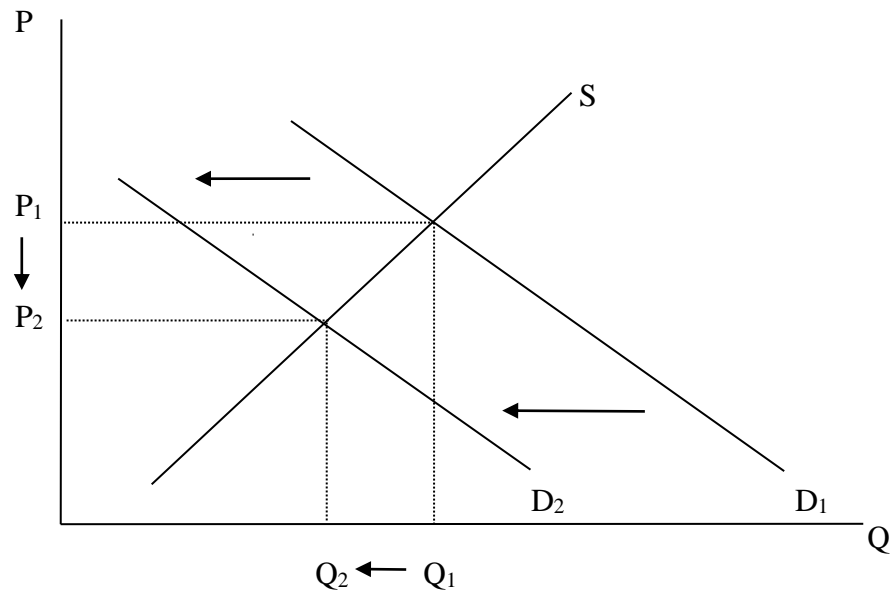


Figure 6, An increase in supply: The supply curve shifts to the right from the original supply curve (S_1) to the new supply curve (S_2), showing that at any given price firms are willing to sell more. The equilibrium price decreases from P_1 to P_2 and the equilibrium quantity increases from Q_1 to Q_2 .

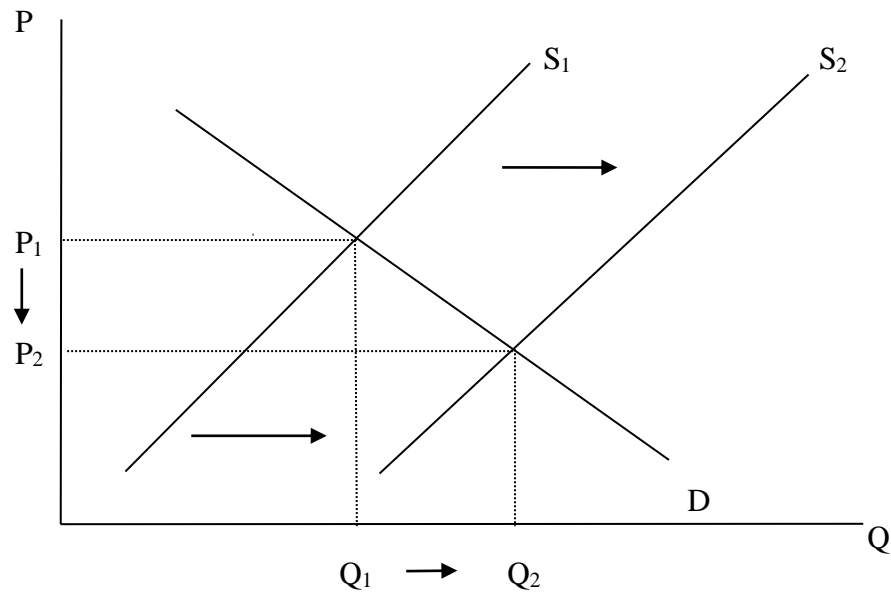


Figure 7, A decrease in supply: The supply curve shifts to the left from the original supply curve (S_1) to the new supply curve (S_2), showing that at any given price firms are willing to sell fewer goods. The equilibrium price increases from P_1 to P_2 and the equilibrium quantity decreases from Q_1 to Q_2 .

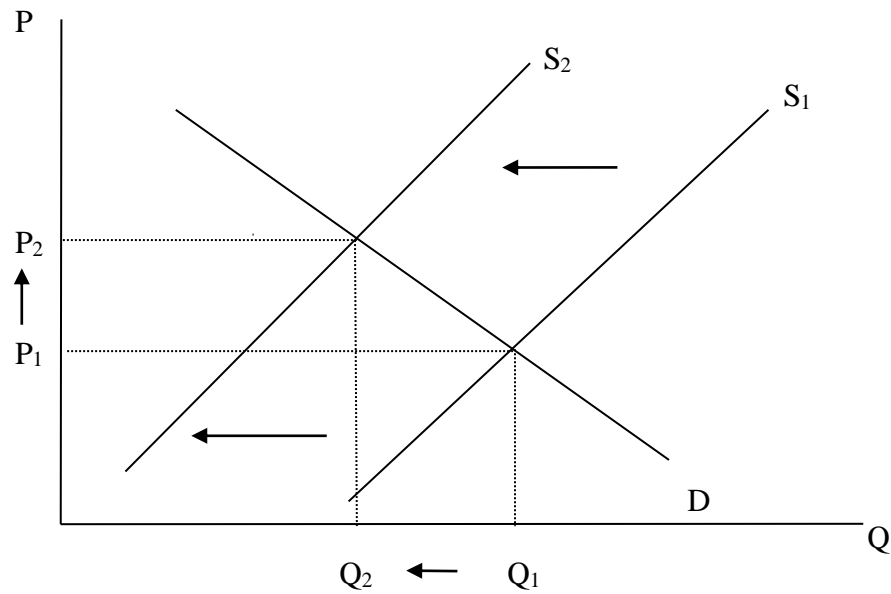


Figure 4 illustrates an increase in demand. The entire demand curve shifts to the right. The equilibrium price and quantity both increase. Supply (the supply curve) does not change, but the quantity supplied does change. It increases as the equilibrium point moves along the supply curve. Thus, mainstream theory predicts that anything that causes demand to increase will cause the equilibrium price and quantity to increase. How much price and quantity change depends on the elasticity of supply. The more the supply curve, the more an increase in demand will cause the quantity to increase; the less elastic (or the more inelastic) the supply curve the more price will increase.

Figure 5 illustrates a decrease in demand. The demand curve shifts to the left, showing that at any given price consumers will buy less than before. The equilibrium price and quantity both decrease. Again, supply does not change but the quantity supplied decreases. Thus, the theory predicts that anything that causes demand to decrease will cause a decrease in both price and quantity.

Figure 6 illustrates an increase in supply. The supply curve shifts out (to the right), showing that at any given price firms are willing to sell less. The equilibrium price decreases; and the equilibrium quantity increases. How much price and quantity change depends on the elasticity of demand. The more elastic demand is, the bigger the effect will be on quantity and the less the effect will be on price. The less elastic (or the more inelastic) demand is, the bigger the effect will be on price and the smaller the effect will be on quantity.

Figure 7 illustrates a decrease in supply. The supply curve shifts in (to the left), showing that at any given price firms are willing to sell less than before. The supply curve shifts to the left; the equilibrium price increases and the quantity decreases. The more elastic demand is, the more

quantity will decrease and the price will increase; the less elastic demand is, the more price will increase and the less quantity will decrease.

Notice that when demand changes, price and quantity move in the same direction, but when supply changes price and quantity move in opposite directions. This is because when demand increases, when consumers want to buy more, they have to offer firms a higher price to encourage them to produce more. When supply increases, when firms want to sell more, they have to offer consumers a lower price to encourage them to buy more.

You can use supply and demand as a tool to help you examine the effects of changes in the market. For example, how would the apple market be affected if a hurricane knocked down half of the orange trees in Florida? This would be a decrease in the number of firms producing oranges or a shift to the left of the supply curve of oranges as shown in figure 7. Reading from that figure, the price of oranges would increase and the quantity would decrease. Thus, people are buying fewer oranges. Apples are a substitute for oranges and so the demand for apples will increase as shown in figure 4. Reading from that figure, the equilibrium quantity of apples will increase and so will the equilibrium price. This is how supply and demand is used to predict changes in markets.

3.10 Efficiency in the perfectly competitive market

In 1776 Adam Smith first proposed the idea that the entire society benefits from exchanges made by selfish individuals in competitive markets. In his book, *The Wealth of Nations*,¹¹ Smith called this theory the invisible hand. It's been extended and codified by economists since Smith and is now called the *first fundamental theorem of welfare economics*.¹² Smith proposed that if all trade is purely voluntary (there is no theft, fraud, or coercion, and there are

no externalities), if there are no restrictions on trade, if all people trade for their own interests, and if there is a given distribution of property rights, then the market will produce a result that is beneficial to all and even maximally beneficial. This is so because Smith has assumed away all the possibilities that one person can benefit at another's expense. If a person cannot improve his material position by theft or fraud or any other parasitic means, he can only benefit himself by engaging in trades that are mutually beneficial. He may not directly care about the well being of others, but if he does not offer mutually beneficial trades no one will trade with him. Competition assures that one side of a trade cannot keep all the gains for himself. If one firm tries to raise prices well above costs other firms will step in and drive prices down. The tendency for people to look for opportunities for mutually beneficial trade assures that all known opportunities for mutually beneficial trade will be exploited and the outcome will be socially optimal or efficient.

The term *efficiency* is extremely important in economics. An allocation of goods is efficient if it cannot be changed to make someone better off without making at least one other person worse off, better off being defined as gaining something one wants and worse off as losing something one wants. For example, assume a two-person economy that includes Dick and Jane. Dick has seven turnips, Jane has twelve, and turnips are the only good in this economy. Both would like to have more than they do now but the only way for either of them to get another turnip would be for the other person to have one less. Thus, the current allocation is efficient. Another name for efficiency is *Pareto efficiency*.¹³ Market transactions, given the conditions specified in chapter three, lead to Pareto efficient allocations.

It was only much later, in the 1890s that the theory of perfect competition was developed and was shown to be necessary for the market to achieve full efficiency. The proof can be shown graphically using the supply and demand graph. Compare figure 3 in this chapter to figure 2 in

chapter 2. They look very much alike and that is no coincidence. If the assumptions of perfect competition hold true, the demand curve represents the marginal benefit consumers receive from using a good and the supply curve represents the marginal cost firms undergo in producing the good. The equilibrium point is, therefore, the point at which marginal benefit equals marginal cost, the optimal quantity not just for one individual but for all individuals in the market. If the quantity were below the equilibrium quantity, marginal benefit would be less than marginal cost; consumers would be willing to pay more than the marginal cost of producing another unit and so it would be beneficial to society as a whole to produce another unit. If the quantity is greater than the equilibrium quantity, consumers are willing paid less than the marginal cost of the last unit; and thus the last unit was not worth what it cost to produce. Therefore, only equilibrium quantity, where the marginal cost to producers equals the marginal benefit to consumers, is socially optimal.

For example, suppose Tom is a greedy capitalist. Tom doesn't care about anyone but himself and his only ambition is to make himself as rich as possible. If Tom cannot defraud anyone, steal from anyone, cheat anyone, or extort anyone, then, to benefit himself, he has to find some way to make it in the interest of others to trade with him. In other words, he has to offer them a trade that is mutually beneficial. He doesn't have any direct desire to make good products that other people want, but if he doesn't, no one will trade with him.

Since Tom has to offer mutually beneficial trades, he would at least like to jack the price up way above the marginal costs of producing and selling the goods so he can capture most of the gains from these trades for himself. But if he does, a bunch of other greedy capitalists will see how much money he is making and enter the market. This increase in competition will force the price down to a level that reflects the marginal cost of producing and selling the good. None of the producers want to sell the good for its marginal cost, but competition forces them to.

When all the greedy capitalists in perfectly competitive markets are forced to sell their goods for the marginal costs, an allocation of goods results such that no redistribution of the goods in question can be completed without making at least one person worse off.

It was the invisible hand that led Smith to become a supporter of the doctrine of *laissez faire*, which had originated in France some years earlier. Laissez faire has been translated into English as “let it be,” “to leave to do,” or “hands off,” and it means that the government should have no restriction on trade, because a free market is one of the necessary conditions for the invisible hand to work. This may make you think that Smith must be a radically conservative philosopher but actually laissez faire was extremely liberal at the time. Today, we think of government restrictions on trade as social policies aimed at helping the weak and the poor against big businesses. In Smith’s day, most government restrictions on trade were designed to give monopoly rights to politically powerful individuals. The idea that any commoner should be allowed to set up shop in any business he wished was a new liberal idea.

Laissez faire quickly became a conservative doctrine after Smith’s death, however, when business interests during the industrial revolution found they could use the theory of the invisible hand to oppose government efforts to create better working environment or redistribute income during the industrial revolution. It was more that a half a century after Smith’s death that John Stewart Mill pointed out (in what is now known as the second fundamental theorem of welfare economics) that, although the invisible hand requires a given distribution of property rights, it does not depend on any *particular* distribution of property rights. Thus, the government is free to change the distribution of property at the beginning and then let the competitive market find the optimal quantity. Later authors have pointed out that it is very difficult to redistribute property before transactions occur because the distribution of property at the beginning of any one day depends on

the trades made the day before. Thus, there is now debate over the “efficiency-equity tradeoff:” If there are negative efficiency effects of redistributing property what are they? How can they be minimized? And what level amount of efficiency loss is a worthwhile price to pay for more equity? The answer to these questions are highly controversial but it is not sufficient anymore to say simply that there should be no government redistribution of property simply because it is inefficient.

Some have also tried to apply the theory of the invisible hand as an argument against government health, safety, and environmental regulations but the argument does not always hold. No restrictions on trade is one of the necessary assumptions for the invisible hand to work and thus for many years after Smith the invisible hand was rather simplistically applied to all government regulations. However, the theory of perfect competition has many assumptions all of which must hold true for the outcome to be socially optimal and many of which are very often do not hold true. What has become known as the theory of second best, is the recognition that if the first best outcome (a perfectly competitive market) does not exist then the next most efficient outcome may require the government to step in with a policy that eliminates counteracts the failures of the market. Far from being a plank for a laissez faire political platform, the perfectly competitive model can be used as a list of what is missing from real world markets. This type of analysis will occupy most of the next three chapters.

3.11 Policy Application: Rent Control

This last section applies some of the ideas that have been discussed in this chapter to a policy issue that is likely to be of great interest to social workers: rent control. Rent control laws are on the books in a number of cities with New York City being the “rent control capital” of the nation.

These laws regulate how much rent landlords can charge their tenants and are often advocated as a way to assure that the poor and near poor will be able to afford housing. Given their professional concern for the impoverished, social workers are probably quite sympathetic to rent control laws. Economists, however, tend to oppose rent control laws because they argue that such laws tend to create shortages in rental housing markets and do not necessarily help the poor.

INSERT FIGURE 8 HERE

In Figure 8, the equilibrium price is \$250 and the equilibrium quantity is 6 million dwellings. The authorities in Metropolis pass a law that requires landlords not to raise rents above \$150 a month. At this price, quantity demanded is 8 million dwellings, while quantity supplied is 4 million. Which is the quantity that will actually be rented when supply and demand are not equal? The guiding principle is short side rules. Firms may not be able to sell all they want, but they are not forced to sell any more than they want, and consumers may not be able to buy all they want, but they are not forced to buy any more than they want. Since the quantity that firms want to sell is the smaller of the two, 4 million units are actually rented and there is a shortage of 4 million units. The rent control laws do make housing more affordable, but they don't make it more available. In fact, rent control laws make housing less available. Firms have less incentive to build new housing and they even have an incentive to remove existing housing from the rental market. Those who have the 4 million available rental units benefit from rent control, but those who would be able to find a place if the price was allowed to rise to the equilibrium level are harmed by rent control.

Furthermore, rent control has a number of undesirable side effects. Firms may have less incentive to perform maintenance on buildings, and they find it easier to discriminate among renters.

Consumers will be afraid to move if their needs change, and the difficulty of finding a vacant apartment will increase. Also, you can use supply and demand to find out what will happen to housing units that are not covered by rent control laws (such as those in nearby suburbs). Nonrentcontrol housing is a substitute for rent controlled housing and so figure 4 reveals the answer. Demand will increase and the equilibrium price and quantity will both increase. That is, efforts to control the rents on one type of housing will drive up prices for another type of housing, and thus rent control helps some consumers but hurts others.

Because it is not clear how a shortage of dwellings can help the poor, or anyone else for that matter, economists tend not to think much of rent control laws as a way of assuring access to housing. It is not enough to recognize a social problem, but the solutions should be made as efficiently as possible. Rent control makes the outcome farther from the efficient equilibrium so it is generally frowned on by economists, even those who favor other means of making housing more affordable. If anything, economists are more likely to argue that the poor be provided with housing subsidies. A housing subsidy would have the same effect as an increase in the supply of housing (see figure 6), increasing the quantity sold and decreasing the price. Thus, a subsidy would make housing not only more affordable but also more available. Another, more economical solution would be to redistribute income towards the poor so that they are able to afford housing at market prices.

CHAPTER FOUR

IMPERFECT COMPETITION

Chapter 3 defined the model of perfect competition with four assumptions: many buyers and sellers, an undifferentiated product, perfect information, and free entry and exit. The model derived three results from these assumptions: the law of one price, no economic profits exist, and the market reaches an efficient equilibrium price that equates the quantity supplied and the quantity demanded so that the maximum possible gains from trade are created. This chapter looks at how relaxing the four assumptions changes the outcomes.

On the basis of differing assumptions, economists identify four other types of market structures: *monopoly*, *monopsony*, *monopolistic competition*, and *oligopoly*. None of them leads to all the desirable outcomes of perfect competition and so they are called *imperfectly competitive markets*. Each of these market structures has some of its own unique characteristics, and knowledge of different structures is important for determining when, whether, and how government should intervene in the market.

This table should appear near the end of the chapter

A summary of the five types of market structures					
	Perfect competition	Monopoly	Monopsony	Monopolistic Competition	Oligopoly
Assumptions	<ol style="list-style-type: none"> 1. Many buyers and sellers 2. Undifferentiated product 3. Perfect information 4. Free entry and exit 	<ol style="list-style-type: none"> 1. One seller, many buyers 2. Unique product with no close substitutes 3. Perfect information 4. Barriers to entry 	<ol style="list-style-type: none"> 1. Many sellers, one buyer 2. Undifferentiated or undifferentiated product 3. Perfect Information 4. Barriers to entry for buyers, barriers to exit for sellers. 	<ol style="list-style-type: none"> 1. Many buyers and sellers 2. Differentiated product 3. Perfect or imperfect information 4. Free entry and exit 	<ol style="list-style-type: none"> 1. Few sellers, many buyers 2. Differentiated or undifferentiated product. 3. Imperfect information. 4. Barriers to entry
Results	<ol style="list-style-type: none"> 1. Law of one price holds. Firms are price takers. 2. No economic profits in the long run 3. Efficient 	<ol style="list-style-type: none"> 1. Seller has price-setting power 2. Economic profits can exist indefinitely 3. Inefficient 	<ol style="list-style-type: none"> 1. Buyer has price-setting power. 2. Economic profits can exist in definitely 3. Inefficient 	<ol style="list-style-type: none"> 1. Firms have some price setting power 2. No economic profits 3. Uncertain efficiency 	<ol style="list-style-type: none"> 1. Uncertain pricing 2. Uncertain profits 3. Uncertain efficiency

4.1 Monopoly

The primary characteristic of a monopoly is that there is only one seller in the market. The following assumptions apply to the monopoly model:

1. *One seller and many buyers.* There is only one firm selling this good in this market, and many buyers each of which is too small to independently affect the monopolist's behavior.
2. *No close substitutes.* The monopolist's product is unique and there are no products on the market that are easily used in place of it.
3. *Perfect Information.* The seller and all buyers know the prices and quantities of goods in the market.
4. *Barriers to entry.* It is either difficult or impossible for new firms to enter the market.

This section explains the assumptions of the monopoly model and then shows that if these assumptions hold, the following results will occur: The firm has the power to set price, the firm can make economic profits even in the long run, and the industry is inefficient. Finally, this section discusses policy responses to monopoly.

In a monopoly, there is one firm selling a unique product for which there are *no close substitutes*. Examples of monopolies include the local telephone, the power company, and the local cable television provider in most areas of the United States. Small markets might have monopolies in industries that might not normally be considered monopolies. A small town might have only one grocery store, one gas station, or one restaurant. Although their products are not unusual, these firms

are considered monopolies because their product is unique in their market. Every firm in some sense competes with other firms; even the power company competes with the fact that you could replace the electricity in your home with a gas generator. Therefore, we can't say that there are no substitutes for a monopoly's product, just that there are no *close* substitutes. Thus, the line dividing monopolies from other types of markets is a bit fuzzy. The cable television company is the only provider of certain channels, but it competes with satellite and broadcast television. Is it a monopolist? Probably because most consumers probably don't consider these alternatives to be close substitutes for cable television. McDonald's is the only firm that sells a Big Mac, but it competes with Burger King, Taco Bell, KFC and many other restaurants. Is it a monopolist? It probably isn't because these other restaurants, although they don't produce Big Macs, produce goods that are easily substituted for McDonald's products.

In order for a monopolized market to stay that way permanently there must be some *barriers to entry* that keep other firms out. These can be firm created barriers, legally created barriers, or cost advantages. Firm created barriers exist when one firm tries to establish itself as a monopoly by making it difficult for other firms to compete. This practice is illegal in the United States. Legally created barriers are government laws that allow only one firm to compete in a market. Such barriers exist for some cable television companies, power companies, and other industries. It might seem strange that the government would create barriers for some firms while prosecutes other firms to erect their own barriers, but they often create legal barriers for industries that are believed to be *natural monopolies*. A natural monopoly is an industry for which the law of diminishing returns does not hold.¹⁴ In such an industry a larger firm always has lower costs than a smaller firm does. Thus, larger firms will always out compete smaller firms until there is only one

firm left in the market. In such an industry, a competitive equilibrium cannot exist, and only one firm can exist in the long run.

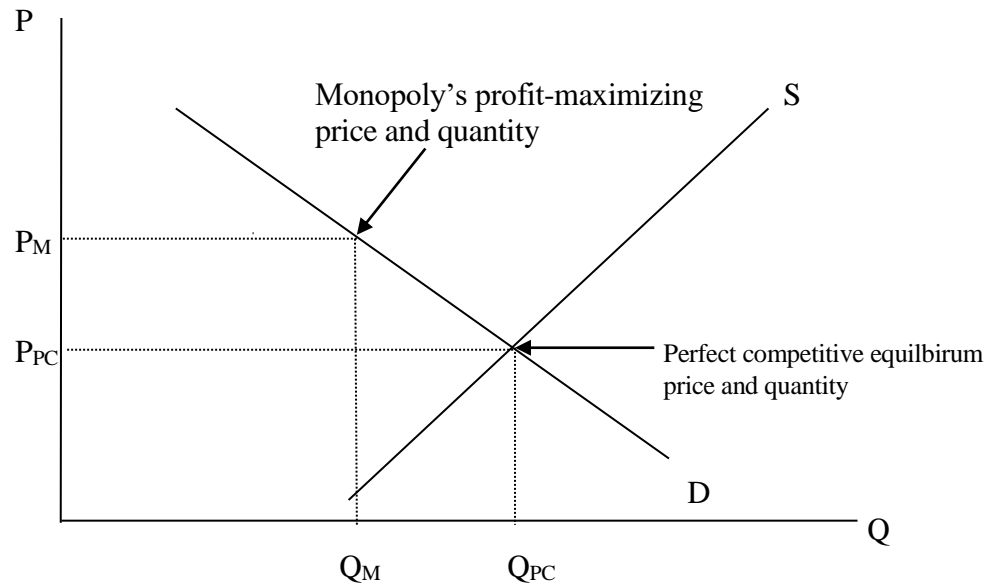
The monopolist's *price-setting power*, or *market power*, follows directly from the assumption that it is the only firm in its market. Consumers in a competitive market have the choice of buying from one firm or any other firm, and so any one firm has a very limited ability to charge more than other competitors. But, because a monopolist has no close competitors, consumers' choice is limited to buying from the one firm or not buying at all. This gives the firm a great deal of leeway to set its price. You may think that a monopolist will, therefore, sell its goods at the highest price consumers will pay, but this conclusion is too simple; it forgets that every consumer is different. There is no one maximum price at which consumers buy a given amount and above which consumers buy none at all. When the price goes up, some consumers will not change their behavior at all, some will buy a little less, and others may stop buying altogether. Thus, the demand curve has its familiar downward sloping shape. The monopolist can raise the price, but if it does so, it must accept the fact that consumers, on average, will buy a little less. So, if it raises the price it will gain in revenue per unit, but it will lose in the number of units sold. If the monopolist lowers the price to nearly zero, it will have a very high quantity, but its price will be so low that it won't make any money. There is some price that is so high nearly no one will buy, and the firm will again make almost no money even though its price will be very high. There must be some price in between the two that maximizes profit. It is the firm's goal to find that price.

The monopolist's ability to make *long run economic profits* follows from both the assumption that it has price setting ability and from the assumption that there are barriers to entry. The firm's price setting ability allows it to choose any price to maximize profit and often this means making a profit (although it does not necessarily ensure profits). Normally, economic profits attract

entry from other firms until those profits are competed away, but barriers to entry prevent this process from happening in a monopoly. Thus, if a monopolist is profitable it can stay profitable indefinitely. Social workers might regard sustained profits as unfair, especially if a monopolist makes positive economic profits off a good people need.¹⁵ Suppose a monopolist sells food, housing, health care, or electricity. This would mean that people would have to pay more for these items not because they cost more to produce but simply because sellers could get away with charging them more.

The inefficiency of a monopoly follows from its price setting ability. The firm's price-setting ability allows it to increase the price above the perfectly competitive price, but consumers respond by buying less than the perfectly competitive quantity. It is not necessary for the purposes of this book to discuss the technical aspects of how a monopolist sets its price. It is sufficient to say that, because the monopolist has price setting power, the monopolists price is always higher, and the quantity traded always lower than they would be in perfectly competitive market as shown in figure 1.

Figure 1, The inefficient monopolist: The monopolists' price (P_M) is higher and its output (Q_M) is lower than the perfect competitive equilibrium price and quantity (P_{PC} and Q_{PC}). Because the perfectly competitive output is socially optimal, the monopolists output must be suboptimal. The perfectly competitive output equates marginal benefit with marginal cost, but the monopolist's profit maximizing quantity does not.



Because the competitive equilibrium quantity is efficient, any other quantity is inefficient. It is not the high price but the loss in quantity that makes the a monopolist inefficient. High prices may make it unfair but not inefficient. Remember that efficiency is about the total amount of goods available to society not about who gets those goods. A monopolist doesn't really want to limit the quantity; it only accepts a lower quantity so that it can charge a higher price. Both consumers and the firm, lose out because the quantity is reduced. The firm makes up for this loss and more because it receives a higher price, but consumers lose out a second time because of the higher price. Thus, we know that the gain the firm receives from charging a higher price is smaller than the consumers' loss, and thus, the monopoly outcome is inefficient.

Another way to understand the inefficiency is to remember that at the competitive equilibrium price equals marginal cost, and thus the price consumers pay equals the cost to society of producing the good. Because a monopoly has a lower quantity it receives a higher price and has a lower cost. For example, a monopolist in the textbook industry sell books for \$85 dollars each although his marginal cost is only \$25. The marginal benefit of the book is \$85, but society would only have to forgo \$25 worth of other goods to produce each book. Therefore, the laws of rational decision making imply that more books would be beneficial to society, but the monopolist won't produce more because that would force it to lower its price and reduce its profit.

Another inefficiency caused by monopolies is that they can get away with imposing higher non-pecuniary cost on buyers.¹⁶ For example, suppose there was just one provider of psychotherapy in a small local market for counseling. Clients who went to this provider's office might have to spend long periods in waiting areas before being seen by the provider. This would be time that could be spent engaging in other utility generating activities so waiting room time would be a cost.

There might be things the therapist could do to decrease clients' wait times, but, being a monopolist, he faces no competitive pressure to do any of them.

There are three things that government can do to alleviate the inefficiency caused by monopolies. First, government can attempt to foster competition in monopolistic markets by breaking up monopolies or keeping them from forming. This is why the United States has antitrust laws. Antitrust laws limit mergers (the joining together of firms to create bigger firms) between firms that sell goods in the same market. Anti-trust laws also limit price-fixing between firms in the same market; that is, they prevent competing firms from acting as if they were a monopolist (see *cartels* below). Antitrust laws have been used to break up American Telephone and Telegraph's monopoly on long-distance phone service and regulators are currently threatening to take action against Microsoft.

Second, Governments may choose to allow the monopoly to exist but regulate its price. The U.S. government has used this solution for local phone companies, electric companies, and, in some cases, cable television. This option is usually used for industries that are believed to be natural monopolies. Breaking up a naturally monopoly would not work very well because a group of smaller firms would have a higher cost than one large firm would. But leaving the natural monopolist alone isn't usually considered a good idea because natural monopolies have the same desire to maximize profit as any other firm and so they will raise prices above costs, and they may raise price well above cost. For example, you may think your electric bill is high now, but how high would your bill have to go before you seriously considered having your electricity disconnected and lighting your house with candles or buying a gas generator? You'd probably let it go quite high. Thus, if there were an unregulated monopolist in the power industry, it could get away with a very high price. It is difficult for government to determine the "right" price to allow a natural monopolist

to charge and there are efficiency problems for a firm that faces a regulated price, but regulation may be the best solution given the alternatives.

Third, the government could simply take the monopoly over and run it itself. This solution has been used by the U.S. government in a number of industries, such as passenger rail service, the highway system, and the post office. This strategy is more common in Europe. The disadvantage of this approach is that it is difficult for the government to determine the most efficient price and the most efficient forms of management. But the advantage is that any profit the monopoly makes could be used for other government projects that are beneficial to society as a whole.

4.2 Monopsony

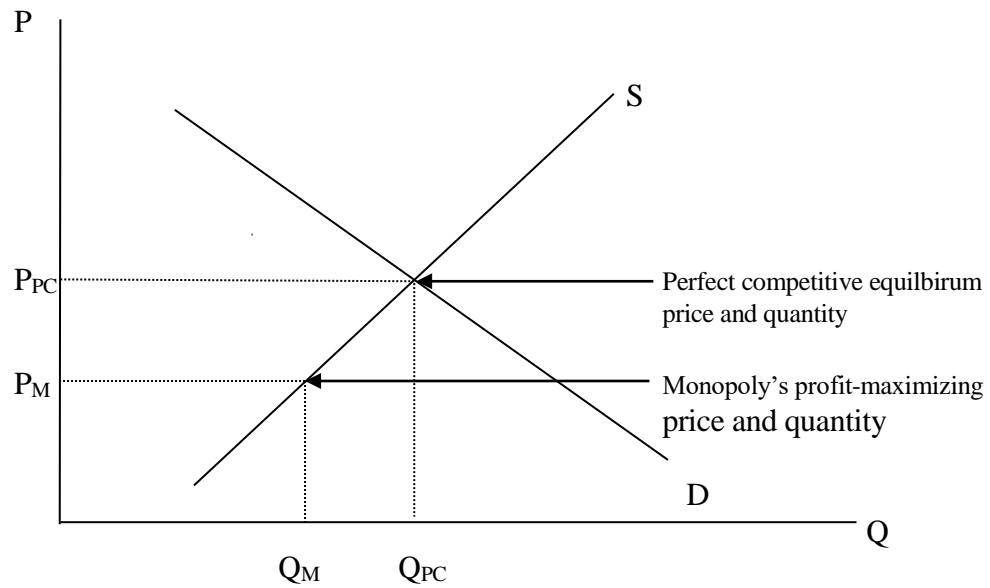
Monopsony, in a way, is the reverse of monopoly. A monopoly has many buyers and one seller, while a monopsony has many sellers and one buyer. Thus, it is the buyer who has the power to set price. The monopsonist (the firm in a monopsony) uses its market power to set a low price rather than a higher price. Otherwise the results are similar to the results of the monopoly model. The follow assumptions apply to the monopsony model:

1. *One buyer and many sellers.* One firm buys all the goods sold in this market from many small sells who cannot independantly affect the monopsonists behavior.
2. *Homogenous product.* Sellers in this market sell an identical product.
3. *Perfect Information.* The seller and all buyers know the prices and quantities of goods in the market.

4. *Barriers to entry.* There are barriers to entry for buyers and barriers to exit for sellers.

Again we'll spare you the technical aspects of how a monopsonist chooses the profit maximizing price, and just say that both price and quantity are lower than they would be in a perfectly competitive market and thus the industry is inefficient as shown in the following graph.

Figure 1, The inefficient monopsonist: The monopsonists' price (P_M) and quantity (Q_M) are both lower than the perfect competitive equilibrium price and quantity (P_{PC} and Q_{PC}). Because the perfectly competitive output is socially optimal, the monopsonists output must not be.



The most commonly cited example of a monopsony is a small town with one large employer. Because there is only one buyer of labor, those who want to work have to sell their labor to this buyer or leave town. Notice that the monopsonist hires less labor than a competitive firm would. The firm doesn't really want to buy less labor. It accepts a lower quantity in order to obtain a lower price, because fewer workers are willing to accept the very low wages that a monopsonist pays. In fact, the firm would be willing to buy much more labor at this price (read across to the demand curve) if workers were willing to accept it. Or the firm would be willing to pay much more for this quantity of labor (read up to the demand curve), but they would only do so if competitive pressure forced them to. The monopsonist uses its market power to set the wage below workers' marginal product. In other words, workers are paid less than they are worth. This is arguably exploitation, and those, like social workers, who believe government ought to promote fairness would probably argue that policies ought to be enacted to curtail it to the extent that it exist. Those who are interested in promoting efficiency would also be interested in curtailing the power of monopsonists. A monopsonist is not inefficient because of the low wages but because of the lower quantity.

In any situation in which the market fails to achieve the efficient level of output, the theory of second best can be applied. Two strategies that can hurt efficiency in a perfectly competitive market can increase efficiency in a monopsony—the minimum wage and unionization. Either of these can function as a substitute for competitive pressure to force the firm to accept a higher wage and may thus bring the market closer to the efficient quantity.

4.3 Monopolistic Competition

Like perfectly competitive markets *monopolistically competitive* markets have many small buyers and sellers, free entry and exit, and perfect information (although perfect information is not as essential to monopolistic competition as it is to perfect competition). The difference between the two market structures is that perfectly competitive markets have a homogeneous product and monopolistically competitive markets have a differentiated product. That is, every firm in a perfectly competitive industry produces a product that is identical to the product of every other firm, but every firm in a monopolistically competitive industry produces a product that have some unique characteristics although it is a close substitute for the products of other firms. Examples of monopolistic competition are typically found in retail industries. For example, one restaurant's food is not exactly like another, but they are close substitutes. One brewery's beer is not exactly like another, but they are close substitutes. One social worker in private practice is not exactly like another, but they are close substitutes. One social worker may provide Jungian therapy, while another may provide Freudian. One social worker might have a slightly different style than another, although all of the arguably provide the same basic type of service.

Product differentiation gives each firm some power to set its own price without there being one identical market price charged by all firms. But monopolistically competitive firms typically have less price setting power than monopolies because there are close substitutes available. In other words, the demand curve facing a monopolistically competitive firm is more elastic than the demand curve facing a monopolist. Free entry and exit prevents monopolistically competitive firms from getting much benefit out of their price setting power. If they make economic profit, competitors will enter the industry, lowering the demand for each individual firm's product until profits equal zero. Thus, a monopolistically competitive firm sells a smaller quantity at a higher price than a perfectly competitive firm would. Is a monopolistically competitive industry less

efficient than a competitive industry? Not necessarily, because monopolistic competition offers something that benefits consumers—more choices—that at least partially counteracts the negative effects of higher prices. Would you like to live in a world where all restaurants, all beer, and all soda were exactly the same? This is what would be necessary to create perfect competition in these industries. If perfect competition were created, you might be able to get these products a little cheaper than you can now, but would you be willing to give up the variety you have to get things a little cheaper? The answer may depend on how much cheaper and how good the homogenous products were. No one knows for sure exactly whether the benefit to more variety is greater or smaller than the loss due to inefficient production by firms, and, thus, no one can say if a monopolistically competitive industry is less efficient than perfect competition or not.

4.4 Oligopoly

Oligopolistic markets are in between competitive markets and monopolies. There is not one firm or many firms but a small number of firms. The word “small” is used here as a technical term. It doesn’t mean a specific number of firms, but that the number of firms *small enough* so that each firm has some power to influence the market price and noticeably affect its competitors. The following assumptions sum up the oligopoly model:

1. *Small Number of sellers and many buyers.* There are so few sellers in the market that the decisions of each noticeably affect the sales of others and at least some sellers can influence market price.

2. *Homogenous or different products.* The product offered for sale may be homogenous or differentiated.
3. *Imperfect information.* There is perfect information regarding prices but firms don't have perfect information regarding rival's reactions.
4. *Barriers to entry.* There are barriers that hinder new firms from entering the market.

Oligopolies are dominated by a few large firms, although there may be some small competitors in the market as well. The product may be homogenous or differentiated. For example, the steel industry is dominated by a few large firms, but each firm's steel is identical to every other firm's steel. The soda industry is dominated by two large firms (Pepsi and Coke) who each produce many products that are not exactly alike. Consumers are assumed to have perfect information about the products and prices available, and firms are assumed to have perfect information about past prices charged by other firms, but they do not know how other firms will react if they change their own strategy. Barriers to entry exist so that the few firms that are in the industry are fairly sure that new firms cannot enter the industry and compete at the same scale.

The outcome of an oligopoly is uncertain. Firms are large enough to influence the market price, but whether they do so depends on how much competition is provided by the other firms in the industry. In competitive markets, economic profits are competed away by the entry of new firms. Entry is insufficient to assure long-run zero profits in an oligopoly, but competition among existing firms may or may not be enough to keep profits near zero. The quantity therefore may or may not be lower than the perfectly competitive quantity and thus the industry may or may not be inefficient.

These outcomes are uncertain because oligopoly behavior is strategic. A competitive firm reacts simply to a predictable market price. A monopolist reacts to a predictable market demand curve, but oligopolistic firms have to react to the unpredictable action of other firms. They must choose their strategy based on an estimate of the other firms' strategies, but other firms will change their strategy in reaction to changes in the first firm's strategy. Thus, the operation of an oligopoly is more like a game and more uncertain than any other market structure.

What can be known about oligopolies? They will be in between the extremes of monopoly and perfect competition. At one extreme, the price could be as high and the quantity as low as in a monopoly; at the other extreme the price could be as low or the quantity as high as in a perfectly competitive industry. Oligopolies have more incentive than other firms to engage in non-price competition, such as advertising, but it is uncertain whether advertising increases or decreases efficiency. More than that cannot be said with certainty, but there are several ways oligopolies might behave and economists have several different methods to model their behavior. Firms in an oligopoly may compete as if they were perfectly competitive firms and reach the competitive outcome. This outcome, however, is probably unlikely because it relies on firms ignoring the market power they have. Firms could take their competitors strategy as given and set their own strategy based on the assumption that other firms will not change their strategy. If all firms do this, the industry will reach an equilibrium of sorts in which no firm has an incentive to change their behavior as long as no one else changes their behavior, but this equilibrium will not be the efficient perfectly competitive equilibrium.

Oligopolists could band together into a *cartel* and behave as if they were one big monopolist. If firms in an oligopoly choose this strategy they make arrangements to set prices, output levels, sales territories, and so forth. If successful, the industry would have the same inefficiency associated

with monopolies, but there are several reasons why cartels might not be successful for long. Most importantly, in the United States, forming cartels is illegal. Firms who do so are subject to imprisonment or a fine under the U.S. antitrust laws.¹⁷

Aside from legal reasons, individual cartel members have an incentive to break the agreement. Firms as a group have an incentive to make a cartel agreement restricting output to achieve a higher price so that they can each make a share of the monopoly profits. But, any individual firm can make even more money if they break the agreement, cut their price a little and capture a larger share of monopoly profits. Because all firms have this incentive the agreement may break down entirely. For example, suppose Jill, Betty, and Wilma were the only psychotherapists in Mudville. Jill, Betty, and Wilma have agreed that if they all restrict themselves to providing only 20 sessions a week instead of their usual 40 they can charge \$200 a session instead of their usual \$50. Thus, they can each increase their income from \$2000 a week to \$4000. One day it occurs to Betty that if she lowered her price, while Jill and Wilma stuck to the cartel price, some of their clients would come to her, allowing her to make a even higher profits. She sees 40 patients a week for \$150 each, making \$6000. But, this cuts into Jill and Wilma's profits so they cut price to get those clients back and pretty soon they are back to charging \$50 a session and seeing 40 clients.

Cartels are also unstable because they attract entry into the market. Entry is difficult in an oligopoly, but not necessarily impossible. It is in the interest of cartel members to keep new entrants out of the market or to get them to join the cartel agreement if they get in. But these actions are illegal and difficult to maintain. One way to discourage entry is to advertise so that new firms will have to undergo a great expense to make a dent in the market. Another is not to charge the full monopoly price so that the economic profits are not as high as they could be and do not attract as much entry. But this strategy brings the industry closer to the competitive level.

Oligopolists may coordinate their behavior like a cartel without an explicit agreement. One way to do this is through *price leadership*. That is, one firm sets a price and other firms in the industry follow. This is simply implicit price fixing and may simply be a way firms can make cartel profits without being subject to prosecution. Sometimes this implicit form of price fixing is accompanied by *non-price competition*. That is, firms pursue similar pricing practices compete with one another on the basis of packaging differences, quality differences, or differences regarding offers of special services. This type of situation is frequently found in the real world and economists have given a lot of attention to it.

Because oligopoly behavior is uncertain and there are many possible strategies, economists have used *game theory* to analyze oligopolies.¹⁸ Game theory models a strategic situation as a game and is sometimes studied by having research subjects play the game for money. Game theory thus far, however, still leads to the conclusion that the outcome in an oligopoly is uncertain.

The most common policy responses to oligopoly in the United States is for regulators to try to prevent them from forming cartels. Regulators have the power to review mergers to prevent firms from becoming so large that they can dominate a market, but they have generally used this power only to prevent markets from becoming monopolies not to prevent markets from becoming oligopolized or to prevent oligopolies from becoming more concentrated. Recent mergers have reduced the number of large firms dominating some industries from 20 to 10 or from 10 to 5 with little interference from regulators.

4.5 An application: healthcare

This chapter has stressed that social workers can benefit from knowing something about market structures because this information can aid in answering the question of what policies government ought to enact. The rest of the chapter looks at how knowledge of market structure can be used as a basis for implementing health care policy.

At this writing, one of the most talked about trends in the health industry is the increasing proportion of insured health care patients who hold policies with managed care companies. Many of these patients receive help paying their premiums from their employers, and some completely pay their premiums themselves. Suppose the health insurance market were an oligopoly made up of four managed care firms. If these firms were to form a cartel, implicitly fix prices, or engage in other types of coordination, the market could develop features of a monopoly.

A monopoly-like health insurance market would lead to the inefficient consequences discussed above. Employers and individual patients would end up paying premiums that exceeded the marginal cost of providing coverage. The result would be a sub-optimal amount of health insurance coverage and positive economic profits for members of the cartel. Health insurance is, arguably, something people need. Thus, health insurance companies would be making positive economic profits at the expense of many going without a necessity or paying much more for it than would be necessary in another market situation. The inefficiency and injustice associated with a monopolistic health insurance market could serve as the basis for government intervention. This intervention could take the form of anti-trust actions, government regulation of managed care companies' premiums, subsidies to help consumers purchase health insurance, or nationalization. Healthcare is discussed more thoroughly in chapter 10.

This chapter has focused on market structures because the inefficiency and injustice associated with some types of market structures are the most important justifications for government

intervention into markets. The next chapter continues this theme of the justification for government intervention by focusing on some of the other problems that can arise from sole reliance on market allocation of goods.

CHAPTER FIVE

MARKET FAILURE AND GOVERNMENT INTERVENTION

This chapter discusses the theoretical justification for government intervention in markets. You may wonder why a theoretical justification is needed; isn't a government decision justified as long as it's made democratically? There are at least two arguments—one based on the principle of liberty and the other based on the principle of efficiency—commonly offered for why the government shouldn't intervene in the economy unless there is a compelling reason to do so.

The liberty argument against government intervention is that people have a right to exchange their legitimately-owned property for whatever they see fit. A government restriction on people's ability to make free use of their property—even if it is approved by majority vote—represents an imposition on individual freedom, and so should be avoided unless there is a compelling reason to do otherwise. Since this isn't a book on ethics or political philosophy the liberty argument won't be discussed further.

The efficiency argument against government intervention is based on economists' understanding of the benefits associated with perfectly competitive markets. Recall from chapter three that, if there are no external effects and other distortions, perfectly competitive markets result in efficient allocations of goods. As discussed in chapter 3, the idea that the entire society benefits from exchanges in perfectly competitive markets engaged in by selfish individuals is now called the *first fundamental theorem of welfare economics* (FFTWE).¹⁹

The FFTWE doesn't seem to leave a lot of room for governments to make a positive contribution, but there is one important possibility for government intervention even if society is

made up of a system of perfectly competitive markets. Recall from chapter one, that one of the functions of governments in mixed economies is affecting the distribution of property rights. If society doesn't like a particular distribution of property because it is believed to be too unequal, it can use taxes and transfers²⁰ to alter this distribution. After doing so, if the government lets people engage in trades with one another and markets are perfectly competitive without external effects or other distortions, the allocation of goods that result will be Pareto efficient. This conclusion is *the second fundamental theorem of welfare economics*, and it shows that government intervention aimed at creating a more equal distribution of property needn't necessarily interfere with economic efficiency.²¹

Occasionally, you will hear people use the FFTWE as part of an oversimplified argument against government intervention in the economy. Since one of the conditions for an efficient outcome is the existence of markets with free entry and exit and since government intervention can restrict entry, markets without government intervention are necessarily more efficient than ones with government intervention. This argument is incorrect because it ignores the fact that many of the other conditions for an efficient outcome are not met either. It amounts to saying that even though all of the conditions needed for efficiency aren't met we should meet as many of them as possible. But, according to a perspective in economics called *the theory of the second best* (TSB), this isn't so. The TSB states that if some of the conditions for efficiency aren't met, it may be necessary to violate another condition for efficiency to counteract the first. Since it's very rare that all the conditions for an efficient economy are met, the theory of the second best implies that there may be many opportunities for government intervention to promote the efficiency of the economy. For example, if the assumption of perfect information (see chapter 3)

is not met the government could potentially promote efficiency by intervening to provide information to consumers.

Market failure occurs when one of the conditions necessary for Pareto efficiency is absent. If market failure exists the market outcome is inefficient and government can potentially enacting policies that make some better off without making anyone else worse off, a change called a *Pareto improvement*. The most common methodology is to discuss potential market failures and, afterwards, discuss what government might do to address them. This methodology is followed here. Imperfect competition is a kind of market failure, but because it was discussed in chapter four, it won't be discussed further.

5.1 Externalities

Probably the most common example of market failure is an *externality*, also known as external effects or third party effects. An externality is an effect that market exchanges have on people who are not a party to those exchanges. Every transaction has costs and benefits. As long as these costs and benefits are felt only by the buyers and sellers these parties can determine the optimal amount to trade. But if trades between buyers and sellers effect someone else there will be costs or benefits that the buyers and sellers are unaware of or uninterested in, and these costs and benefits will not be figured into the decision of how much to buy or produce. Therefore, the amounts chosen by buyers and sellers, though they may be optimal from their private perspectives, are not optimal from a social perspective.²²

A classic example of an externality is pollution. If Michael buys a car from Roger, he evaluates the benefit of his enjoyment of the car against the price he has to pay for the car. Roger

evaluates the price he receives for the car against the cost of producing the car. But, there are other costs that are not considered by either of them. The engine will produce gas fumes and rubber will rub off the tires and enter the environment. The amount of pollution caused by Michael's car is negligible to him and to Roger, but it is not negligible to society in general. Such pollution is undoubtedly responsible for many of the respiratory and other health problems often encountered by medical social workers. If the external costs of pollution aren't *internalized*, buyers and sellers of automobiles won't choose the **socially** optimal level of automobile production. Costs are internalized if society has found a way to make external costs felt by market participants.

The externality concept is related to another current policy debate. A number of motorists talk on cell phones while driving. Some believe such motorists are as dangerous as drunk drivers are and contend that government should regulate cell phone use by motorists. According to Robert W. Hahn, an analyst affiliated with the American Enterprise Institute, a number of states are beginning to regulate this behavior. Hahn doesn't think such regulation is justified, in part, because, he believes drivers should decide whether they want to accept the small chance of dying in a car accident while talking on a cell phone in order to attain whatever gains they receive from their conversations.²³

The problem with Hahn's position is that it assumes that all those who die as a result of someone's driving while talking on a cell phone are the ones who made the choices to talk while driving. But what if, as is likely to be the case, some of those who die aren't the ones who decided to talk on the phone. Those who use cell phones while driving may only consider the possible costs and benefits of this behavior to themselves not to other parties who die in

accidents they've caused. In other words, motorists using cell phones probably impose external costs and, therefore, government regulation of some kind could be justified.

James S. Coleman was a sociologist who applied economic tools to the study of sociological issues.²⁴ In his widely acclaimed book *Foundations of Social Theory* he uses the term externality a bit more broadly than economists typically do. Economists tend to focus on how consumption, production, and market transactions affect third parties.²⁵ Coleman's conception includes external effects of behaviors not ordinarily considered consumption, production, or market exchanges.²⁶ For example, suppose Jose is a social worker who dislikes child abuse. He's in the supermarket one day and sees a mother who brutally slaps her child. The mother has chosen to do this after weighing its benefits and costs to her (presumably, one of the benefits is that it gets her child to behave himself). Yet her action, on Coleman's broader conception of externality, negatively affects Jose's utility. The slapping of the child, in a sense, "pollutes" Jose's environment.

There are probably many, like Jose, who don't like child abuse, and many who abuse kids without considering the external costs of this behavior. Government systems of child welfare can be justified as mechanisms for addressing the negative externalities caused by child abuse and neglect. The fact that he might lose custody of his kids as a consequence of abusing them might encourage a father to consider the external cost of child maltreatment.

The problem with Coleman's analysis is that it makes it very difficult to draw the line between externalities and nonexternalities. Suppose Jose is a strict Moslem and he is offended by woman who are not covered head to toe in veils. If Jose walks into a shopping mall and sees a woman wearing shorts, he feels his environment has been polluted. Thus, most economists believe that discussion of externalities should be limited to those who are directly affected in

their persons or property. It is because of concern for the child, not for Jose, that society bans child abuse.

The externalities described above are negative externalities because the behaviors impose cost on third parties. In the case of a positive externality an action generates a benefit to a third party. For example, someone could construct a building that makes the city a more beautiful place. Social workers could help clients recover from mental illnesses and, thereby, benefit not only themselves and their clients but also society in general, if people enjoy being among other mentally healthy people. Since it is the case that mentally ill persons are sometimes violent, other members of society also benefit from a decrease in the probability that they will become victims of violent crimes committed by mentally ill individuals.

Not all negative effects are externalities. If cigarette smoke is dangerous to the person who smokes, this is not an externality. It may be an informational problem, if the smoker is not aware of how dangerous smoking really is. It may be a psychological problem, if the smoker does adequately care about her own health. But any of the health consequences of smoking that effect only the smoker herself are not externalities. Second-hand smoke is an externality. The costs of the health effects of smoke can be an externality however if they are not paid for by the smoker herself. Cigarette smokers, with the help of manufacturers, damage their own health by smoking, leaving governments to pay for the necessary treatment in the form of Medicare and Medicaid. Hence, though the dangers of cigarettes are not inherently an externality they have become one because we don't ask every individual to pay the full cost of their own health care.

When externalities arise, the outcomes of market transactions are inefficient. Thus, government could justifiably increase efficiency by market intervention. For the case of negative externalities, such as pollution, this usually takes the form of banning the release of certain

chemicals into the environment, limiting the emissions allowed by each firm, or mandating the use of specific kinds of pollution control devices. Economists, however, usually suggest a more market-oriented approach that would internalize the cost of the externality. The government could tax firms for every unit of pollution created that reflects the cost of pollution to society. Thus, the more they polluted, the more they would pay in taxes. The advantage of this approach is that it allows the firm flexibility in how it reacts to the problem. It could choose the method that would most cost effectively reduce pollution, or if it is not worth the cost imposed on society, they could continue to pollute. This, of course, raises the difficult question of how to determine the costs to society of an externality, but the government could always err on the side of caution and set the externality tax on the high side.

Governments have a number of different ways to deal with positive externalities as well. Some are subsidies, direct government provision, and regulation. Suppose Ricky is a twenty-nine year old poor homeless man with TB. Given that TB is highly contagious, if Ricky purchased treatment, a positive externality would result. In an effort to promote this positive externality, the government could do a number of things. It could build public clinics that provide free TB treatment.²⁷ It could subsidize Ricky's treatment by giving him the money to pay for it. The government could also enact a law that requires all physicians to provide treatment, free of charge, to indigent people with TB.

5.2 Public Goods

Another example of market failure is a *public good*. A public good is a good that once produced no one can be excluded from its benefits. This is actually a rather extreme form of a

positive externality.²⁸ A classic example has to do with a group of mice who decide that the best way to avoid being harmed by a cat is to hang a bell around its neck so they can hear its approach. The problem is that they can't decide who'll actually hang the bell. If any one mouse were to successfully place the bell around the cat's neck, all the other mice would benefit just as much as the one who did the work. Thus, each mouse has an incentive not to do the work. Why would a particular mouse agree to risk "life and limb" trying to place a bell around the cat's neck when he could just wait for some other mouse to do the job and still benefit? The problem is that if all the mice think this way, none of them will be willing to hang the bell. Thus, something that they all value (being protected from the cat) would simply happen.

Perhaps this problem could be solved if the mice pooled their resources and paid a mouse to hang the bell. As long as enough mice contributed to this project to get it done, all mice would benefit whether they contributed or not. But why would any one mouse contribute? Once again each mouse would ask himself "why should I contribute when I could just wait for the others to do so and still benefit?" And once again, if all mice think this way the task wouldn't get accomplished. The deal in which all the other mice pay one mouse a fee to hang the bell around the cat's neck is a kind of market transaction. Because of this kind of problem, public goods may not be produced by the market or may not be produced at their optimal level. This is called *the free rider problem* and it extends beyond imaginary societies made up of mice and aggressive felines. Markets rarely assure efficient levels of production of public goods.

For example, Michael Tanner is a contemporary social analyst who has argued that the federal government should get out of the business of providing income support to the poor.²⁹ Tanner believes that the poor would not suffer if his proposal were enacted because private individuals would contribute enough through private charities to meet the needs of the poor. The

private charity solution is a market approach to aiding the poor. People would donate money to some charity and, in return, the charity would see to it that the poor are provided with the money or goods they need. It shouldn't be too difficult to see that the "mice" problem would arise here as well.

Assume that a large portion of the population, if not everyone, desires to live in a nation with less poverty. There is evidence for this since many do contribute to charities. But most people probably benefit from living in a society without poverty, not from **personally contributing to charity to reduce it**. Thus, under a system of private charity, many people might decide to wait for someone else to donate because they could benefit whether or not they donated. Thus, many wouldn't contribute, and, as a result, many of the poor would remain needy. The free-rider problem in charity can be addressed by making a binding agreement that all people will donate some portion of their income to the poor. The only way to make this agreement binding on all members of the populace, however, would be to make it a law. Thus, the redistribution of income through a democratic electoral process can be viewed as people making an agreement that says, "I'll do my part to help the poor if you do yours."

Many goods are treated as public goods although technically they are not. Free public education is available to all children in the U.S. No one is excluded for nonpayment of taxes, although it would be possible for public schools to charge tuition and exclude all those who didn't pay their share. Libraries and freeways are also treated as public goods although it would be possible to treat them otherwise. We could set up tolls all along freeways and charge membership fees for all libraries. Thus the public goods problem extends to many government services.

5.3 Imperfect Information

The model of perfect competition assumes that buyers and sellers have perfect knowledge of the quality of goods exchanged, of the prices available for similar goods for sale elsewhere, and of all information that might be relevant to their decisions to buy or sell goods. If this assumption doesn't hold, market outcomes are not as likely to be efficient. Information problems often involve *asymmetric information*. This is when one party to a transaction has relevant information that the other party doesn't and so has the opportunity to manipulate the transaction. This type of problem can prevent mutually beneficial exchanges from taking place. One of the most frequent results of asymmetric information is *adverse selection*, which occurs when asymmetrical information about the quality of what's being exchanged causes a sub-optimal amount to be exchanged.³⁰ Another frequent result of asymmetric information is *moral hazard*, which occurs when being insured against some risk gives one an incentive to engage in behaviors that increase the likelihood that the risky event will occur.³¹ A brief discussion of insurance markets should clarify the notions of adverse selection and moral hazard.

Have you ever wondered why private companies will insure people against so many kinds of risks—death, sickness, fire, flood, theft, and many others—but no private insurance company will insure you against unemployment or a sudden unexpected decrease in your income? Certainly people would like to insure themselves against this kind of risk the way they wish to insure themselves against other types. There are two important reasons why there is no market for income insurance.

First, people who know they are insured have an incentive to engage in more risky behavior. For example, workers who know they are insured against income loss may shirk more

on the job, miss work more frequently, spend money more frivolously, etc. All these behaviors would increase the likelihood of the event (loss of income) insured against, which would be very costly to insurance companies (moral hazard). If insurance against an event causes individuals to behave in ways that make the event even more likely to occur, the cost of providing insurance will become more expensive to insurance companies and may make insurance prohibitively expensive.

Second, individuals have much better information about the likelihood of losing their jobs than insurance companies do. Thus, if these companies were to set the premium for income insurance based on the probability that the average person would lose their income, only those with an above average risk would buy the insurance. Insurance companies would then find that their revenues were on average not covering the amounts they had to pay in claims. This would lead them to raise their premiums. But then only those who have the highest risk of losing their income would still find income insurance worth buying at the new higher price. People who have relatively lower risk would drop their insurance, which would, in turn, decrease revenues of insurance companies. This would, again, cause insurance companies to increase their premiums. This cycle would continue until the premiums were so high that no one would buy insurance (adverse selection). This is a complete market failure because there is a risk that people would like to insure against, but no private market could develop to insure against this type of risk. One possible solution for this is to take away people's option to drop the policy—either by mandating the purchase of insurance or by the government providing income insurance. This is part of the justification for government Unemployment Insurance, Food Stamps, Temporary Assistance to Needy Families, and other government income maintenance programs.

There is a kind of behavior that insurance companies engage in that may appear to be moral hazard but is not. Health insurance companies are often accused of selling insurance only to those who don't need it. Insurance companies attempt to figure out a person's risk of getting sick and price insurance higher for these people. Thus, an older person who doesn't have health insurance on the job may find it impossible to buy the insurance she needs. Although some people may find this morally reprehensible this isn't a problem of moral hazard; this is simply a problem of someone whose income is too low to afford to buy the goods she wants. This isn't a market failure in the traditional sense, and the justification of government intervention to solve this problem must rely on a normative argument.

5.4 Market Failure and Government Failure

The simple application of the theory of second best presented here has been frequently criticized. This chapter has laid out examples of market failures and presented possible ways for the government to address those failures, as if the government was a perfectly working institution. It isn't correct to assume that the market always works efficiently, but it isn't correct to assume that the government always works efficiently either. There may be a possibility for prudent government action to rectify a market failure, but there is no certainty that the government will take those actions. Instances when the government fails to make efficiency improving decisions or makes decisions that reduce efficiency are called government failures. Discussion of government failure will have to wait for Chapter 7.

CHAPTER SIX

COST-BENEFIT AND COST-EFFECTIVENESS ANALYSIS

There are two broad justifications for government economic policy—to increase efficiency and to change the distribution of property. The efficiency justification relies on the existence of market failure creating an opportunity for Pareto improving government action. That is, action that will benefit society as a whole by making at least one person better off without making anyone else worse off. Any action justified by market failure must prove to be a Pareto improvement to be worth doing. This chapter demonstrates how cost-benefit analysis (using the optimal decisionmaking rule from chapter 2) can be used to assess whether a government program is Pareto Improving.

The distributional justification for government action does not rely on the concept of market failure and does not require that programs be Pareto improving. Cost-benefit analysis can be useful for assessing programs using the distributional justification as well, but the costs and benefits must be specified differently. If the efficiency justification is used, both the benefits and cost to society as a whole must be compared and only those actions that improve society as a whole should be taken. If the efficiency justification is used, the costs are specified in the same way but the benefits must be specified in terms of some normative criteria for a desirable distribution of property.

Distributional and efficiency justifications for government action are often confused in policy debates, but economists insist on a strict separation. It is not a failure of the housing market if the poor cannot afford housing, it is not a failure of the healthcare market if the poor cannot afford health care. These are distributional problems which require a normative

justification and economists recommend dealing with distributional issues on their own so that they do not confuse the assessment of programs designed to increase efficiency. Distributional issues are considered in later chapters. This chapter focuses on using cost-benefit analysis to assess efficiency improvements.

6.1 The Purpose of Cost-Benefit Analysis

Cost-benefit analysis extends the tools of optimal decision-making, discussed in chapter 2, to government decisionmaking. Any social policy—just as any other economic action—uses resources and makes them unavailable for other uses. In other words, to obtain a desired outcome society must forgo the opportunity to obtain some other outcome. Using the optimal decisionmaking rule, a policy is only worth doing if it is more desirable than any other outcome that could have been obtained with the use of those resources. Cost-benefit analysis simply compares the estimated social benefit of a policy to the estimated social cost (in an opportunity cost sense) of that policy. The social opportunity cost is the value of the wants forgone as a result of allocating resources to this policy. Both the benefits and costs are valued in monetary units. The difference between the social benefit and social cost of a policy is the *net benefit*. If the net benefit of a policy is positive, the policy is efficiency improving, but if it's negative, the policy isn't efficiency improving.³²

Using the Pareto efficiency criterion with social costs and social benefits creates a problem; the benefits and costs are often enjoyed and borne by different people. It's difficult if not impossible to ensure that there isn't even one person who is made worse off by a policy change. If the Pareto efficiency criterion were applied strictly, few if any government policies

would pass, because even policies that would make great improvements for the average person could leave a few people monetarily worse off. To get around this problem, economists have invented the *compensation test* or *compensation criterion*. According to this criterion, a policy is efficiency improving if those who gain from the policy could compensate those who lose so that, after compensation, there would be no losers left. Thus, the policy in question ought to be enacted. The compensation test does not require that such compensation actually be paid; it merely requires the possibility of it.

For example, suppose a policy generated benefits for one group that totaled \$2 million and costs to another group that totaled \$1 million. In principle, the gainers could get together, transfer \$1 million to the losers, and still have \$1 million dollars left. If such compensation were made, no one would lose as a result of the policy. Even if compensation is not paid it is true that the benefits to society were larger than the costs to society even though they were enjoyed and borne by different people. Using the compensation criterion any program with a greater social benefit than social cost is efficiency-improving and thus worth doing from the perspective of society as a whole. The following section uses an extended example to demonstrate how cost-benefit analysis is applied. Note that this is a purely hypothetical example and that the figures use are not drawn from real data and may have no relationship with actual figures.

6.2 Measuring the Net Benefits of the Teen Drinking Program

Suppose Derrick Brown, a public policy analyst, heads a committee of economists and social workers studying the social effects of teenage drinking. The social workers find that teen drinking is highly correlated with adult alcoholism, drunk driving, and many physical health

problems. The economists on the committee are impressed by the fact that these correlated effects are socially costly (for example, the mortality and health cost of accidents caused by drunk driving). Therefore, it is possible that some government action to curtail teen drinking may be efficiency improving, but this doesn't mean that any policy aimed at reducing teen drinking will increase efficiency.

Suppose Congress is considering a bill that would require secondary schools to hire social workers with expertise in teen alcohol abuse to run groups with teens, and it has hired Derrick to conduct a cost-benefit analysis of this policy. For simplicity, assume that Derrick has been asked to compare the social costs and benefits of the policy of having social workers run groups to educate teen drinking about the dangers of drinking. The net benefit of employing the social workers is the difference between the social benefit of this program and the social cost of this program. Assume (for simplicity) that the labor of social workers is the only input required to produce the reduction in alcohol consumption among teens, and that secondary schools would need to hire 5,000 additional social workers to make the program possible.

The social benefit of the teen alcohol-reduction program is the decrease in healthcare costs associated with drinking that can be attributed to this program, the decrease in deaths due to drunk driving, and the decrease in psychic costs associated with alcohol abuse. First, Derrick will have to find some way to estimate the effect of the teen alcohol reduction program on these variables and then estimate the monetary value of these changes. Perhaps the most difficult step in this process would be assessing the relationship between the social workers' actions and teen drinking. However, this assessment is generally considered to be the realm of social workers and health care analysts rather than economists. So, for simplicity, assume that the effects of social workers on teen drinking and the association between teen drinking and the problems that go

along with it have already been estimated by social workers, and focus on the area in which economists are more familiar, assessing the monetary value of the relevant variables.

Suppose the teen alcohol policy, by reducing teen alcohol consumption, would reduce the amount spent on teen drinking related health problems by \$50 million and the number of deaths related to teen drunk driving by 1,500. How can Derrick measure the value of 1,500 human lives in monetary terms? This is one of the most difficult and controversial questions the cost-benefit analyst must confront, but Derrick could draw upon the tools of *revealed preference* to obtain an estimate of the value of human life using the *labor market data approach*. Some may balk at putting a price on human life. This issue is discussed below, but it must be understood that economists don't advocate that human lives be bought and sold. The value of a human life presented here is meant only to represent how much an individual with limited resources would spend to protect her own life from risks when she has other valid concerns such as providing for a good quality of life for herself and her family.

Data on how likely workers are to be killed in various jobs and the associated wage rates for these jobs are widely available.³³ The amount of increase wages workers are willing to accept in exchange for an increased chance of death on the job reveals the monetary value workers put on their own lives. This value is the minimum amount of money workers are willing to accept to face higher risk of death and the maximum they are willing to give up to face lower risk. The value of human life is calculated by the following formula:³⁴

Value of Human Life = Money divided by Probability

“Money” stands for the maximum amount of money workers are willing to give up for decreased risk and the minimum they are willing to accept for increased risk, and “probability” stands for the increase or decrease in the probability that a worker will be killed on the job.³⁵ Suppose statistical studies indicate that workers, on average, are willing to accept an additional \$60 per year in wages to take a job where they have an additional risk of dying of $2/100,000$. Using the formula above, the value of human life becomes:

$$\text{Value of Human Life} = \$60 \text{ divided by } (2/100,000) = \$3,000,000$$

Derrick calculates the life saving value of the policy by multiplying the decrease in deaths by the estimated value of a human life:

$$1,500 \text{ times } \$3,000,000 = \$4,500,000,000$$

Adding the \$50 million savings in health care cost gives \$4.55 billion for the monetary value of the benefit of the teen alcohol program over a one-year period.

This calculation leaves out the reduction in psychic costs caused by alcohol abuse. Such costs include the anguish felt by family members of alcoholics, family members of the victims of drunk driving accidents, and other examples of negative externalities. These costs are extremely hard to measure because there is no market for pain and suffering. One could examine awards in lawsuits for pain and suffering to get an idea of how much money jurors believe pain and suffering are worth, but trying to turn that into a general principle would be difficult. Often these costs are simply ignored. Another way of dealing with them is to discuss them in the written

report of the findings of the cost-benefit analysis, paying particular attention to how inclusion of them, if this were possible, might affect the conclusions of the analysis.

Once Derrick has calculated the benefits, he will need to calculate the costs. If the market for social workers were perfectly competitive and in long run equilibrium, the opportunity cost of a given social worker would equal the wage of that worker. A simple comparison of the assumptions of perfect competition to the market for social workers will demonstrate that it is not a competitive market. However, to make their job easier economists often assume that the factor markets are perfectly competitive anyway. Thus, Derrick could obtain the total cost of the teen alcohol policy by multiplying the wage of social workers times the number of social workers required for the teen alcohol program. This would make the calculations very simple. Suppose the wage of a social worker is \$40,000 a year. The total cost of hiring 5,000 social workers over a one-year period is then \$200 million dollars. For a program with benefits of \$4.55 billion, this cost is quite small and the compensation criterion is easily satisfied. However, if Derrick takes into account the fact that the market for social workers is not perfectly competitive the results may not be the same.

The government is not a small firm in a large market for social workers. In fact, it is probably, by far, the largest employer of social workers and the monopsony model (described in chapter four) is more appropriate. Employees in a monopsonistic market are paid less than the value of what they produce for the firms they work for. Thus, their wages do not reflect the value of what is given up by reallocating them to some other endeavor. Instead of using their wages, Derrick has to estimate the value of what these 5,000 social workers would otherwise be producing if they weren't employed in a teen alcohol program. For example, suppose to obtain 5,000 social workers the government would have to reassign them from working on projects to

curtail domestic violence.³⁶ The cost of the teen alcohol policy, then, is the value of the reduction in cases of domestic violence that must be forgone as a consequence of allocating social workers to the reduction of teenage drinking.

To measure the opportunity cost of 5,000 social workers, Derrick will have to estimate the health care costs, the costs in terms of lost life, and the psychic costs of the suffering caused by domestic violence. Then, he will have to estimate how much these costs would increase if social workers were reassigned from working to curtail domestic violence to working to curtail teenage drinking. Victims of domestic violence are often injured as a result of attacks, requiring costly treatment. Thus, if domestic violence rises because fewer social workers are working to prevent it, the health care to the victims of domestic violence will increase. Suppose Derrick estimates that a reallocation of social workers away from curtailing domestic violence would increase the health care costs of treating victims of domestic violence by \$250 million per year.

Suppose that reducing the number of social workers working on domestic violence by 5,000 would increase the number of deaths due to domestic violence by 1,000. Multiplying the number of increased deaths by the value of human life gives the monetary value for the lives lost by reallocating social workers:

$$1,000 \text{ times } \$3,000,000 = \$3,000,000,000$$

Adding this to the health care costs of \$250 million gives \$3.25 billion per year as the total cost of allocating 5,000 social workers to the curtailment of teen drinking instead of domestic violence.

As with teen drinking, this assessment of the costs leaves out the psychic costs felt by the victims and families of the victims of domestic violence. If the psychic costs were exactly the same between these two social problems the calculation of the relative value of funds spent on one or the other would be unaffected, but it is by no means certain that these costs do balance out. However, even if the psychic costs are not the same, to change the answer they would have to be unbalanced enough to overturn the decision made based on the difference in the number of deaths. Whether or not psychic costs can be safely ignored is left to readers' judgement.

The psychic costs aside, the social benefit of the teen alcohol program is \$4.55 billion and the opportunity cost is \$3.25 billion. The net benefit of the teen alcohol program is, therefore, \$1.30 billion ($\4.55 minus $\$3.25$ equals $\$1.3$). Thus, Derrick advises the government to enact the teen alcohol policy.

6.3 Criticism of Cost-Benefit Analysis

One criticism of the cost-benefit analysis is directed at the Pareto improvement criterion itself. The Pareto criterion is different from that typically used by social workers. Social workers tend to judge the desirability of social policies by whether or not they are fair and meet people's needs. This, of course, raises the complicated philosophical problem of what humans need. The Pareto improvement judges "better off" and "worse off" by referring to people's wants without considering the possibility that people might want what's bad for them and not want what's good for them. It neglects the possibility that a policy that causes at least one person to gain more of what he wants, without anyone else losing something they want, would still be a bad policy if what's gained may be bad for the person who gains it. Although the idea that one might want

what's bad for them is anathema to many economists, it probably isn't to many social workers, given their experiences working with children and mentally incompetent adults (e.g., developmentally disabled and mentally ill adults). Economists would probably respond that rational choice theory is not meant to be applied to children and the mentally ill. There is no clamor among economists to eliminate mental institutions. Among competent adults, however, most economists would probably say that there are only two ways to judge an individual's needs and wants: Either the individual can judge her own needs or someone else can judge for her, and if the individual is competent the benefit of the doubt should go to the individual.

Another criticism that can be made against the compensation criterion is that it pays no attention to who receives the benefits and who pays the costs. As long as the gainers gain more than the losers, the compensation principle says enact the policy no matter whether the gainers are already relatively wealthy and the losers are relatively poor or vice versa. Social workers probably wouldn't care as much about the efficiency aspects of a policy as they would about its equity or fairness aspects. They probably would wonder why society should enact a policy that would lead to the already well off gaining and the already bad off losing, even if the gains are efficiency improving. Some economists have developed a technique to address such concerns. They advocate the use of what are called *distributional weights*.

The compensation criterion assumes that a dollar is worth the same to anyone regardless of one's current income. Distributional weights assume that an additional dollar is more valuable to someone with a small income than to someone with a large income. Many economists would object to this criterion because it makes an *interpersonal comparison of utility*. That is, who are we to say that a dollar means less to someone with more income? However, on this basis the

compensation principle doesn't work either, because who are we to say that a dollar means the same to a millionaire as it does to a poor person?

Distributional weights are a way to systematically take into account the point of view that a dollar means more to poor people than to relatively wealthier people. For example, suppose a program would provide a social benefit of \$4 billion and incur an opportunity cost of \$3 billion, and that the majority of those who would enjoy the benefits of this program are upper-middle class whites, while the majority of those who would bear the cost of the program are poor blacks. The net benefits of this program would be \$1 billion so, according to the compensation criterion, it would be efficiency improving and thus worth doing. But suppose the analyst assumes that a dollar is worth only 1/5 as much to upper-middle class people as it is to poor people. Thus, the distributional weights are 0.2 for a wealthier individual and 1.00 for a poor person. the following formula uses the cost-benefit analysis taking distributional weights into account:

$$(0.2 \text{ times } \$4 \text{ billion}) \text{ minus } (1 \text{ times } 3 \text{ billion}) = \$0.8 \text{ billion minus } \$3 \text{ billion} = -\$2.2 \text{ billion}$$

Taking into account these distributional weights, reveals a net loss of \$2.2 billion instead of a net gain of \$3 billion as before. Thus, while cost-benefit analysis using the compensation principle implies that the policy should be enacted these distributional weights imply that it shouldn't. The problem with using distributional weights is that there is no clear way to determine what they should be. Had the distributional weights been 0.8 and 1 instead of 0.2 and 1 the calculation would have resulted in a net gain of \$0.2 billion. A critic of the use of distributional weights in cost-benefit analysis could argue that using any weights amounts to

government favoring of one group over another. Of course, those who think government should favor some groups over others wouldn't see a problem with the approach. This is still an unsettled issue.

Economists would probably respond that questions about the equity of the distribution of income should be settled separately from problems of efficiency. If the distribution of income were unfair, society should use the least-efficiency harming policy to correct the distribution of income so that this issue can be set aside when considering the efficiency ramifications of every other policy.

One of the most impassioned criticisms of cost-benefit analysis challenges the moral legitimacy of the attempt to place a monetary value on human life. Social analyst Steven Kelman³⁷ argues that humans think some things are appropriately valued in monetary terms—cars, trucks, shoes, etc.—but other things are “priceless.” That is, some things—such as human life—are so valuable that to put a monetary price tag on them would amount to a lack of appreciation for how valuable they really are. In other words, any monetary price tag on the value of human life underestimates its true value and distorts the assessments of the true social cost and benefits of any action that risks a human life.

Perhaps most social workers will find Kelman's critique compelling, but economists have responses that cannot easily be dismissed. As they see it, the value or worth of something has to do with how much satisfaction or utility one derives from consuming it, and how much utility one derives from something is measured by how much of something else one is willing to give up to obtain it. This principle can be applied to life as well as any other good. Devoting resources to living longer involves trading off resources that could be used to make life more enjoyable and

an action that increases one's lifespan is only worth taking if the marginal increase in life is more valuable than the marginal decrease in consumption of other goods.

One does not have to look at people who take unnecessary risks like smoking cigarettes and eating fatty foods to see economists' point, but to the everyday risks that we all accept almost without thinking about them. Have you ever driven a car? If you really believed life was priceless you wouldn't, because you know that every time you step into a car, no matter how good a driver you are, there is a small chance that you will get into a fatal accident. If you limited yourself to walking and using public transportation, your life expectancy would increase. Would it be worth it? The answer to that question involves placing a value on human life.

What would a society look like that really believed life was priceless? It would have no automobiles, no airplanes, and no trains, or perhaps it would have trains that moved at three miles per hour to make it extremely unlikely that they could ever have a fatal accident. But, also, a society that believed life was priceless would have no television, no sports, no art, and no flowers. It would spend no money on any activity that did not save lives because the simple fact that our resources are limited means that every dollar spent on non-lifesaving activities is a dollar not spent on lifesaving activities such as medical research. If we, as a society, donated our entire GDP to essential food, essential shelter, essential education, and left all the rest for medical research we would save lives and even this many resources would not eliminate all premature deaths. Thus, if we truly believed life is priceless, we would spend all of our time and all of our money on life saving activities and we wouldn't have anything left for other types of activities. Do you think you would enjoy living in a society that devoted itself entirely to producing necessities and conducting medical research? Probably not, and an economist would say that if

you have ever spent a dollar on something that didn't directly preserve life, by revealed preference, you demonstrated that life is not priceless to you.

Economists would say that there must be some trade-off between quantity of life and quality of life. But once one has taken this step one has tacitly put a price on life. Economists would say that such tacit tradeoffs can be made better if they are made explicitly. As long as scarcity forces society to put a value on life, we should try to make that decision rationally by assessing the value of life as accurately as possible. It should be noted that putting a value on human life, even as small as \$3 million, often implies that the government should devote far more resources to preserving human life than it currently does. Studies of the value of medical research based on a monetary value of human life have shown that such research is underfunded by billions of dollars. For example, suppose it takes 10 social workers to save only one life per year, the marginal benefit of each social worker (and thus the amount society could afford to pay social workers) is \$300,000 a year. This hypothesis also implies that if the going wage for social workers is far less, the government could afford to hire many more social workers until the law of diminishing returns causes their marginal benefit to drop down to their wage.

Other critics of cost-benefit analysis don't object in principle to putting a price on human life but instead raise questions about the way economists typically measure the value of human life. Remember that the value of human life was calculated using the labor market data approach, which assumes—unrealistically—that workers know the risks of dying associated with various occupations. If workers aren't aware of the chances of dying associated with various occupations, then it cannot reasonably be assumed that workers are knowingly placing monetary values on their lives. Thus, even if it is acceptable to put a value on human life the method of using labor market data to value human life is questionable.

An alternative to the labor market data approach to valuing human life is the *life time earnings approach*.³⁸ Statistical methods can be used to predict how much money workers are likely to make over their life times, and this can be used as a guide as to how to value a human life. Although this method uses average earnings simply as a guide to the value of an average person, this approach implies that the sole value of a human life is equal only to the money a person makes, and that people who make more money are not only more valuable workers but also more valuable human beings than people who make less money.

6.4 Cost-Effectiveness Analysis

Some analysts have employed cost-effectiveness analysis as an efficiency criterion that allows analysts to evaluate public policies with life and death consequences without putting an explicit monetary value on human life. The measurement of opportunity cost is no different in cost-effectiveness analysis. The main difference between the two is that benefits aren't valued in monetary terms in cost-effectiveness analysis. Instead they are quantified in some other way depending upon the nature of the policy or program being assessed. In a cost-effectiveness analysis, one computes a cost-effectiveness (CE) ratio between two comparison programs. The CE ratio is the ratio of the costs of a program to its effectiveness . which does not have to be calculated in dollar terms.³⁹ This section uses another hypothetical to explain the principles of this approach.

Suppose Erica Black is a social worker who conducts research on the effectiveness of social work counseling services provided to heroin addicts. Erica gets the opportunity to do research in a New York agency that uses two different treatment approaches: the Freudian

approach and the behaviorist approach. She takes a random sample of heroin addicted clients and randomly assigns 20 of them to receive Freudian treatment (the F group) and 20 of them to receive behaviorist treatment (the B group). Her outcome measure is the number of those in each group who enter a detoxification program at some point over a two year period *after* receiving treatment.

Assume, for the sake of simplicity, that the only inputs used by both approaches are the services of social workers all of whom are paid \$40,000 per year. Suppose the behaviorist approach requires 5 social workers and the Freudian approach requires 10 social workers, because it requires social workers to spend more time with each client. The total cost of the behavioral approach is \$200,000 per year (\$40,000 times 5), and the total cost of the Freudian approach is \$400,000 (\$40,000 times 10). Erica would use these figures as her measures of relative program costs.

Erica decides to use the reduction in the number of admissions to detoxification programs as her measure of relative program effectiveness. Two years after treatment, 5 out of the 20 of those who were exposed to the Freudian approach entered a detoxification program at some point during the observation period and the same is true for 10 out of the 20 of those who were exposed to the behaviorist approach. Thus, the Freudian approach averted 15 admissions, while the behaviorist approach averted 10.

Erica computes the CE ratio for her study. The social cost of the Freudian approach is \$200,000 (\$400,000 minus \$200,000) and its social effectiveness is 5 admissions averted (15 minus 10). The CE ratio is:

$$\text{\$200,000 divided by 5} = \text{\$40,000}$$

This value for the CE ratio means that by moving from using a behaviorist to a Freudian approach to treating heroin addiction social costs increase by \$40,000 per additional admission averted. Upon becoming aware of Erica's findings, those responsible for making decisions about societal resource allocation would have to decide if they are willing to pay \$40,000 for each additional admission averted.

If Derrick applied this same method to his comparison between using 5000 social workers for the teen alcohol program or using them for domestic violence services, he would find that the cost of the social workers is the same whether they work in domestic violence or in the teen alcohol program but that they can avert 1,000 deaths from domestic violence or 1,500 lives from drunk driving. Thus, society would be able to save additional lives without increasing social costs.

One difficulty of cost effectiveness is that it cannot compare different kinds of outcomes. Using deaths as the measure of the effectiveness of the teen alcohol and domestic violence programs requires ignoring the healthcare costs. In this example, the health costs was insignificant compared to the cost in human lives. But this won't always be the case. Often programs have a number of different effects of different sizes that need to be measured together to come up with an overall measure of effectiveness. Economists use monetary value as a yardstick to estimate the relative values of very different effects.

This chapter and the preceding chapter were both concerned with what policies the government ought to enact, although each chapter addressed this question from a slightly different perspective. The next chapter changes course. Instead of examining theory about what government should do, it examines a theory of what government actually does.

CHAPTER SEVEN

GOVERNMENT FAILURE

The two previous chapters acted as if the government was a benign entity that would act to rectify market failures. This approach to discussing government policy was largely the one taken by economists in the first half of the twentieth century, beginning with the early twentieth century economist A.C. Pigou⁴⁰ who popularized the notion of market failure. However, as economists as early as Adam Smith have pointed out, there is no certainty that a government, even a democratic one, will choose the efficient policy responses to market failures, even if efficient policies could be identified. In other words, just as market failures are possible, government failures are also possible.

Beginning in the 1950s and 60s, a group of economists, who have come to be called *public choice theorists*, began to address government failures using mainstream economic tools.⁴¹ More specifically, their method was to apply to political decision making, the same rational choice tools that economists apply to marketplace decision making. Public choice theory assumes people vote, pass legislation, run for office, give campaign contributions, or lobby Congress to maximize their own private benefit (whether it be utility or profit).

From the perspective of rational choice theory, there is an important difference between public sector institutions and profit-seeking firms. A firm's objective is fairly clear: to make profits. Even if a corporation has thousands of stockholders, it's reasonable to believe they're all united by their desire for the firm to make as much money as possible. Governments, on the other hand, don't have owners and don't directly make profits, yet every action a government takes affects the income of firms and individuals throughout the country. Often government

policy makes some people better off and others worse off. One of the central features of democratic decision making is the existence of groups with opposing interests that may seek social policies to serve themselves, possibly at the expense of others. Public choice theorists therefore do not speak of the government's goal as they would speak of the firm's goal but to come up with a theory of government they consider the competing goals of different actors in the political decisionmaking process.

Because public choice is concerned with government failure many of its practitioners are rather pessimistic about government, and they tend to be advocates of "small government." But, it would be wrong to view public choice as simply a rationalization for small government. It is a very real and well thought out theory. One must have a good understanding of what can go wrong with government if one wants build a good government. Public choice has important insights about the workings of modern governments. The intention of this chapter is to make some of these insights accessible to social workers.

7.1 Rent Seeking

Ideally, the goal of government policies is to make everyone better off, but the individuals who make and influence policy may be work interested in *rent-seeking*. Remember that (economic) rent is another word for profit, particularly profit that is either unearned or above the normal rate of return on investment. The government's power to regulate, tax, and subsidize markets and the large amount of buying and selling it does, gives it the ability to create a lot of rent for individuals and firms. Rent-seeking is the pursuit of private profit through the political

process. Lobbyist and interest groups are the prime suspects of rent seeking, but politicians, bureaucrats, and voters may get in on it as well.

One might think that the profit a firm makes from government policies would be an insignificant byproduct of policy designed to increase social welfare, but it may be the profits rather than the social benefit or costs that drive policymaking. A policy that increases the benefit for society as a whole, benefits every individual a little bit, but a policy that creates rents benefit one small group a whole lot. A large group that benefits little doesn't have much incentive to press hard for political action, but a small group that sees a rent-seeking opportunity has a great incentive to pressure the government a lot. Therefore, it is quite possible that a large amount of what the government does is influenced more by rent-seeking than by genuine concern for social benefits.

There's an important relationship between imperfect competition and rent-seeking. Chapter four stated that the inefficiency of monopoly comes from the fact that monopolies produce a sub-optimal level of output, but this does not count the effort that a monopoly makes to become and to protect its monopoly status. Government regulations are a large source (possibly the primary source) of market power and thus of rent, which is why firms spend billions of dollars to hire lobbyists to obtain favorable regulations from the government. Other firms spend billions more to discourage the government from passing regulations that favor their opponents. This has been called *rent avoidance*. The resources allocated to these activities could have been allocated to the actual production of goods, and therefore the time and effort spent on rent seeking must be considered to be a social cost.

Examples of possible rent seeking are not very hard to find. For example, the most of the logging conducted in the United States is done on government owned land. The government lets

firms use this land at very low fees and often builds road through national forest land at taxpayer's expense to make logging more accessible to firms. Legislators often justify such policy as a way to boost the economy, but public choice economists suspect they do it because of the campaign contributions they get from logging companies. There are many other possible examples. Farm price supports make food more expensive for everyone but benefit farmers. Tariffs help local producers but hurt consumers. Government tax policy favors the small number of people whose income comes largely from capital gains over the large number of people whose income comes from wages or salaries. The list is almost endless, but there is another example that may cut a little close to home.

At this writing, New York is considering a social work licensing bill. If this bill becomes law, individuals would be required to be licensed before they could legitimately practice social work and only those who have obtained certain academic credentials would be eligible for licensing. Social workers are lobbying vigorously for passage of this bill. Social workers would probably say that they support this bill to assure that clients receive high quality services, but a public choice theorist would view such an explanation skeptically. If the licensing bill were passed, the supply of social workers would decrease, increasing the income of social workers (see figure 7, chapter 3), because purchasers of social work services would have fewer social workers to choose from. Other health professionals are allocating resources to block passage of the bill. The public choice theorist would probably view these as textbook examples of rent seeking and rent avoidance, and would see a good deal of waste in all this. The time of social workers, other health professionals, and professional lobbyists could be used to provide other services if it weren't going into lobbying.⁴²

Some readers of this book might take offense at public choice theorists' suggestion that they're seeking to benefit themselves at the expense of others. The only appeasement that can be offered is that public choice theorists don't believe social workers are the only ones who engage in rent seeking. Were you ready to believe that logging companies, farmers, and financiers were willing to engage in rent seeking? Then why not social workers?

Rent seeking would never be successful if it weren't for legislators' willingness to pass legislation desired by rent seekers. Why would legislators be willing to do this? Aren't they supposed to only enact legislation that is in the "public interest?" Perhaps they're supposed to, but this is rarely what they actually do. Legislators are mainly interested in gaining and remaining in office. Since ultimately they only gain and remain in office by getting more votes than their opponents they're very interested in supporting legislation they think will get them votes or campaign contributions whether or not the legislation is efficient or in the public interest. Some economists believe it's possible for government to run almost entirely on rent seeking. A coalition of rent-seeking special interests groups could join together so that they had 51 percent of the population. This could result in all government policy having to do with redistributing income from the other 49 percent of the population to the 51 percent in power.

Noneconomists usually say the solution to rent-seeking is to elect people who care about the public interest. But, this solution doesn't fly very well with economists because they point out that selfish people can pretend that they're concerned with the public interest just to get the job and then immediately start rent-seeking, or they may find that pandering to rent-seekers is a more effective way of getting the job than promoting broad social interests. Economists look for a mechanism that will cause public policy to reflect the general interest even though it is set and carried out by people acting in their own self interest. Is there an invisible hand that causes

political outcomes to be efficient? Or, if not can we create a set of rules for government behavior that will minimize opportunities for rent seeking? This is called the problem of *mechanism design*.

Mechanism design is the search for a constitution that will result in social policies that generate Pareto improvements even though the policies are enacted and implemented by a people who are all interest rent seeking. The U.S. system of checks and balances that divides power between the president, Congress, and the courts is one attempt to design a mechanism that will serve the public interest, but it is far from perfect.

A host of economists from Adam Smith to modern public choice theorists have advocated limiting government functions to the fewest possible activities in order to limit opportunities for self-serving political action. But one could argue that government inaction when opportunities for efficiency-improving or social-justice-improving actions exists is itself a form of government failure. It's possible that arguing to limit government activity is itself a form of rent seeking by those who would benefit from lower taxes whether or not low tax policies are best for society as a whole. There's no easy answer. Governments will always be needed, but, like markets, they'll always be prone to failure.

7.2 Bureaucracy

Social workers often complain about bureaucracies. One of the most frequently heard complaints is that bureaucrats are unresponsive to the requests of social workers and their clients. Another related complaint is that bureaucracies are too big. There are too many divisions or departments, many of which appear unnecessary. What social worker hasn't spent large amounts

of time on the phone being transferred from one division to another without any of them being very helpful? Repeated statements like, “I’m sorry Ms. Anderson but that type of problem is handled by the _____ division,” have probably sent many a social worker to the therapist’s couch. Public choice theorists’ views on bureaucracy should be of interest to a profession that has such intimate contact with this type of administrative structure.

The market failures discussed in chapter five notwithstanding, one of the major advantages of markets is that they put pressure on employees of competitive for-profit firms to be responsive to consumers. Employees that aren’t responsive don’t keep their jobs very long because their firms lose customers to those with more responsive employees. Employees in public sector bureaucracies don’t face the same incentive to be responsive to the public. Government bureaucracies usually don’t face competition, and a government bureaucrat’s job and salary are typically fairly secure and don’t vary much, if at all, with her day to day activities. For example, government child welfare bureaucrats’ positions and salaries are determined largely by civil service laws not by their level of productivity or responsiveness to clients’ concerns.

A firm manager or employee is forced by competitive pressure to maximize profit, but how does the manager or employee of a bureaucracy behave when his job and income are relatively sure and there is no competitive pressure? If there is no profit to maximize, the rational agent will maximize utility. Most economists conclude that employees in such circumstances will want to shirk or work as little as possible. This belief seems to be substantiated by common complaints from social workers, and others, that bureaucrats don’t work very hard and seldom stay in the office past 5:01pm. None of this is to say that there are no hard working government bureaucrats, it is just to point out that there is not the same level of *assurance* that employees in

large bureaucracies will behave as diligently as those in competitive firms. It should also be noted that economists have recognized that some of the same problems that exist for employees in large public bureaucracies exists for those in large private for-profit bureaucracies, especially those that are under relatively less competitive pressure.

Managers of bureaucracies might derive utility from running larger agencies, which may make them feel like big shots. Managers also may have more information about how many resources are necessary to accomplish the goals of their agencies than legislators do, which may give them the opportunity to mislead legislators about how many resources their agencies need. This would cause a tendency for government bureaucracies to become huge organizations with superfluous employees who have little incentive to be responsive to the concerns of clients or consumers. This, of course, is exactly the situation that many critics say already exists.

Legislators may get wise to this process and discount bureaucrats' claims of how much money they need to accomplish a given task. However, bureaucrats can respond by exaggerating their needs even more or canceling one of the most politically popular functions of their department to prove that they really need the money to keep operating. NYC child welfare managers might cancel a special division to protect children who are victims of neglect on the part of drug addicted parents to prove that the agency needs the money that was cut. One could say the solution is for legislators to appoint unselfish civic-minded people to run bureaucracies, but this ignores the fact that selfish people are good at pretending to be unselfish people if they can benefit from doing so. Another solution could be to try to limit the scope of bureaucracy and replace bureaucracies by competing firms, but bureaucracies exist for a reason. They tend to exist to provide services that are not easily provided by the market. Thus, as long as bureaucracies are need, the need to find a way to make them run more efficiently will remain.

7.3 Rational Non-voting

There is a lot of talk in the popular press about why more people don't vote. It's believed that apathy or cynicism must be at epidemic levels, because so few people care enough about the important political issues to vote. Economists, however, are concerned with the exact opposite question: why does anyone vote? In a large democracy any individual's vote is statistically meaningless. The odds against any election being decided by just one vote are astronomical. Take your one vote away from the winning side or add one vote to the losing side and there is no effect on the outcome. Yet there is a cost to voting. One has to go to the polls, wait in line, and lose time that could be used to do something else with a more obvious payoff. When one compares the real loss in time that voting takes from one's day to the far-fetched possibility that her single vote will affect the outcome, the rational response would seem to be not to waste time voting. Thus, economists conclude that all those people who don't vote are perfectly rational.

What about all those people who vote? Are they irrational? If so, this suggests that economists' assumption that people are rational is questionable. There are a number of possible ways out of this theoretical predicament, but none is completely satisfying. One idea is that if enough people didn't vote, the likelihood of one vote being decisive would increase which would give rational persons more of an incentive to vote. However, except for a few elections in small jurisdictions, this isn't likely to occur. There is little real possibility that one person's vote will be decisive, and this perspective doesn't explain why people are more likely to vote in national rather than local elections. That is, people are *most* likely to vote in elections where their vote is *least* likely to be decisive.

However, it is the case that enough people don't vote so that voter turn out, instead of a particular individual's vote, is a significant factor in elections. Perhaps the fact that people vote reflects a tacit agreement among people of a certain belief that all will vote if all the others will. This explanation is dissatisfying to economists, however, because individuals would have an incentive to break any such agreement. If everyone else in my coalition votes, my vote would not be needed, and if no one else in my coalition votes, my vote wouldn't help anyway.

Perhaps people get utility from voting itself. They may vote because doing so allows them to feel good about being part of "the team" or about carrying out their civic duty. This explanation is not completely satisfying to most economists either, but sociologists and sociologically minded economists might find it appealing. Sociologists believe that people are members of communities that possess social norms which are rules about how people should and shouldn't behave that some significant proportion of members of a given community is committed to. Communities also possess *sanctions* meaning standard ways of punishing those who violate norms and rewarding those who abide by them. Some of the older members of these communities teach younger ones the community's norms and sanctions. According to sociologists, this process causes younger members to internalize these norms and sanctions. The result is that when community members abide by them they internally reward themselves by feeling pride or utility for following their community's norms. Members of the U.S. community are taught that they have a civic duty to vote and that they may face social disapproval for failing to do so. Perhaps this has resulted in our internalizing such notions, which may explain why we vote when rational choice theory predicts that we won't.

Social workers might wonder why they should care about why people do or don't vote. There's a simple answer to this question. The National Association of Social Workers' code of

ethics states that social workers have a professional obligation to get involved and attempt to get other citizens involved in efforts to enact more socially just policies. One of the main ways social workers and others affect social policies, just or otherwise, is through voting. Thus, if social workers take this professional obligation seriously, it behooves them to try to figure out why people do or don't vote to help understand how to get more people to do it.

Voting, of course, is not the only way people can influence social policy. They can lobby their representatives, organize other members of their community to do so, participate in demonstrations, partake in an armed insurrection, or engage in a host of other activities. Some of the predictions made about nonvoting could be made to other forms of political participation unless they are more likely to have tangible payoff. For example, Jamie was a community organizer in a poor area of Brooklyn, New York. She worked for an organization that advocated universal health care, and attempted to get neighborhood residents to participate in a demonstration for such a system. Most of the people she encouraged to participate didn't do so. Many of these non-participants voiced support for universal health care and clearly felt they would benefit from such a plan. Yet they still chose not to take part in an effort to bring it about. How can this be explained? The public choice economist has a ready answer to this question.

If universal health care became a reality, all those who wanted to see this policy enacted would derive satisfaction from its existence whether or not they took part in demonstrations or other actions to help bring it about. In other words, in the language of chapter five, universal health care would be a public good. Thus, those who want to see such a policy enacted would have an incentive to wait for others to participate in the efforts needed to bring it about and free ride on their accomplishment if these efforts end up being successful.

Some of the residents Jamie encouraged to participate in the demonstration did choose to do so. Why didn't they choose to free ride? This question should be of interest to social workers, at least those inclined toward community mobilization. Once again, sociology might provide part of an answer. Perhaps those who chose to participate in these demonstrations were socialized in such a way that they have come to derive utility from taking part in activist pursuits. Another possible explanation is based more on standard economic theory, although with a sociological spin. Perhaps, those who participated in these demonstrations obtained private goods or benefits that only those who took part in them were able to obtain. Perhaps, they obtained more status in their community, derived utility from defying authority, derived utility from knowing that they were directly involved in making a difference their world, or maybe they like hanging out with the type of people who usually go to demonstrations. Such private goods plus the anticipated public good of universal health care might have been enough to outweigh the cost of participating in demonstrations, offsetting the free rider problem. Thus, making political participation directly beneficial to the participants themselves could enhance support.

7.4 Conclusion

The problems discussed in this chapter shouldn't be ignored by anyone who wishes to make good social policy, but they aren't easily solved. Hopefully, mechanisms can be designed to keep these problems to a minimum, but, as stated earlier, it's unlikely that they will ever be eliminated. This, of course, doesn't mean that attempts to eliminate them should be ended. It's sometimes the case that the most progress is made when unreachable goals are set. In any case, anyone who hopes to make progress in the public arena will benefit by a knowledge of public

choice if it helps the to be aware of whose interests are served and whose interest are threatened by particular policy initiatives.

CHAPTER NINE

THE ECONOMICS OF LABOR

This chapter provides an introduction to the economic aspects of labor markets. Being aware of the social problems associated with unemployment and low-wage labor (such as domestic violence, low self-esteem, depression, suicide) many social workers are interested in proposing various types of policies to address these problems. Such proposals will be taken more seriously if those who make them exhibit an understanding of the economic implications of their prescriptions. This chapter is intended to provide some of the tools to facilitate such understanding. The first step is a simple model of the individual's work decision is covered in section 8.1. Next, sections 8.2, 8.3, and 8.4 show how this model is incorporated into a supply and demand model of the labor market. Section 8.5 discusses criticism of the supply and demand model of the labor market. Section 8.6 examines the problem of labor market discrimination. Sections 8.7 and 8.8 discuss the problem of unemployment. How more sociological concerns can be incorporated into the economic approach to analyzing labor markets is also discussed at various points throughout the chapter.

8.1 The Labor-Leisure Trade-Off

Economists model the decision to work as a trade-off between labor and leisure, in which leisure time is desirable and work is undesirable except for the money one gets from it. As any sociologist or average Joe knows, people don't work simply for money. They work to enjoy companionship with their colleagues, for status, to avoid being called a lazy shiftless bum, and

for a host of reasons other than to make money. Yet economists typically study people's work decisions as if the only reason people work is for money. This isn't because economists are dumber than sociologists or average guys named Joe. They know that people work for non-pecuniary reasons. They simply don't believe this reality needs to be taken into account to build an adequate model of people's work decisions. In other words, if one is interested in developing a model to explain and predict work decisions, the assumption that people work only for money is good enough.

One of the main ways economists model the work decision is by applying the tools of supply and demand discussed in chapter three to an individual's demand of leisure and supply of labor. To understand how this is done you'll need to understand what economists mean by *labor* and *leisure*. Labor is the expenditure of effort for pay. Leisure is all time spent doing anything that doesn't make money. Thus, telling jokes for fun is leisure; telling jokes for money is labor. Building computers as a hobby is leisure; building computers for money is labor. Taking care of your own children for love is leisure; and taking care of someone else's children for money is labor.

According to some feminist economists, the view that a woman taking care of her own children is engaging in leisure, while one who takes care of other's kids for a wage is working is a shortcoming of mainstream economics.⁴³ This criticism should be directed at people who put a moral judgement on work as something good and somehow better than leisure. Economists, however, don't judge labor as somehow better than leisure, but quite the opposite. In economics, maximization of efficiency means maximizing the time people have available to do the things they really enjoy (leisure), whether it is raising children or playing basketball, and minimizing the time spent doing things they don't enjoy. Unlike our society as a whole, economic theory

doesn't venerate work as an important social value. In economics, labor is a necessary evil (or more accurately a necessary disutility) that people must endure to procure the goods they want to consume. Leisure can include some very physically demanding activities. The simple thing that separates labor from leisure is that leisure activities are things people do for their own reason while labor is something people do for money.

Sociologists or others of similar mind might chime in to say that all people don't regard labor as a cost or disutility and that the shortcoming of mainstream economics is that it does so. This isn't the book to get into an extended discussion of the debate between sociologists and economists on this point, although later in the chapter there will be an attempt to incorporate some sociological ideas into the labor-leisure trade-off model. Whether people enjoy work or not people have many competing things that they enjoy and only a limited amount of time to do them. Labor provides the money that people need in order to do the other things they enjoy. Thus, an inherent (although not necessarily not the only) feature in a person's decision to spend time working or at leisure is the tradeoff between the money she will get from work and the enjoyment she will get from leisure. Economists believe this tradeoff captures the most important feature of labor-leisure choice so that they can focus their model on this feature only without too much of a loss in reality. Thus, leisure is considered a good that individuals demand while labor is a product that individual's supply (and firm's demand). The next section discusses the relationship between an individual's supply of labor and demand for leisure.

8.2 From the Labor-Leisure Trade-Off to the Supply of Labor

The quantity of a good demanded depends, among other things, on its price and consumers' incomes. The same is true for leisure. One cannot go to the store to buy leisure the way one can buy social work textbooks, so what possibly could be the meaning of the price of leisure? The concept of opportunity cost provides the solution to the problem. Recall that the true price or cost of something is always what must be given up to obtain it. What must be given up to obtain leisure? The answer is the income one could make at work. Since leisure is whatever one is doing when they are not working, the cost of leisure is the amount of money one gives up by choosing to spend an hour at leisure instead of at work (or more technically, the cost of leisure is the goods one could buy with this money). What is a person's income when the question is how much leisure to buy? The answer is all of their non-labor income plus the potential income they could make if they spent all their available time working. Assume for simplicity that the most a person could possibly work is 100 hours per week. If Susan Vega works 40 hours a week at \$10 per hour, her money income is \$400 per week. But she could take a second or a third job and work 100 hours per week. In that case, she would consume very little leisure but she would have an income of \$1,000 per week. If she chooses only to work 40 hours per week, in an opportunity cost sense, she has spent the first \$600 of her potential income on the consumption of leisure.

The supply of labor is the opposite of the demand for leisure. A person who demands 60 hours per week of leisure is therefore supplying 40 hours per week of labor. The supply of labor is the relationship between the price of labor (i.e. the wage) and the quantity of labor supplied. As discussed in chapter three, for most goods, the supply is expected to be upward sloping. That is, the higher the price, the larger the quantity supplied. But this may not be true of labor because

the price of labor is very closely related to an individual's income, and an individual's income will affect how much leisure she wants to consume.

A change in price of leisure has two effects that work in opposite directions: the *substitution effect* and the *income effect*. A higher wage means that the marginal cost of leisure is higher (one gives up more money for each hour of leisure); that is, leisure becomes more expensive relative to other goods. Thus, one has an incentive to substitute work for leisure (the substitution effect). But, a higher wage also means that one's income is higher (one has more money with which to purchase all goods including leisure). Thus, one also has an incentive to purchase more leisure (the income effect). Which of these two effects will be larger is uncertain and so whether an increase in the wage will cause an increase or a decrease in the quantity of labor supplied is uncertain.

For example, Susan works 40 hours a week at \$10 an hour, making \$400 per week. Suppose Susan's hourly wage increases to \$100 an hour. If she continued to work 40 hours, she would make \$4,000 per week. She can buy a lot more goods with her income. Her potential income is much higher (\$10,000 per week). Because she gives up more goods (\$100 per hour instead of \$10) by choosing the same amount of leisure, she has an incentive to substitute work for leisure, that is, to work more hours, and consume less leisure. But because she has a higher potential income she has an incentive to consume more of all goods including leisure. The only way to consume more leisure is to supply less labor. Will she work more or less? It depends on her preferences. If the substitution effect is bigger than the income effect she will work more; if she chooses to work 50 hours per week, she would make \$5000 per week and essentially she has given up 10 hours of leisure for the goods she can buy with an additional \$1000. If the income

effect is bigger, she will work less, perhaps working 30 hours a week making \$3000 per week. In this case she will have spent \$1000 of her higher potential income on 10 more hours leisure.

Either of these outcomes are possible depending on one's preferences. Thus, it is completely reasonable for someone to respond to an increase in their wage by working less. The uncertain affect of the price of leisure on the consumption of leisure is different from the relationship between the price of other goods and the consumption of them, because the price of leisure is negatively related to income. If the price of strawberries increased, both the substitution effect and the income effect would encourage you to buy fewer strawberries. It is unclear whether the supply of labor is upwardly sloping like the supply of most goods, or whether it is *backward bending*. This means that as the wage increases, labor supply increases up to a certain point, but, this point, further increases in the wage lead to **decreases** in labor supply. Some empirical estimates have found that men's work effort is less responsive to changes in wages and social policies that affect wages than women's is.⁴⁴

Non-wage income (such as income from investments, welfare benefits, or gifts) is positively related to the quantity of leisure demanded because a higher non-wage income gives one more purchasing power so that one can afford more goods, including leisure. This is another instance of the income effect.

The way economists model labor-leisure decisions allows them to make predictions, of interest to social workers, about the consequences of various kinds of government policies. Many of the social policies social workers care about are, in part, financed by income taxes. The amount one's tax bill changes for each dollar change in income is called the *marginal tax rate*. Changes in marginal tax rates have substitution and income effects just as wage changes do.

For example, suppose Joe works as a mechanic for a gross wage of \$20 per hour, and his current marginal tax rate is 0.2. So for each dollar increase in his earnings, Joe gets 80 cents, and 20 cents goes to the government (0.2 times \$1.00 equals 20 cents). Thus, for each hour he works, Joe gets \$16 and \$4 goes to the government (0.2 times \$20 equals \$4). If Joe works a forty-hour week for the whole year, he earns \$30,720.

Now suppose the federal government decides to increase social welfare spending and to finance this by an increase in income taxes that results in Joe facing a marginal tax rate of 0.3. Now for each dollar increase in his earnings Joe's tax bill increases by 30 cents. Also, for an hour of work, Joe now receives not \$16 but \$14 (0.3 times \$20 equals \$6 in taxes which leaves Joe with \$14). This leaves him with annual earnings of \$26,880 if he works forty hours per, which depending on the size of the income and substitution effects could cause either an increase or decrease in the quantity of leisure he demands (and labor he supplies). Economic theory doesn't allow one to determine a priori whether Joe, or those who face similar situations, would supply more or less labor. But it does provide a model of work decisions that allows one to think systematically about the possible consequences of policies such as these.

Social workers often advocate social policies without giving much thought to how the policies will be financed. An increase in social welfare spending may not do much good if the way it is financed leads to a severe work disincentive that causes a huge number of people to choose not to produce the goods that sustain the society. Also, an increase in social welfare spending might not do much good if the way it is financed leads to such a severe drop in people's incomes that they dramatically increase the hours they spend working just to maintain their living standards.

It is possible to speculate on how economic models might be deepened by incorporating some ideas from sociology. In the United States, a norm exists, which states that able-bodied people are morally obligated to work for their subsistence. In such a society there is a cost of leisure over and above forgone earnings. Consider Joe again. As a result of the tax increase the cost of leisure, measured in forgone earnings, decreases. But if Joe chooses to work less he still might be called a lazy, immoral, no good bum by his family, friends, and others whose respect he desires. In other words, what might be called the sociological cost of leisure might not decline as a result of the tax increase. Thus, Joe's quantity of leisure demanded might not increase as much as one would think by just considering the tax increase alone. In more technical language, the fact that the sociological cost doesn't decrease might curtail the substitution effect. Thus, an increase in marginal tax rates to finance social welfare programs might not create much of a work disincentive, if the sociological cost of leisure remains constant.⁴⁵ An economist wouldn't necessarily have any objection to this analysis; remember that economists don't specialize in the question of how people obtain their preferences, but take preferences as given. If, for whatever reason, men prefer to work no less than 40 hours per week economists would just say that the marginal value of leisure drops to zero after 60 hours of leisure per week are consumed.

8.3 The demand for labor

In labor markets firms demand labor and individuals supply it—just the opposite of most markets, where firms are the sellers and individuals the buyers. However, the labor market is otherwise similar to other markets and is usually model using an adaptation of the perfectly competitive model discussed in chapter three, which assumes there are many buyers and sellers

of labor, who are too small for their decisions to independently affect the market price, and all market participants can enter and leave the market at will.

The demand for labor is a *derived demand*, meaning that employers don't demand labor as an end in itself; they demand labor because they believe those they hire will produce something that will allow them to make a profit.⁴⁶ For example, owners and managers of automobile plants hire workers because they believe these workers will produce cars that can be sold for a profit. This is different from a wealthy person who hires a maid because he directly enjoys the services the maid provides.

Two other concepts are crucial for understanding wage levels: *marginal product* and *the marginal revenue product* (MRP). Marginal product (MP) is the additional output that can be produced by a firm when it hires one additional worker. The marginal revenue product (MRP) is the addition to total revenue caused by the last unit added to production. In a perfectly competitive industry, MRP is simply MP measured or valued in dollar terms. For example, suppose the marginal (last) employee at a social work textbook manufacturer can produce five books an hour. The marginal revenue product is the MP (in physical terms) multiplied by the unit price of the output. If each social work textbook sells for \$10, the MRP is \$50 per hour (5 times \$10 equals \$50).

8.4 Equilibrium in the labor market

If labor and goods markets are in perfectly competitive equilibrium, workers are paid the values of their marginal products (that is, their marginal revenue products). One might ask, why are employers thought to behave this way? Employers don't desire to pay workers the value of

their marginal product; the interaction of supply and demand in the marketplace forces them to pay workers their marginal revenue product.

The value of a worker's marginal product is a measure of how much the worker's labor is worth to a given employer. A rational employer will not pay workers more than they are worth but would love to pay them less. However, such a practice could not be sustained in a perfectly competitive labor market. Suppose workers in the textbook industry were paid \$20 per hour (assume the MRP is still \$50). Employers would gain \$30 more in revenue produced by the marginal worker than they would pay in wages. They would be making positive economic profits. Therefore, more firms would enter the industry or firms already in the industry would hire more workers, creating upward pressure on wages, downward pressure on the price of books, and downward pressure on the marginal revenue product of labor (because of the law of diminishing returns discussed in chapter two). Entry would continue until workers wages equaled the value of their marginal product. Firms would bid up wages, or drive down the marginal product until an equilibrium price and quantity was reached, at which the wage was equal to both the marginal revenue product of labor (the value that firms place on one more unit of labor) and the marginal disutility of labor (the value that individuals put on one more unit of labor).

Suppose instead that the wage is above the equilibrium wage. Many workers would want jobs, but few employers would be hiring. Workers would bid down wages until equilibrium was reached. Everyone who wants a job at the going wage has one and every firm has as many employees as it is willing to hire at the going wage. At least, that is the way it would happen if the labor market worked perfectly, but the rest of this chapter discusses problems with the perfectly competitive labor market model.

8.5 Criticism of the Competitive Theory of the Labor Market

Marginal productivity theory has been used to explain the positive correlation between education and earnings.⁴⁷ That is, the more formal schooling one has the higher one's wages tend to be. One explanation for this finding is that formal schooling teaches skills that make workers more productive. The more productive one is, the greater one's marginal product.⁴⁸ Social workers are very interested in the issue of poverty as it relates to working people. According to marginal productivity theory, one reason the working poor exist is because their marginal product is low and increased education could increase their marginal products. Government subsidies to help working poor persons pay the costs of attaining more education is a policy that could help increase their incomes. So would a policy that provided incentives for employers to pay the costs of increasing the education of their workers.

Opponents of the redistribution of income and of minimum wage laws often use marginal productivity theory to say essentially that the only way to help the poor is to make them smarter. Proponents of the redistribution of income often then throw up their hands and say economic theory is simply a justification of conservative economic policies. But, contrary to what some economists will lead you to believe, economic theory does not unequivocally support increased education as the only solution to poverty. Suppose people with unskilled jobs learn new skills and apply to jobs requiring more skills? What does the theory of supply and demand say will happen to the wages of those occupations? The supply of labor will shift out (see chapter 3 figure 6) and the marginal product and price (wage) of skilled labor will go down. The law of diminishing returns means that putting more people to work in jobs requiring more skills will

drive down the return on those jobs, hurting workers already in those jobs and helping the new entrants by less than expected. Is there evidence that the law of diminishing returns applies to skilled labor? If you lived in ancient Rome and you could read, write, and do basic arithmetic, you were easily a part of the upper-middle class. You could afford a big house with lots of servants. Today, the minimum-wage worker behind the cash register at Wall Mart probably reads, writes, and does basic arithmetic, yet she probably can barely pay her rent and can't afford any servants. Apparently the marginal product of basic education is lower now than it was 2000 years ago.

A similar argument could be made about welfare reform. Suppose welfare reform succeeds in moving every so-called welfare mother into the work force? Proponents of welfare reform say this will make everyone better off, but what does supply and demand theory say? More people entering the labor market would cause a rightward shift in the labor supply curve (see chapter 3, figure 6) driving down the marginal product of labor and decreasing wages for lower skilled jobs. Since many workers are already living in poverty, such a policy this will make the working poor even poorer and won't get welfare recipients out of poverty. These conclusions follow from basic supply and demand economics, using the assumption that wages equal the marginal revenue product of labor, yet it doesn't lead to the one-sided conclusions people usually say mainstream economics does.

Although the marginal productivity theory of wages is dominant in economics, there are alternative views within the discipline. This isn't a labor economics textbook so it doesn't delve too deeply into a discussion of such alternatives, but it will present one alternative view because of its relevance to the types of policy issues that interest social workers. One of the most articulate contemporary representatives of this view is Yanis Varoufakis who draws heavily on

the ideas of the nineteenth century economist Karl Marx.⁴⁹ According to Varoufakis, the key mistake in the marginal productivity theory of wage determination is that it leaves out the role played by relative bargaining power in the determination of workers' wages. Potential employers and employees come together to consider entering into exchanges. Like all contracts, labor contracts contain the rights and obligations of the contracting parties. One of the most important terms is how much a worker will be paid.

Suppose Jean is the employee and Liz is the employer. How much Jean will be paid depends, in part, on what alternative sources of income she has if she chooses not to work for Liz. Jean's wage also depends on how easy it would be for Liz to find someone else to work for her if Jean decides not to. Suppose Liz offers Jean a wage of \$5.15 an hour. Jean regards this wage as unfair but faces a problem. Suppose she isn't eligible for any type of government assistance if she turns down a job offer. Assume also that there are no private charities in her society and that Jean has no accumulated wealth to fall back on. All she owns is her ability to work. Imagine that most people in this society are in a position similar to Jean's. Given this situation, Jean would be faced with the following choice: work for an unjust wage and increase the probability that she will eat regularly or not work for this wage and starve. Since most people in the society are in Jean's situation, Liz is not under much pressure to pay Jean a higher wage. If Jean decides not to work for Liz, Liz can simply hire the next person on the brink of starvation and pay this person the \$5.15 per hour wage.

Now assume that Jean and Liz are bargaining about Jean's wage, but this time government gives every citizen \$10,000 a year, enough to meet their basic needs, whether or not citizens choose to work. Jean would now be under less pressure to work for Liz for an unjust wage, and Liz would be under more pressure to pay Jean a higher wage than \$5.15 an hour.

According to Varoufakis, the previous scenarios illustrate the following points. Workers' wages are not determined by their marginal revenue products. They are determined by the relative bargaining power of employers and employees which, in turn, is determined by the distribution of wealth, as well as by the particular social welfare and other institutions that exist. This means that social workers interested in increasing wages don't have to rely merely on policies that increase people's education levels. Relatively high unemployment benefits, welfare benefits, workers' compensation benefits, etc. can also increase wages by decreasing the pressure on people to work in low wage jobs.⁵⁰

A mainstream economist could respond that none of the above observations conflict with the supply and demand model. Labor supply would be higher in the first scenario than in the second. In other words, the existence of social welfare and other private charities (by increasing non-labor income) would cause the labor supply curve to shift to the left (see chapter 3, figure 7) resulting in a lower equilibrium quantity and higher equilibrium wage. Supply and demand theory says there will be an equilibrium wage, but doesn't say that the equilibrium wage will be an above poverty wage. Price in a perfectly competitive labor market equates the marginal revenue product of labor with the marginal disutility of labor. What is the marginal disutility of labor of someone who faces a social (or physical) obligation to work? A person who is obliged to work would have a very low disutility of labor; that is, she wouldn't have to be compensated very much for the loss of leisure that results from working. Thus, supply and demand theory could give at least one reason to believe that the equilibrium wage would be quite low.

8.6 Labor Market Discrimination

The National Association of Social Workers' (NASW) code of ethics states that, "social workers should act to prevent and eliminate ... discrimination against any person ... on the basis of race, ethnicity, national origin, color, sex, sexual orientation, age, marital status, political belief, religion, or mental or physical disability."⁵¹ Economists are also interested in discrimination, mainly as it relates to labor markets.

There are two major perspectives on labor market discrimination in mainstream economic theory. One is associated with the widely acclaimed economist Gary S. Becker of the University of Chicago.⁵² According to Becker, some employers have a taste for discrimination. This means that some of them don't like certain people simply because they are members of particular racial or ethnic groups. For instance, some employers dislike African-Americans, Japanese, or Puerto Ricans. Although Becker doesn't do so, his analysis could easily be applied to other types of groups such as gay men and lesbians, mentally ill people, or Christian Fundamentalists.

If an employer has a taste for discrimination against someone, he will not hire him or he will hire him only at a lower wage. If Jim dislikes Robert because Robert is openly gay, he will not hire Robert unless Robert is willing to accept a lower wage than the one Jim pays his non-gay employees. In neoclassical terms, Jim behaves as if Robert's gayness is an additional cost of employing him. Given the clause from the NASW code of ethics, social workers are typically interested in the formation of policies to attack practices like this. According to a popular interpretation of Becker's analysis, if the labor market is perfectly competitive, such policies may be unnecessary because employers with tastes for discrimination won't last long in a perfectly competitive labor market.⁵³

Suppose a small number of white employers with tastes for discrimination against blacks refuse to hire them. The effect of this is a limitation on the pool of persons who will be able to work for these employers (only non-blacks will be in this pool). In other words, by refusing to hire blacks, these employers drive up the demand for white workers, generating upward pressure on their wages. Meanwhile, blacks will compete with other workers for jobs with those employers without a taste for discrimination, exerting downward pressure on the wages these employers have to pay. Thus, nondiscriminating employers will have access to cheaper labor than the discriminatory employers. This would allow them to out compete these discriminatory employers and drive them out of business. And with discriminatory employers driven out of business, social workers would be happy. An obvious response to this point of view is that labor markets in the real world aren't perfectly competitive, and, therefore, employers with tastes for discrimination may not be driven out of the market or that other theories of discrimination would be more realistic.

Some radical economists have argued that discrimination can be used in a divide-and-conquer strategy. Workers are more effective at gaining decent wages and working conditions if they are able, when necessary, to engage in collective action, such as strikes. Workers are in a better position to engage in collective action if there are no divisive issues to separate them. Employers can create such issues by discriminating against a chosen group.⁵⁴

Another theory of labor market discrimination has to do with asymmetric information. When employers consider hiring someone to work for them, they have no way of knowing how productive a prospective employee will be; workers are much more informed about how productive they are than employers. This information asymmetry requires employers to develop ways to estimate the productivity of potential employees. One way is to use what sociologists

call ascriptive characteristics such as race and sex. The chosen characteristics may or may not be based on employers' past experiences with such workers.

For example, suppose, an employer has heard that black employees are less productive than white employees, and decides not to hire any not based on personal dislike of blacks, but, because of lack of information. He simply uses dark complexion as a basis for predicting how productive individuals will be. Economists call this *statistical discrimination*. Harvard sociologist William Julius Wilson has found that blacks in the Chicago metropolitan area suffer a great deal from this kind of discrimination. Perhaps contrary to what one would expect, Wilson found that both white and black employers statistically discriminated against blacks, especially young black males.⁵⁵

To the extent that labor market discrimination is due to tastes, the way to curtail it is by changing people's tastes. It isn't clear, however, what social policies would be appropriate for changing people's feelings about certain groups. There's truth in the adage that "you cannot legislate morality." There can be legislation, however, that authorizes those who feel they have been discriminated against to sue their alleged discriminators. This, of course, is currently the case in the United States. The lawsuit strategy might also be effective against discrimination.

Social workers tend to oppose discrimination because they believe it is unjust. It denies people human dignity, amounts to disrespect for people's cultural traditions, and is inconsistent with celebration of a multicultural society. Discrimination is also inefficient. Employers who have a taste for discrimination and those who discriminate to divide and conquer don't care whether those discriminated against are as productive as others are. Employers who statistically discriminate are concerned with this question, but their use of ascribed characteristics as signs of productivity assumes the answer to it. Such employers may believe black workers are less

productive than whites when this isn't really the case. Mistakes about productivity could cause employers to hire whites who are less productive than blacks are. Discrimination based on any of these motives is inefficient and causes the level of goods and services produced by our economy to be less than it would be without discrimination. A social worker sophisticated enough to make the case that discrimination cost us in the form of less consumption would probably be taken more seriously in policy debates than one who grounds his arguments solely on celebrating multiculturalism or other objectives not necessarily well appreciated among the electorate.

8.7 Unemployment

A person is *unemployed* if she is willing, able, and looking for work at the going wage but who cannot find a job. Unemployment is an important topic in economics, but it is primarily in the realm of macroeconomics. This book focuses on microeconomics and so, unfortunately, our treatment of unemployment will be very brief. Readers who are interested in learning more about economic theories of unemployment should see a macroeconomics textbook.

The first and most important thing to understand about unemployment is that the economic definition of unemployment is different than the colloquial definition that you're probably familiar with. Most people who aren't economists use the word "unemployed" as a synonym for "not employed." A child, a student, a retiree, a full-time parent, and a person who is taking some time off before looking for a new job are all "not employed," but they are not "unemployed" in the economic sense. To be unemployed one must be willing, able, and looking for work at the going wage but unable to find it. People who aren't working but aren't willing to work at the going wage for whatever reason is "out of the labor force." A person who would

work at a higher wage, who may even be looking for work, but isn't willing to work at the going wage is also considered out of the labor force.⁵⁶ The reason for the distinction between the unemployed and the out of the labor force is that the two have different causes and different remedies. The fact that some people do not chose to work at the going wage is not necessarily an economic problem, but the fact that people who want to work can't find jobs is a serious economic problem. It might be a problem if people don't want to work for the wages that are offered, but the solution to that problem is very different than the solution to unemployment.

Unemployment is a surplus of labor. As chapter 3 showed, a surplus is not supposed to to last for long in a perfectly competitive market; if the quantity supplied is greater than the quantity demanded, there will be pressure on prices (wages in this case) to fall until an equilibrium is reached in which the quantity sellers are willing to sell equals the amount buyers are willing to buy. There are four kinds of explanations why a permanent surplus can exist in the labor market while it does not exist in other markets: 1) The labor market is not perfectly competitive. This explanation begs the question of what other model should be used. The other models discussed in this book (monopoly, monopsony, oligopoly, and monopolistic competition) do not imply the persistent existence of surpluses either. 2) The labor market is basically perfectly competitive but the macroeconomic economy works differently than a single market. This explanation is beyond the scope of this book, although it will be touched on below under the heading of cyclical employment.⁵⁷ 3) There are enough jobs for people it just takes a while for workers to find those jobs. This explanation is discussed below under the heading of frictional unemployment. 4) The labor market is basically perfectly competitive but wages either do not adjust or adjust very slowly to downward changes in demand because of minimum wage laws, unions, and the unwillingness of all workers to accept wage cuts.

There are three types of unemployment: *frictional unemployment*, *structural unemployment*, and *demand-deficient* (or *cyclical*) *unemployment*.⁵⁸ An individual is *frictionally unemployed* if there is a job out there for her, but it takes a while to find that job. An economy has only frictional unemployment if the number of job vacancies is equal to or greater than the number looking for work at the going wage. Most economists agree that an economy with only frictional unemployment is at full employment even if there is still a positive unemployment rate, because there are enough jobs, it just takes some time for workers to match up with the right employer. There is disagreement about how low unemployment has to go to be considered full employment. Some economists believe that an unemployment rate of 4 percent or even higher could be considered full employment, others would put the rate much lower.

An individual is *structurally unemployed* if there is insufficient demand for her particular skills. That is, when the quantity supplied of a certain type of labor is greater than the quantity demanded. There may be plenty of jobs out there for people with different skills, but there aren't enough jobs out there for people with her skills. Structural unemployment results from incompletely flexible wages, the high cost of occupational and geographical mobility, and the high cost of retraining. It is possible to have a high amount of structural unemployment even in a fast growing economy with a large number of job vacancies in certain professions.

For example, suppose labor demand for electricians decreased, while demand for computer programmers increased. If the electricians market were perfectly competitive, the decrease in demand would lead to a lower equilibrium price and quantity. But suppose workers' refusal to accept pay cuts prevents the wage from falling to equilibrium. At this wage, the quantity of labor employers would be willing to buy would be less than the quantity electricians would be willing to sell. In other words, structural unemployment would exist. If the

unemployed electricians could become computer programmers at no cost, they could enter the computer programmers market. But they cannot do this so easily, and the structural unemployment in the electrician market could persist for a long time. Structural unemployment could lead to underemployment rather than unemployment if workers who are structurally unemployed from skilled jobs take jobs with lower skill requirements.

Demand deficient (or cyclical) unemployment is caused by a decline in *aggregate demand* in output markets. In this case, the aggregate quantity of labor demanded is less than the aggregate quantity of labor supplied. In plain English, the total number of job vacancies is smaller than the total number of unemployed. Aggregate demand is the total amount that domestic residents, businesses, government, and foreigners spend on domestically produced goods at each price level.⁵⁹ The aggregate quantity of labor demanded is the amount demanded by *all* firms in the economy, and the aggregate quantity of labor supplied is the amount supplied by *all* workers. If the demand for goods falls, the demand for labor will fall also, creating unemployment.

Unemployment has consequences that are important to social workers. The unemployed have a hard time obtaining the goods they need and often suffer from low self-esteem. They are more likely to get involved in domestic disputes, some of which may lead to separation or divorce. Unemployment also has a cost that may be of less concern to social workers but is of great concern to economists: Unemployment is inefficient, because society has to forgo the goods that would have been produced had the unemployed been working. Workers who want to work but can't find a job are a resource that is being wasted. The efficiency loss from unemployment is the value of the goods workers could have produced had they been working plus the psychological costs that are concerns to social workers. Economists tend to focus on the

cost of the lost output because it is more easily quantifiable, but they are aware that all costs associated with unemployment are part of the efficiency loss.

Unemployment is typically measured by the *unemployment rate*, which is the ratio of the number of unemployed to the *labor force*. The labor force is made up of those who are working and those who are unemployed. For example, if there were 5 million unemployed people out of a labor force of 100 million, the unemployment rate would be 5 percent (5 million divided by 100 million equals 5 percent).

The government keeps statistics on unemployment, but these statistics are far from perfect and there is controversy about whether they are likely to underestimate or overestimate the unemployment rate. One reason that the government may underestimate unemployment is that it doesn't count *discouraged workers* as part of the labor force.⁶⁰ These are people who want a job but have given up looking for one and so are counted as out of the labor force. Suppose in addition to the 5 million people who are unemployed in the above example, there are 1 million discouraged workers. If the government counted such persons as part of the labor force and considered them unemployed, the labor force would increase to 101 million and the number of unemployed would increase to 6 million making the unemployment rate just under 6 percent (6 divided by 101 million equals 5.95%).

Another reason why statistics may underestimate unemployment is that the government counts *underemployed* workers as employed. An individual is underemployed if she is unable to find a job that uses her productive capacity to its full extent. There are two ways in which a person can be underemployed. Both, part-time workers who would rather be working full time and people with high-skills who cannot find a job in the high-skilled labor market and are forced to accept a job requiring lower-skills are underemployed. Some analysts believe the

underemployed should be counted as unemployed.⁶¹ Current statistics simply count the underemployed as employed, generating an underestimate of the actual unemployment rate. Suppose, there are another 1 million underemployed. If these people were counted as unemployed instead of as employed there would be 7 million unemployed and the unemployment rate would be just under 7 percent (7 million divided by 101 million equals 6.93% percent).

On the other hand, it's also possible that the official statistics overestimate unemployment. Unemployment statistics are determined by a telephone survey. If a person answering the survey says she's looking for a job but unable to find one, that person is counted as unemployed; the people conducting the survey don't check to see if that person is actually looking for a job or if that person is actually qualified for the jobs they are looking for. People may say this because there is a social stigma attached to being out of the labor force. If 2 million of the people we've counted as unemployed aren't really looking for work then the unemployment rate would go back down to 5 percent (5 million divided by 100 million equals 5 percent).

Whether the unemployment statistics overestimate or underestimate unemployment depends on which of these effects is larger. But the reason unemployment statistics don't count these effects is that they are hard to measure. How can a surveyor know if a person is truly underemployed or not? How can they know if people who say they're looking for work really are looking for work? Thus, the best way to look at the unemployment statistics is as an index; although the unemployment rate is an imperfect measure of unemployment it's safe to say that a low unemployment rate is better than a high one.

Another issue not captured in the overall unemployment rate is the fact that unemployment rates vary by race, gender, age, and other factors. Blacks are more likely to be unemployed than whites. Men are slightly more likely to be unemployed than women. People in low-income inner-city neighborhoods in Oakland are more likely to be unemployed than people in wealthy suburbs of San Jose. Teenagers are more likely to be unemployed than adults. Black teens have the highest unemployment rate of all.⁶² For example, the Bureau of Labor Statistics reported that the unemployment rate was 4.0 percent in January of 2000. That makes it sound like it's pretty easy for everyone to find a job, but at the same time the Bureau also reported that the unemployment rate was 3.4 percent for whites, 5.6 percent for Hispanics, and 8.2 percent for blacks. Therefore, the overall unemployment rate doesn't really give a good picture of how difficult it is for some groups to find a job.

8.8 Policies to Address Unemployment

Unemployment insurance provides a temporary income to unemployed people who were employed for a specific period in jobs covered by the program. It is financed by a tax on employers. This program is not intended to directly affect the demand for or supply of labor. It is intended, instead, to provide recipients with an income to tide them over until they find work. But just because unemployment insurance is not intended to affect labor demand or supply doesn't mean it doesn't have such an affect. The recipient is able to hold out longer for the job of his choice than he would be able to without unemployment insurance. This is another example of the income effect. Peter doesn't have to take the first job offered him if he is able to eat and pay rent without working.⁶³ Whether or not one thinks this is a good thing depends on one's point of

view. Those who believe able-bodied people have an obligation to work for their subsistence, regardless of wages and other work conditions, believe that this work disincentive effect is unfortunate.⁶⁴ Those who believe workers ought to have an alternative to working for low wages under dangerous conditions believe that the work disincentive effect is a good thing.⁶⁵ U.S. unemployment insurance attempts to strike a balance between these two positions. It is available only for a limited period of time and only for people who claim to be actively looking for work and who meet other requirements.

Demand-management policy addresses demand deficient unemployment. There are two kinds of demand management policy called *fiscal* and *monetary policy*. Fiscal policy is the tax and spending policies of government. Imposition of a sales tax and increased spending on public works are examples of fiscal policies. When demand is too low, the government may increase spending or decrease taxes (increasing the size of the deficit or decreasing the size of the surplus) to try to get the demand for labor up. When demand is too high (which is believed to cause inflation⁶⁶), the government may cut spending or raise taxes (increasing the size of the surplus or decreasing the size of the deficit) to get people to spend less. An income tax cut and an increase in government spending would increase aggregate demand. Increased aggregate demand would cause businesses to attempt to meet this increase by producing more goods. Thus, aggregate demand for labor would increase, decreasing unemployment.⁶⁷

Monetary policy is the government's use of its influence over the money supply and interest rates. In the United States, monetary policy is conducted by a component of the federal government called the Federal Reserve (the Fed). The Fed essentially plays the role for the nation's banks that these banks play for us. Just as we borrow money from banks, banks borrow money from the Fed. Just as we pay interest on the money we borrow, banks pay interest on the

money they borrow from the Fed. If aggregate demand is too high the Fed can raise interest rates. If aggregate demand is too low, the Fed can use monetary policy to decrease unemployment by lowering the interest rate it charges banks to borrow from it. Interest is simply the amount a borrower must pay to use someone else's money. If banks are able to pay a lower interest rate to borrow from the Fed, they are likely to lower the interest rate they charge the rest of us to borrow from them. This means that consumers are more likely to borrow to purchase cars or homes, and businesses are more likely to borrow to finance investment in new plants or equipment. Thus, more workers will be hired to meet the increased demand goods decreasing unemployment. There is a great deal of controversy in economics about how effective fiscal and monetary policies are.⁶⁸ Recently the U.S. government has tended to rely more on monetary than fiscal policy and it has tended to be more concerned with inflation than unemployment, but the question of which policy, if either, should be used, is still controversial.

Frictional unemployment can be addressed by the provision of information. A government agency could help employers and the unemployed find each other by serving as a clearinghouse. Unemployment insurance is also helpful for the frictionally unemployed. Structural unemployment could be addressed by government provided education and training. If electricians lose their jobs due to structural unemployment in the electrician industry yet demand for computer programmers has increased, government could subsidize the training of electricians who want to become computer programmers.

Some economists believe unemployment is caused by the minimum wage. Chapter 3 showed that a price maximum below the equilibrium price can cause a shortage. A price minimum above the equilibrium price can cause a surplus. If the price is not legally allowed to fall to the equilibrium level in a perfectly competitive market, the quantity supplied will exceed

the quantity demanded, and a permanent surplus will exist. Proponents of this view point to the fact that a price control exists in the labor market (in the form of the minimum wage) and a surplus exists. But this idea is quite controversial and the evidence on it is inconclusive; that is, it is not yet proven whether the minimum wage does or does not cause unemployment. Those who believe that the minimum wage causes unemployment have often argued that the minimum wage should, therefore, be eliminated or at least cut. But this solution, even if correct, has one very severe side effect. Reducing the minimum wage could only reduce unemployment by lowering wages so much that workers are less willing to work and firms are more willing to hire workers. Minimum wage workers already make poverty-level incomes. A decrease in the minimum wage would increase poverty among the working poor and give the unemployed jobs that pay poverty wages. This is hardly an appealing prospect for workers.

Due to their concern about the social problems that result from unemployment and other labor market problems, social workers have taken an interest in the development of policies that combat joblessness and low wages. Lowering the minimum wage is not an appealing solution to reduce unemployment, because it will create more poverty level jobs unless some other program exists to keep wages up. But demand stimulus may not be appealing because it may cause inflation. What else can be done? A few economists and sociologists believe that the best unemployment policy would be to treat the symptoms if we can't cure the disease. They would advocate establishing a minimum income guarantee that assures that people's incomes will not fall below the poverty line whether or not they're able to find jobs. This and other solutions to poverty will be discussed in the next chapter.

CHAPTER NINE

THE ECONOMICS OF POVERTY

In August of 1996, President Clinton signed into law a welfare reform plan that ended sixty years of social welfare policy, which, since the passage of the Social Security Act of 1935, had granted impoverished Americans a statutory right to governmental assistance. The plan signed into law by President Clinton, turned welfare over to the states, removed the guarantee of assistance, stressed work promotion instead of income assistance, and placed a lifetime eligibility limit of five years for recipients of welfare. Under this new system the needy can simply be turned away if they appeal to the government for help during hard times. Although welfare is only one of many poverty policies, the debate that led to President Clinton's signing of this legislation, as well as the ongoing discussion about how best to implement it, highlights the issue of how best to attack poverty.

Poverty, of course, has been a perennial concern of social workers. There are many, often contradictory, theories about the causes of poverty that have been used to support competing policies to address poverty. A good understanding of the theories behind poverty policy is essential to participation in the debate about what to do about poverty. This chapter discusses the economic aspects of poverty. Section 9.1 discusses the debate over how best to define poverty. 9.2 briefly discusses the history of poverty and social welfare policy in the United States. 9.3 examines six views on the causes of poverty, including inadequate demand for labor, market power, inadequate human capital, inability to work, lack of work ethic, and labor market discrimination. 9.4 discusses the efficiency-equity tradeoff. Sections 9.5, 9.6, and 9.7 discuss policies to address poverty, including aspects of the current system (such as promotion of

economic growth, workfare, the minimum wage, and the Earned Income Tax Credit) and two proposed reforms (the guaranteed job and the guaranteed income). 9.7 concludes with a brief discussion of the normative aspects of poverty.

9.1 The Debate over the Definition of Poverty

According to the National Research Council,⁶⁹ there are two different conceptions of poverty: *absolute* and *relative*. According to the absolute definition, poverty is the lack of income necessary to meet one's basic needs; according to the relative definition, poverty is the possession of an income that is less than some specific portion of average income.

The noted sociologist Lee Rainwater has argued that a relative definition is preferable to an absolute one on the grounds that poverty is really about the inability of people to fully participate in their society. The best indicator of whether one can participate is how his income compares to that of the typical member of society.⁷⁰ Thus, poverty could be defined as earning less than one-half of the median income. One problem with this definition is that it seems to combine issues of poverty and inequality. For example in a society where the median income was 1 billion dollars a person would be considered poor with an income of 499 million dollars even if she could afford mansions all over the world and a private Jet to get to them. Poor may not be the best word to describe such a person.

The U.S. Census Bureau uses an absolute definition to calculate poverty statistics. *The poverty line, or the poverty threshold*, is the amount of income needed for a person or family to purchase the amount of goods necessary for survival. A family with less income than the poverty line is considered poor. The Census Bureau calculates the number of people living in poverty

(below the poverty line), and the poverty rate (the percentage of people living in poverty) for the United States. The Census Bureau determines the poverty line by calculating the amount of money families of different sizes need to purchase a minimum level of food, and multiplying by three. This method is used because, when this approach to defining and measuring poverty was developed in the 1960s it was believed that most families spent about one-third of their incomes on food. The Census Bureau collects data on family income and any family with an income that falls below the poverty line for families of its size is considered poor.⁷¹ According to preliminary Census Bureau estimates (as of Feb. 1, 2000), the poverty line for a family of four in 1999 was about \$17,000. In 1998, the number of poor people was 34.5 million and the poverty rate was 12.7 percent.⁷²

The Census Bureau's methodology has been criticized a great deal.⁷³ First, the definition of family income that is compared to the poverty threshold does not include in-kind benefits such as Medicaid, Food Stamps, and Public Housing. If these benefits were considered income, many people currently classified as poor would not be. Thus, some have argued that leaving out in-kind benefits leads to an overestimation of poverty in the United States.

Second, the Census Bureau's definition of the poverty line doesn't take into account differences in costs of living in different parts of the country. A poverty line income of \$17,000 buys much more in Mississippi than it does in New York. It is unclear whether this problem causes an overestimation or an underestimation of poverty in the nation as a whole, but it certainly skews our perception of where poverty is most prevalent.

Third, the current definition of the poverty line fails to take into account differences in necessary expenditures such as health care. Suppose the Beauford family has four members, one of whom has a congenital disorder that requires the family to pay \$4000 a year in out-of-pocket

medical costs. The Beauford's annual income is \$18,000 a year. Thus, after their health care costs are taken care of they have \$14,000 left for all other expenses. On the other hand, the Pusser family also has four members who are all healthy and they pay no out of pocket health care expenses. The Pusser's income is \$16,000 a year. Given the Census Bureau's definition of poverty and current poverty line of \$17,000 the Pussers are poor and the Beaufords aren't poor, even though, the Beauford family has less money to spend after health care expenses are taken care of. Because many of the working poor with incomes near the poverty line have no health insurance, leaving out medical expenses probably leads the census burea to underestimate poverty.

Fourth, the use of food expenditure multiplied by three to determine the poverty line doesn't reflect changes in relative prices and consumption behavior since the 1960s. At that time, most families did spend about one-third of their income on food, but today some researchers say that most families spend only about one-fifth or one sixth of their income on food. If the Census Bureau multiplied food expenditures by 5 instead of 3, the poverty line for a family of four would be over \$28,000 ($17,000 \div 3 \times 5$) and many more people would be defined as poor.⁷⁴

Fifth, the current definition of poverty doesn't consider how much an individual works or the wage rate available to him. For example, suppose Dean works one full-time job at the minimum wage and earns a below-poverty income. Jerry has the same skills and opportunities as Dean, but he works two full-time jobs at minimum wage bringing his income above the poverty line. According to the Census Bureau, Dean is poor but Jerry isn't. But in an economic sense Jerry is just as poor as Dean; Jerry feels his poverty in less leisure time and Dean feels his poverty in less consumption of other goods.

Although the U.S. Census Bureau uses one specific definition of poverty, the academic debate about how best to define poverty is far from settled. The best thing about the current poverty line, however, is that it exists. It may be arbitrary but it provides a reference point from which changes in poverty can be assessed. The poverty rate may not tell us the exact percentage of the population that is having serious financial difficulty, but an increase in the poverty rate indicates that things have gotten a little worse for people with low incomes and a decrease indicates that things have gotten a little better. Therefore, the rest of this chapter employs the Census Bureau's conception of poverty despite its faults.

9.2 Trends in Poverty and Social Policy in the United States

The modern history of social welfare policy in the United States begins with the Great Depression of the 1930s. Following the stock market crash of 1929 and the bank failures of the early 1930s, there was a massive downturn in economic activity and a massive increase in unemployment. National income declined by one-third over a four-year period and the economy reached a point in which nearly one in four workers was out of work. There were very few government social services for the poor at that time and the government found itself unable to deal with such a crisis. President Franklin Roosevelt took office in 1933 and responded to the Great Depression with massive new social programs including Social Security, Aid to Families with Dependant Children (AFCD), and many others. The first federal minimum wage law was introduced, as were laws protecting labor rights and unionization.

The great depression disappeared virtually over night when the United States entered World War II in 1941. The demand for labor created by the war greatly increased wages and

employment. The G.I. Bill provided for education, unemployment insurance, and college tuition for all veterans after the war. Because such a large percentage of Americans fought in the war, these programs had an enormous impact on inequality in the United States. By the 1950s the United States was far more prosperous and for economically equal than at any time in its past. There were no official poverty statistics at the time, and so inequality is the best measure of material deprivation. But poverty was still with us. In 1959, the first year in which official statistics were kept, the poverty rate was 22.4 percent.⁷⁵

In the 1960s, President Lyndon Johnson declared “War on Poverty.” New Deal programs such as Social Security and AFDC were expanded, the minimum wage was increased, and new programs such as Medicaid were introduced. By 1973, the poverty rate was cut in half to 11.1 percent. Enthusiasm for the War on Poverty gradually faded and many of Johnson’s programs were cut back, especially under President Reagan in the 1980s. Poverty began to gradually increase reaching over 15 percent at times in the 1980s and early 1990s. Since 1993, the economic boom of the 1990s has helped bring poverty back down to 12.7 percent.⁷⁶ However arbitrary the poverty line may be, the fact that poverty decreased steadily from the 1950s to the early 1970s and then increased until the mid-1990s reveals something important about poverty in the United States. Despite continued economic growth since 1973, very little of the increasing prosperity has been shared by the poorest Americans, as the gains from growth had been shared by the poor from the end of the Second World War to 1973. There is considerable debate within the economics profession about why: some economists blame the changing nature of the global economy while others blame the reduction in social welfare programs since the 1970s.

9.3 Theories about the Causes of Poverty

This section discusses six possible causes of poverty that are frequently mentioned in academic literature: inadequate demand for labor, market power, inadequate human capital, inability to work, lack of work ethic, and labor market discrimination. These causes are not mutually exclusive; it's possible that more than one or all of them contribute to poverty.

Inadequate demand for labor: According to this view, the demand for labor may not be high enough to absorb all those who are willing and able to work at an adequate wage. Low demand for labor could be a temporary or chronic problem. Most often, people speak of low demand as causing unemployment, but it could instead or as well cause employed workers to earn below poverty wages. Either unemployment or low wages can obviously lead to increased poverty. Unemployed workers themselves are likely to be poor, but low demand also puts downward pressure on the wages of employed workers (see chapter three). If left to itself, there's nothing about the functioning of the labor market that assures that the wage will be above the poverty level.⁷⁷

Market power: Another theory of poverty, which is mostly associated with Marxian economics, but which is advocated by other schools of thought as well,⁷⁸ is that workers don't enter into exchanges with employers as equals and thus are forced to accept low wages regardless of their productivity. The crucial difference between market power theory and low demand theory is that wages aren't equal to workers' marginal revenue products if market power is the explanation. But the two theories have more in common than one might think. In both, the more workers there are relative to the number of job openings, the lower wages will be; in both, the more workers need to get a job to survive, the lower wages will be.

Low human capital: As defined in chapter eight, human capital is the skills, knowledge, and abilities that make people more productive on the job. If the labor market is perfectly competitive, people with more human capital will receive higher earnings than those with less human capital. According to some economists, people with low human capital end up either unemployed or employed in poverty-wage jobs because their productivity makes it unprofitable for firms to pay them above-poverty wages, or in some cases, to hire them at all.⁷⁹ There is some evidence that those with less formal education are more likely to be poor than those with more formal education are.⁸⁰ This fact could be regarded as evidence that human capital has at least some impact on poverty. A broad definition of human capital can also include physical abilities and disabilities, but because the solutions to these types of problems are very different, it might be best to treat them separately.

Inability to work: There are many reasons why one may be unable to work. Physical reasons include being too old, being too young, or being physically disabled. Other reasons include family responsibilities such as caring for a young child or a sick relative. People like to think that there is a clear divide between those who can and cannot work, but in fact all of the categories for being unable to work have arbitrary, culturally determined cut-offs. There is a great difference between a person who cannot work and a person who should not have to work yet attitudes often confuse the two. Some people cannot work past 65 yet others are capable of working past 100. The United States citizens have made a legal decision that no one past 65 should have to work, but the cut-off point could as easily be 64, 66, 59, or 71. Blind people cannot become forklift operators, but they can become lawyers. Yet United States citizens have given blind people the option of receiving disability for life if they so chose. Certainly, people with severe cognitive limitations or mental illnesses cannot work, but those with intelligence

levels slightly above that deemed indicative of a cognitive disability are expected to work. Ten year-old children can work, but most people in the United States believe they shouldn't have to. Legally, children are not allowed to work in the United States, but people are allowed to buy products made by children in other countries. As discussed below, in the 1930s it was widely believed that single mothers could not work (outside the home); today prevailing opinion seems to have completely reversed to the belief that all single mothers on welfare must seek employment. Certainly many people cannot work, and many others should not have to, but drawing the line between those who can and those who cannot is an extremely difficult normative issue.

Lack of work ethic: This view of poverty has to do with cultural commitments. Some able-bodied people may identify with groups that adhere to cultures that devalue work. Perhaps, political analyst Lawrence Mead is the most articulate proponent of this view. He bluntly contends that an insufficient work ethic causes most poverty. He believes that most of those who work full-time year round are not poor and that most of those who are poor don't work full-time and year round. The main difference between most of the able-bodied poor and most of the able-bodied non-poor is that the non-poor believe that they have an unconditional obligation to work, while the poor believe that they should work only if wages and work conditions are ideal. In other words, the non-poor sufficiently value work, while the poor don't value it enough. Because the poor don't value work enough they end up not doing much of it, or doing a poor job of it, and fall to the bottom of the income spectrum.

Labor market discrimination: According to this view, certain groups are systematically excluded from better jobs because employers tend to believe that they are less capable or simply don't like their group. It is difficult to estimate to what extent this causes poverty because it could look very much like the proposed causes that were discussed earlier. If employers are

unwilling to hire people from a certain group, there will be very low demand for labor in the areas where this group is concentrated. Members of groups that are excluded from the better paying jobs might be more likely to develop the idea that work is of little value, less likely to make investments in enhancing their human capital, and less likely to develop a strong work ethic. These individuals might end up poor, but their poverty would appear to be caused by inadequate demand for labor, lack of human capital, or lack of appreciation for the importance of work when ultimately the real culprit would be labor market discrimination. Whether discrimination is or isn't part of the cause of an individual's poverty is a positive (not a normative) issue, but the answer is so difficult to determine that one's view of discrimination often becomes a matter of opinion.

9.4 The Problem with Poverty Policy: The Efficiency-Equity Tradeoff.

The efficiency-equity tradeoff is a commonly discussed problem relevant to any policy to redistribute income. Recall from chapter three, that an unregulated economy with perfect competition in every market would produce an outcome that maximizes social welfare. Any deviation from that outcome would reduce the total amount of goods available for society as a whole. Some economists have explained this hypothesis using an analogy to a leaky bucket. Robinson Crusoe has more water. Friday has less, but the only way to transfer water from one to the other is in a leaky bucket. Thus, the only way to redistribute water from one to the other necessarily reduces the total available to society. Why must this happen? First, remember that it only *must* happen in a society with perfect competition in every market and then only when the product of human effort is being redistributed. In a perfectly competitive economy every person

is reward by what they, and their property, produce. Giving money to the least productive means taking it away from the more productive, which in turn gives both less incentive to be productive. Plus, there is some overhead cost in transferring resources; labor, that could otherwise be used to produce goods, is needed to run the organization that transfers goods from one person to another.

Is there necessarily an efficiency-equity tradeoff? No—more than 100 years ago, John Stewart Mill demonstrated that, even within a competitive economy, the final distribution of goods depends on the initial distribution of goods. Redistributing the final distribution of goods causes an efficiency-equity tradeoff, but redistributing the initial distribution of goods doesn't. There is not one efficient outcome, but a different efficient outcome for every initial distribution of property rights. More recently, economists have downplayed the importance of Mill's observation by saying that the initial distribution of property rights has only a small effect on the actual distribution, because only a very small portion of wealth is inherited. The truth of this contention is a difficult empirical question. Another criticism of the efficiency-equity tradeoff is that the economy is not made up of perfectly competitive industries. Thus, not all income rewards some person's marginal product and there may be opportunities for taxes and transfers that have little or no detrimental effects. Those who believe discrimination is a primary cause of poverty tend to believe that there is no efficiency-equity tradeoff, because discrimination is itself inefficient. Eliminating racism and any other groupism at its source would, therefore, simultaneously increase both efficiency and equity.

Too often people determine their feelings about the efficiency-equity tradeoff based on their belief about whether income should be redistributed. People who oppose redistribution usually believe that there is a very significant efficiency-equity tradeoff; people who favor

redistribution tend to dismiss any claim that there is an efficiency tradeoff. Both attitudes are unwise. The existence of and the size of the efficiency-equity tradeoff is a positive question. It is possible that there is an efficiency-equity tradeoff, but it may still be worth the tradeoff to relieve poverty. If one allows one's concern for the poor to prevent any concern for an efficiency-equity tradeoff, then one ignores two questions that are crucial to determining an effective way of reducing poverty. A close look at the current welfare system reveals fairly plainly that many of the strategies it employs are in fact leaky buckets, but this is not enough to conclude necessarily that they should be scrapped. Many questions remain. Which antipoverty policies have a lower efficiency-equity tradeoff? How can the efficiency-equity tradeoff for any given policy be reduced? And if more equity does imply less efficiency, how much inefficiency are we willing to accept to increase equity?

9.5 Policies to Address Poverty

One could divide strategies to address poverty into two broad categories: government and private charity. This chapter focuses on government policies to address poverty, but it cannot ignore the fact that some policymakers advocate turning all questions of poverty over to private charities. This chapter won't say more about that strategy except that, for private charity even to maintain the level of poverty relief that is currently provided by the government, would require an enormous leap in charitable activity. Living without the government programs that are currently in place would most likely mean permanently living with much higher levels of poverty.

Government policies to address poverty can be divided into two broad categories: categorical and universal. The categorical approach requires a different policy for each cause of poverty. The universal approach has one policy for all regardless of the cause. The categorical approach allows the government to choose policies that are appropriate to the individual's situation. It allows the government to exclude some of the poor from help because they aren't seen as truly needy, but it doesn't necessarily have to exclude anyone. Because the categorical approach has been more popular throughout the industrialized world, and because it is the far more complicated approach, most of the policies discussed here can be considered elements of a categorical approach.

This section discusses six possible solutions to poverty, including increasing economic growth, workfare, the minimum wage, wage subsidies, public employment, and the guaranteed income. The first four are aspects of the current system and last two are proposed reforms. These solutions are discussed by relating them to the different possible causes of poverty outline above.

9.6 Aspects of the Current System

Economic growth: One of the most popular ways to attack poverty is to increase economic growth, which would mean more goods would be available for everyone. This policy will be most helpful if low demand for labor is the primary cause of poverty. Hopefully, these goods would be become spread out to more and more people in terms of a greater demand for labor and more or better jobs for everyone including the poor. There are two almost polar opposite theories of how the government can increase economic growth and the demand for labor.

Keynesian theory⁸¹ supposes that the economy tends to get caught in a trap in which there is insufficient demand for goods and labor. Firms would be willing to hire more workers if they thought they could sell more goods, and consumers would be willing to buy more goods if only more jobs were available. Thus, the economy can be stuck (some say temporarily, some say permanently) with high unemployment. Hopefully, the government can increase the demand for goods by decreasing taxes or increasing spending (increasing the size of the budget deficit) or lowering interest rates (see chapter 8). More demand for goods will hopefully increase demand for labor high enough to increase employment and wages, thus reducing poverty.

Neoclassical economists⁸² believe that over-stimulating the economy is worse than under-stimulating it. They believe that unemployment tends to settle at its natural rate and that any attempts by the government to use demand stimulus to reduce unemployment below its natural rate will ultimately cause inflation⁸³ and won't reduce unemployment in the long run. Some Neoclassical economists believe Keynesian demand stimulus policies are appropriate if and only if unemployment is higher than the natural rate; other Neoclassical economists believe that demand stimulus should never be used. Most Neoclassical economists believe that the best way to stimulate employment in the long run is for the government to get out of the way and let businesses invest and expand. Thus, they tend to recommend lower taxes and fewer regulations. Critics labeled this policy "trickle-down economics" in the 1980s when President Reagan suggested that lower taxes on businesses and wealthy individuals would eventually help the poor as well.

In short, Keynesian economists believe that *more* government action and Neoclassical economists believe that *less* government action will stimulate growth and high employment. For this reason Keynesian economics is often considered liberal and Neoclassical economics is

considered conservative, but the characterization is too simplistic. If there is a natural rate of unemployment, demand stimulus cannot reduce unemployment, but that doesn't mean that the government should do nothing to help the unemployed; it simply means that if the goal of policy is to help the disadvantaged, a more effective strategy must be found. The issue of whether demand management can reduce unemployment continues to be one of the most controversial in economics and this isn't the place to get into it more deeply.⁸⁴

Although maximizing economic growth is important in its own right, any strategy to maximize it is an indirect solution to poverty. Indeed, these issues wouldn't even belong in a chapter about poverty policy, if it were not so common for people to make the argument that the best thing that can be done about poverty is to increase growth. This is sometimes used as an argument against more direct policies to address poverty. However, economic theory doesn't lead unambiguously to the conclusion that growth reduces unemployment. More economic activity could mean greater demand for workers in general, but it could as easily mean greater demand for workers with certain skills while workers with other skills or fewer skills fall further behind. Or, greater economic activity could be accompanied by automation and deskilling of jobs leading to more jobs at lower wages.

The historical record hardly supports the contention that growth is the best cure for poverty. The 1940s and 1960s were periods of high growth and decreasing poverty, but these were also periods in which the government was very active in addressing poverty directly. The 1920s and 1980s were periods of high growth but, many analysts agree, increasing poverty and inequality. The twentieth century as a whole has seen an enormous amount of growth, but has not witnessed the disappearance of poverty. Therefore, it seems that there is little reason to believe that economic growth alone will cure poverty in the foreseeable future.

Assuming that fiscal and monetary policy can significantly reduce unemployment, these policies only directly address one of the proposed causes of poverty—inadequate demand for labor. They may also, in a sense, address discrimination in the labor market if the labor market is so tight that employers with tastes for discrimination against certain types of workers are forced to hire them or to forgo the revenue they could earn from exploiting their labor. More demand for labor could give workers a little more market power and more ability to bargain for higher wages, but it cannot change the basic power relationships of the employment market. It's possible that a better labor market will give those with little work ethic more of an incentive to adopt one, and encourage people with low human capital to increase their skills, but it's obviously quite indirect and isn't likely to eliminate these problems. A better labor market doesn't directly help those who cannot work, but they may have relatives who work, or the population might be more willing to support generous programs for those who can't work in times when labor demand is tight.

Current government policy seems to follow the Neoclassical view of growth. Fiscal policy is seldom used specifically to affect demand. The Fed uses monetary policy as often to put the breaks on the economy as to stimulate it. The prevailing wisdom at the Fed seems to be that demand stimulus alone is unable to get the unemployment rate below 4 percent or the poverty rate below 12 percent.

Workfare: The 1996 Welfare reform act changed Aid to Families with Dependant Children (AFDC) to Temporary Assistance for Needy Families (TANF). It was also characterized as a switch from “welfare” to “workfare.” The idea of workfare is to have recipients work for their benefits and to encourage them to move into the private labor market as quickly as possible. TANF recipients, even those with very young children, are required to work

or prepare for work in return for their benefits. Work includes working in parks, social service agencies, schools, and other mostly public and not-for-profit institutions. Preparation for work includes enrollment in secondary school, and classroom-based job training programs. TANF recipients who don't take part in these activities stand the risk of losing a portion of their benefits.⁸⁵

Public discussion of workfare tends to focus on the extent to which it succeeds at moving recipients from welfare to work, with less attention to its impact on poverty. If this policy succeeds in reducing welfare rolls by increasing the supply of labor, it could decrease wages for the working poor, and if so, it could hardly be called a success at reducing poverty.⁸⁶ To make matters worse there is some evidence that suggest that low-wage employment has detrimental social consequences, including crime.⁸⁷ If so, increased likelihood of being victimized might be the cost society ends up paying for using workfare to move more people from welfare to work.

Clearly, a large part of the rationale for workfare is the belief that a lack of work ethic is a major cause of poverty, at least among single parents. The change from AFDC to TANF represents a great change in attitudes toward single mothers that occurred gradually over the last few decades. When AFDC was introduced in the 1930s as part of a broad categorical strategy to alleviate the depression, single mothers were widely believed to be in the category of people who could not, or should not, work. By the time TANF was introduced the prevailing attitudes had changed greatly. Many of the proponents of welfare reform seemed to believe that all single mothers could work and should work (that is, participate in the labor market) and that the availability of AFDC had caused many of them to lose the work ethic. Even if welfare recipients do lack a work ethic it is questionable whether workfare will cause them to develop one. Forcing

people who don't have a high value for work into the lowest-status, lowest-paying jobs in the economy may not make them value work.

From the perspective of the low level of human capital theory of poverty, workfare could conceivably be viewed approvingly, but it might take a major revision of TANF to make it truly human capital enhancing. Workfare is ostensibly designed to increase the skills, work experience, and education of welfare recipients. However, many of the jobs workfare participants are offered, such as picking up garbage in parks, don't provide people with opportunities to enhance their human capital at all.

The workfare approach does nothing to address poverty that results from inadequate demand for labor. In fact, it might even increase poverty if inadequate demand is a problem. On the basis of simple supply and demand theory, holding other variables constant, if workfare succeeds in moving more people into the labor market, a decline in wages both for new entrants and for those already employed could result. An increase in supply leads to a higher equilibrium quantity (more employment) at a lower equilibrium price (lower wages). Since 10 percent of employed Americans are already earning poverty wages,⁸⁸ a decrease in wages would increase poverty even if it was accompanied by a rise in employment and a drop in the welfare rolls. If, on the other hand, low demand for labor results in unemployment instead of low wages, an increase in labor supply will just increase the number of unemployed. There is a very serious contradiction between the welfare policy of TANF and the demand management policy of the Fed. TANF tries to get more people into the labor market assuming there will be enough jobs, but the Fed tries to keep unemployment from getting too low for fear that it will spark inflation.

Workfare is not favorably viewed by those who believe that a lack of market power is a significant cause of poverty. They claim that workfare is not empowering to workers in the low-

wage labor market; if anything, it will make workers more dependent on employers and less able to bargain for higher wages. It may not do much to address poverty caused by labor market discrimination either. Even if workfare increases the human capital of participants, as long as participants are disproportionately members of a discriminated against group, such as African-Americans, the increase in human capital may not be enough to encourage private sector employers to cease indulging their tastes for discriminating. In other words, workfare does nothing to stop employers from making hiring decisions on the basis of seemingly irrelevant criteria such as race.

The minimum wage: One strategy to reduce poverty, at least among workers, is to legally mandate a minimum wage. The minimum wage is currently \$5.15 per hour, approximately \$10,000 per year before taxes. However, it would have to be increased by more than 65 percent, to at least \$8.50 per hour, to bring a family of four to the poverty line. The minimum wage can certainly increase the wages of many workers, but many economists believe that it also has serious side effects that can harm some workers.

As discussed in chapter 8, using supply and demand analysis a minimum wage above the equilibrium wage will cause a surplus—a situation in which the quantity supplied is permanently higher than the quantity demanded. That is, it will cause unemployment. There is a large amount of debate, on both theoretical and empirical grounds, over whether the minimum wage actually does cause unemployment, and the empirical evidence is mixed.⁸⁹ If the minimum wage does cause unemployment the question becomes whether it is worth the trade-off, whether the number of workers helped by the higher wages can justify the cost to those who become unemployed and what can society do for those who are unemployed. Whether a minimum wage will cause the quantity of labor demanded to decrease or not, it is unlikely that it will increase the demand for

labor and, thus, this solution alone won't help those who are unemployed; it may even make it harder for them to find jobs.

If market power is the explanation for low wages, the minimum wage is more attractive. If workers are paid less what they are worth because of their lack of bargaining power a minimum wage can raise incomes without necessarily causing unemployment. A minimum wage obviously does little for those who are unable to work unless they have relatives supporting them who do work. If the cause of poverty is a lack of work ethic, a minimum wage could make work more attractive, but to have any real effect may require a much higher minimum wage. If low human capital is the problem, the minimum wage could give employers more incentive to train workers, but it cannot ensure that employers will want to hire all the additional workers and it is not a solution for those who have a severe difficulty at working.

Some economists believe that a minimum wage will actually make it easier for employers to discriminate by making the number of applicants for a given job larger and by not allowing them to compete by offering their skills for a lower wage, thus giving firms a greater leeway to hire who they like. Other economists believe that discrimination happens by channeling certain workers into the lowest-paid jobs; if so, although a minimum wage cannot prevent discrimination, it can increase the wages of those who get stuck in the lowest paid jobs.

Wage subsidies: This policy essentially adds government money to a worker's paycheck. The United States has had a wage subsidy plan since 1975 called The Earned Income Tax Credit (EITC). The program was established in 1975 to offset the adverse effects of payroll taxes on the working-poor and to increase the incentive to work. The EITC is a refundable tax credit, which means that if the amount of the credit a family is entitled to exceeds the amount they owe in taxes, the family receives a refund check from the government. If a family earns too little to owe

federal income taxes but qualifies for the EITC, the family receives a check from the Internal Revenue Service. Up to a point, the amount of the credit **increases** as one's income increases and it's gradually phased out at higher income levels so that workers always have an incentive to earn more.⁹⁰

The EITC doesn't enhance workers' skills but it does offer low-skilled workers more money and so it could be helpful if inadequate human capital causes low-wages. Obviously the EITC does little or nothing for those who are unable to work, and it cannot help the unemployed because it doesn't increase the demand for labor, but it could be helpful if inadequate demand for labor causes low wages. Like the minimum wage it may be able to lessen the monetary impact of discrimination or low market power, but it doesn't eliminate the causes of these problems. The EITC may make work more attractive to those with low work ethic and unlike the minimum wage it doesn't have the possible side effect of making employment more difficult to find. However, the current EITC is rather small and only lifts the incomes of a small portion of its recipients above the poverty line (those whose incomes' are already near the poverty line). The fact that workers can still end up poor even if they receive the EITC⁹¹ suppresses the extent of what might be called the work ethic enhancing aspects of the EITC. The small size of the EITC makes it a barrier to being a large help whatever the cause of poverty.

Other aspects of the current system: The programs mentioned so far are only a few of the many programs that have an impact on poverty. Social Security has been so effective at reducing poverty among the elderly that it is easy to forget that it is an antipoverty program, thinking of it instead as a pension program. But before Social Security, the incidence of poverty was much higher among the elderly than among younger people; now poverty is much lower among the elderly, and the decline in poverty among the elderly was one of the primary causes

for the drop in overall poverty up to the 1970s. All levels of public education raise human capital and certainly have a great, if indirect, impact on reducing poverty. Anti-discrimination laws hopefully do the same. Unemployment insurance, though only available temporarily, undoubtedly helps many of those who are eligible to keep from falling into poverty while they are between jobs. In-kind programs such as Food Stamps, Medicare, Medicaid, and Public Housing, although they don't count as income and so don't affect the official poverty rate, certainly help many of the poor maintain a higher standard of living. But even with all of these programs working together the unemployment rate remains above 4 percent and the poverty rate remains above 12 percent.

Overall, the U.S. poverty strategy follows the categorical approach. There is Social Security for those who cannot work because they are old, disability for those who cannot work because they are physically disabled, Unemployment Insurance for those who cannot find work, the minimum wage and EITC for those who find work at low wages, TANF for single mothers, and so on. Except for food stamps, which has been cut significantly recently, there is no program for the poor just because they are poor and many people living below the poverty line are simply not eligible for government assistance.

The rationale behind this categorical strategy is twofold. First is the normative belief that government should help only those who are willing to work or those who cannot work and all others should fend for themselves. Second is the positive belief that a categorical approach can reduce the efficiency-equity tradeoff. If the government could costlessly separate those who can work from those who cannot and help only those who can work, they could alleviate poverty without harming anyone's work incentive. But, as we have seen, it is not easy to separate those who can from those who cannot work and much of the expense of current government programs

is not the actual money that is redistributed, but the overhead expense of determining who is eligible under the rules. Many economists believe that this expense overwhelms any savings that might be gained by separating out those who can and cannot work. In fact, the difficulty of separating those who can and cannot work creates work disincentives. For example, seniors who want to work face loss of some or all of their Social Security if they do; people on Unemployment Insurance lose the entire amount if they take a job and so they may be afraid to take a job until their benefits run out. Nearly all categorical programs create these kinds of incentives, and so it is widely believed that the categorical strategy has a rather high efficiency-equity tradeoff.

9.7 Two reform proposals

The guaranteed job: The idea of the government simply hiring all of the unemployed has been proposed in different forms for many years. The WPA, which hired many of the unemployed was introduced temporarily during the Great Depression.⁹² Hyman Minsky proposed a comprehensive version in 1986,⁹³ and this idea has been kept alive by a small group of economists ever since. A comprehensive version of the guaranteed jobs approach would go a long way toward simplifying the current system making it more universal. It could replace all income assistance programs for those able to work (including TANF, unemployment insurance, the minimum wage, EITC, etc.). The government would assure that anyone willing and able to work would be able to get a job in the public sector (which is why the approach is often called the public jobs approach or the employer of last resort).

A government jobs program could eliminate the problems caused by inadequate demand for labor. It could directly eliminate unemployment.⁹⁴ If the public sector jobs paid wages higher than the poverty level, it could eliminate poverty among the working poor as well, because few if any workers would work at below poverty wages for private sector firms if public jobs were available at higher wages.

Public Jobs may or may not increase individual's human capital. They could be designed with on the job training to enhance workers' skills, but it is possible that public jobs would simply employ the limited human capital people have. There is a potential conflict within a guaranteed jobs program between the desire to put workers to work or to train them. Although training may be best for the recipients in the long run, a focus on training would take the program away from its mission as a guaranteed job. If the program enhances human capital it could lead people to higher lifetime earnings. If it doesn't, it may at least provide the low-skilled with secure jobs, hopefully at above poverty wages.

To the extent that poverty is caused by the absence of the work ethic, the guaranteed jobs approach might face some problems. If able-bodied people were entitled to income support only if they agreed to work for it, they might develop a greater work ethic. However, it might be very difficult to both guarantee people a job and give workers at that job an incentive to work hard on that job. An important issue that a guaranteed jobs program would have to confront would be the question of whether workers could be fired for poor performance. If so, the program, arguably, would not be truly a guaranteed jobs program, as workers who are fired would become unemployed. If not, the program, arguably, would not be much of a jobs program at all. If workers were not held accountable for their performance on the job would they really be working in a job? Perhaps, there are ways workers could be held accountable for job

performance without including the firing of them for bad performance as an option. This is an important—but not necessarily insurmountable—issue that designers of a public jobs program would have to contend with.

A guaranteed job obviously cannot help those who cannot work although it is a very comprehensive policy for those who can. It would certainly go a long way towards reducing poverty and combined with a strong program for those who cannot work it could be part of a categorical approach that could eliminate poverty. It would also go a long way towards empowering workers who would always know they had the option of participating in public sector jobs rather than the private sector market, and if public sector workers were allowed to unionize, then every employer in the country would have to pay wages comparable to unionized public sector workers.

Possibly the biggest draw back of a guaranteed income program is its price tag. In addition to the wages of all the public sector workers, the wages of supervisors and support staff would have to be paid and the cost of workspace and work materials would have to be considered. It is possible that the overhead costs would add up to more than the wage cost. However, the value of the goods produced by these workers must be subtracted from the costs. Supporters of the guaranteed jobs approach believe either that it would have a low efficiency-equity tradeoff or that it would actually be efficiency-enhancing because it would put people to work who are currently not work. Critics contend, however, if the overhead costs are high and the productivity of these jobs is low, the guaranteed job could have a substantial efficiency-equity tradeoff.

The guaranteed income: The term, guaranteed income, is a catch-all term for a number of similar plans (including the basic income, the negative income tax, the social dividend, and

many others) all of which unconditionally guarantee a certain minimum level income to all citizens, and all of which insure that the more private income one earns the better off one will be. This chapter doesn't discuss the technical differences between various guaranteed income plans but focuses on what they have in common.

There are two important numbers in a guaranteed income scheme: the minimum income level and the tax rate or the benefit reduction rate.⁹⁵ The minimum income level is the amount of money that would be received by someone who had no private income. The benefit reduction rate is the rate at which the minimum income would be reduced or earnings would be taxed as private earnings increase.

For example, suppose a system was constructed with a \$10,000 guarantee for a family of three and a 50 percent benefit reduction rate (meaning that for every dollar a family earns it loses \$0.50 of their supplement or pays \$0.50 tax on their earnings income). A family with no earnings receives the \$10,000 minimum. If this family earns \$2,000, its benefits are reduced by \$1000 (50 percent of \$2,000) amounting to a net income of \$11,000 ($\$10,000 + \$2,000 - \$1,000 = \$11,000$). If this family's earnings increase to \$10,000, its after tax income is \$15,000 ($\$10,000 + \$10,000 - \$5,000 = \$15,000$). If its earnings increase to \$20,000 (the break-even point), the amount of taxes the family pays just equal the income supplement they receive ($\$10,000 + \$20,000 - \$10,000 = \$20,000$). Only those families that make more than \$20,000 in private income would be net taxpayers. Notice that this family is always better off monetarily by increasing its private income rather than relying solely on the income guarantee.

The guaranteed income doesn't directly address the possible causes of poverty discussed in this chapter, but it does effectively address the symptom. If the minimum income guarantee were set high enough and benefits were dispensed regularly enough the policy could abolish

poverty regardless of its causes. Even though it might not affect the demand for labor, a guaranteed income might increase wages. If people were able to get their basic needs met without having to work, both supply and demand theory and theories of market power predict that workers would be able to command higher wages in the labor market.

A guaranteed income is most often criticized by those who believe a poor work ethic causes poverty. They believe that more people would choose to stay home and receive the minimum income instead of going out to work. In an effort to determine the extent to which a guaranteed income might decrease labor supply a number of experiments of different versions of the guaranteed income were conducted in the U.S. in the 1970s. The analyses of the data from these experiments are quite technical so they won't be discussed them in detail. In a nutshell, most analysts believe that those who were eligible for a minimum income decreased their work effort. It was also found that women decreased their work effort more than men.⁹⁶ On the basis of these findings, some might argue that a guaranteed income would be a dangerous way to address poverty because it might create too drastic a reduction in labor supply. Before jumping to this conclusion it should be remembered that employers might respond to a guaranteed income by increasing wages; this would at least partially offset the work disincentive effects of a guaranteed income. Also, a guaranteed income has a higher work incentive than some categorical plans (such as disability and unemployment insurance) in which workers lose their entire benefit if they make any private income at all.

Even though a guaranteed income might not directly affect the level of human capital, it might do so indirectly. If people were able to survive without having to work, they could allocate more of their time to going to school or volunteering to work in environments where they might learn productive skills. Thus, a guaranteed income, over the long term, could generate an

increase in productivity (how much workers produce each hour they work) which might improve our well-being. Even if it doesn't increase human capital it assures that those with low human capital are not destitute.

9.8 The Normative Economics of Poverty

Most of this chapter has dealt with positive economic issues, but the most important issues in a topic like poverty are normative. Remember that positive economics deals with what is or will be and normative economics deals with what should be. Ultimately one's opinion on poverty policy depends primarily on one's normative beliefs; that is, on one's conception of social justice. The normative question of what is the government's responsibility toward the poor, divides opinion into at least four groups—those who believe the government has no responsibility toward the poor, those who believe the government has a responsibility to the “truly needy” but not to others, those who believe the government has a responsibility to provide some equality of opportunity but no equality of outcome, and those who believe the government has a responsibility to provide a minimum standard of living to all citizens. Most often people's positive beliefs follow their normative beliefs. People who believe the government shouldn't redistribute income also tend to believe that redistribution is quite harmful to economic growth, those who believe that the government should redistribute income tend to believe that it will not have harmful side effects.

But positive issues cannot be ignored. People who believe in the redistribution of income often too easily dismiss criticism that certain methods of redistribution of income won't work. People who believe in less redistribution of income tend to exaggerate the difficulties with

redistributing income. Your opinion of what should be must not cloud your understanding of what is and vice versa. There is no substitute for a good understanding of both the normative and positive sides of any issue. Hopefully, the understanding of the positive issues you've gained from this chapter will help you understand what means will be effective achieving normative goals.

CHAPTER TEN

HEALTH ECONOMICS

Many social workers are employed in health institutions. They conduct discharge planning, provide counseling to grieving loved ones, help patients obtain public assistance, and engage in a host of other essential tasks. Even social workers not directly employed in health institutions often deal with health issues. Family therapists often have to help family members deal with the illness of a loved one. Foster care workers often refer biological parents to providers of mental health and drug treatment services. Social workers employed in community organizations often attempt to obtain Medicaid and other government health benefits for their clients.

The extensive involvement of social workers in health care has led schools of social work to require students to take courses that address health policy issues. These courses typically contain little on the contribution economic theory can make to our understanding of health care policies. This chapter is an attempt to rectify this shortcoming. Section 10.1 discusses efficiency-based government interventions in the health care market; section 10.2 discusses equity-based interventions; and section 10.3 offers some ideas about how economic theory might contribute to addressing the ethical issues surrounding organ transplantation.

10.1 Efficiency-Based Government Interventions

Recall from earlier chapters, that certain conditions, including perfect information, must hold for perfect competition to exist and that perfectly competitive markets require no

government intervention to reach an efficient resource allocation. Healthcare markets don't fit the perfectly competitive model because, most importantly, they don't have perfect information and, in many cases, they don't have very good or even barely adequate information. Therefore, there may be an opportunity for efficiency-improving government intervention.

Most of us, who aren't trained in medicine, are uninformed about the quality of medical services we've received, and we're often unaware of the prices other providers are charging for these services. Suppose Henry is feeling a little queasy and goes to see a physician. He explains to the physician that he's having stomach pains, and the physician prescribes a remedy. Since Henry isn't trained in medicine, he isn't in a position to judge the quality of the physician's prescription. He could wait to see if his pains go away, but the disappearance of his pain wouldn't necessarily be related to the quality of the doctor's treatment. Also, even if it were possible to become informed about the quality of the doctor's treatment after the fact, at the time of the exchange the doctor is more informed about the quality of her intervention than Henry.

The inability of health care consumers to assess the quality of health services means that incompetent or unethical physicians may be able to deceive them. For supply and demand to determine the optimal quantity, demand must represent the price consumers are willing to pay for a given amount of benefit they receive from the goods provided. But in health care, consumers rely on producers to tell them how benefit their services will be. This process is further complicated by the fact that once consumers get sick, they have very little opportunity to shop around for the best deal and couldn't easily compare the quality of two different service providers if they did shop around. If it isn't possible for individual consumers to make an informed optimal choice about their own purchases it isn't possible for the market to determine the optimal quantity for society as a whole. In the worst case, a consumer may actually be

harmful by a medical procedure. The possibility of a non-mutually beneficial exchange may justify government intervention in healthcare markets.

Clients who receive services from social workers are in a similar position. If Julia feels depressed and decides to see a social worker, she is unlikely to be able to judge the quality of this counseling, unless she has training in psychology and counseling techniques. She is, therefore, not in a position to judge whether she's received a high quality psychosocial assessment, a high quality psychoanalytic intervention, or a high quality cognitive behavioral intervention. It has been proposed that the government license social workers to help ensure quality. If consumers themselves can't determine the competence of a social worker, perhaps a government examining board can and they can use the ability to grant licenses to decrease the likelihood that consumers will suffer at the hands of incompetent practitioners. Individuals are already required to have a license to practice medicine, but licensing is not a perfect protection from incompetent practitioners and it can't protect against unethical practitioners. It can even make unethical behavior easier if the licensing procedure is controlled by unethical practitioners who are more interested in reducing competition than ensuring quality (see the section in chapter seven on rent seeking).

Many analysts who have studied the healthcare industry argue that *managed care* has made the problem of imperfect information more significant than it once was. Managed care is the control of insurance companies over not only the payment for medical care but the design and operation of medical care. It is designed to hold down medical care costs, partly by rationing care. Before managed care became widespread in the 1990s most medical insurance was handled under the *fee-for service* system, in which physicians were paid based on the number of services they provided. The worry at that time was that physicians had no incentive to contain costs and

would prescribe costly unnecessary procedures, driving up the cost of medical care without improving patient well-being. Managed care is an attempt by insurance companies to contain healthcare costs by controlling both the payment for medical procedures and the decision of what kinds of procedures are allowed. The promise of managed care is that it provides incentives to contain costs both by eliminating unnecessary procedures and by emphasizing cheap preventive care, thus benefiting patients as well as insurance companies. The danger of managed care is that it also gives health care providers an incentive to deny necessary medical procedures because the fewer procedures provided the more money the provider makes, regardless of whether a procedure is necessary or not. If managed care works that way it will benefit companies and providers at the expense of consumers.

One of the strategies used by many managed care firms is *capitation*, in which physicians are paid a set fee by the insurance company based not on how many services they provide, but on how many patients they care for. For example, Dr. Vincent Price has an agreement with the Stony Brook Managed Care Company (Stony Brook). The agreement stipulates that Dr. Price is responsible for providing care to 50 of Stony Brook's policyholders. Under the fee for service system, Stony Brook would pay Dr. Price a fee for each service he provides to any of the policyholders he is responsible for treating. The fee-for-service system would give Dr. Price no incentive to contain costs. He makes more money the more procedures he conducts and so he has an incentive to proscribe the most expensive procedures as often as possible even if he is not entirely sure they are necessary.

Under capitation, Stony Brook pays Dr. Price a set fee for the 50 people on his caseload regardless of how many services he provides these patients. If he is able to keep his costs below the amount he receives from Stony Brook, he makes a profit. If his costs rise above this amount,

he incurs a loss. The lower he can keep his costs the more money he will make. Thus, he always has a monetary incentive to reduce the number procedures he performs. One way Dr. Price can keep his costs low is to encourage his patients to get exercise, eat well, and avoid risky behavior like smoking, keeping them healthy so that he wouldn't have to provide much care to them. Also, Dr. Price no longer has any incentive to proscribe expensive unnecessary procedures. But, what worries many critics of managed care is that another way Dr. Price can keep his costs low is by advising patients against undergoing procedures that might help them but are very expensive. The problem of imperfect information means that patients rely on the doctor to tell them if they really need care and they can't judge for themselves whether they are getting the care they need. Capitation puts the monetary interests of doctors into direct conflict with the interests of patients. Doctors may be ethical enough to ignore these financial incentives, but no one can be sure that all doctors will be at all times, especially if they are operating near the break even point.

Consumers are allowed to sue physicians and social workers for malpractice. Such laws can be thought of as government interventions to address the problem of imperfect information. If practitioners can be held liable and punished for harming consumers, there is an incentive for them to engage in more careful and ethical practice. However, there are laws that protect managed care companies from being sued for malpractice. The logic behind this legislation (aside from the fact that managed care companies are politically powerful) is that managed care companies don't make decisions about what health care individuals need or should have; they only make decisions about what health care they will pay for. If a doctor mistakenly tells you that you don't need care, you may not get it simply because you are unaware of the need. If a

managed care company tells you they won't pay for care your physician says you need, there's nothing to stop you from getting it anyway, presuming, of course, you can afford it.

Critics of managed care have argued, however, physicians and social workers make decisions that result in patients suffering because of pressure by managed care officials. Not only do managed care companies attempt to get providers to ration care by paying them capitated fees, but also by informing providers that they'll only be compensated for a specified amount of care.⁹⁷ For example, Dr. Aly Macbeal is a social worker who is seeing a clinically depressed client. The client is insured by a managed care firm that has a contract with Dr. Macbeal. The contract stipulates that Dr. Macbeal will be reimbursed for the care she provides to the client for up to eight sessions, but if Dr. Macbeal sees the client for more than eight sessions, the managed care firm will not compensate her. Suppose Dr. Macbeal has seen the client eight times and believes he's still depressed and in need of treatment. She may not be able to afford to provide further treatment free of charge and the client may not be able to afford to pay out-of-pocket for it. Thus, she terminates with the client and shortly thereafter he attempts to kill himself. As the law currently stands, Dr. Macbeal would be liable but not the managed care company.

The U.S. Congress is considering passing a bill that would allow patients to sue managed care companies for the denial of care. One of the arguments against the bill is that it would cause managed care companies to increase premiums thereby increasing health insurance costs for consumers, because if managed care firms treat the possibility of being sued for malpractice as an increase in costs, supply would decrease and the equilibrium premium would increase. The extent to which this view may be right depends on the nature of the health insurance market. If the market is competitive firms have no market power and must pass on all of their costs to consumers either in the form of higher prices (if demand is inelastic) or in the form of fewer

services (if demand is elastic). If the market is monopolistic, increased costs may increase price or reduce service, but will also cut into industry profits. A policy oriented social worker would have to obtain empirical data on the price elasticity of demand for health insurance, the market structure of the industry, and the profitability of firms before and after the regulations went into place to assess the extent to which Republicans might be right about the consequences of the bill currently being considered in Congress. It is certainly possible that an increase in costs could mean that some consumers would no longer be able to afford insurance or some providers may go out of business, but even if this argument is correct it doesn't mean that there is nothing we can do. It means that a law allowing suits will have difficult side effects, which might imply that some other strategy could better achieve the goal. It doesn't mean the goal should be given up.

Imperfect information is not the only efficiency-based justification for government intervention in health care markets. In the discussion of externalities in chapter five, another such justification was addressed. Recall that government subsidization of the cost of treatment for an indigent homeless man suffering from tuberculosis can be justified because the man's purchase of treatment generates a positive externality because it reduces the possibility that others will become infected.

10.2 Equity-Based Government Interventions in Health Care

Economists make a distinction between efficiency issues and equity issues. Generally speaking, economists are uncomfortable considering equity issues because they feel their training in economics provides no special competence in this area. Many economists think such questions should be left to philosophers and theologians, but some tacitly address equity issues. If an

economist were to stick entirely to normative questions, she would be unable to give any opinion either for or against any issue with equity considerations. They could say what the efficiency costs of a policy option might be but they would be unable to make any judgement about whether efficiency gains may or may not be worth the cost. Some economists make pronouncements on equity issues based on efficiency criteria alone. Economists who do this are far from leaving considerations of equity to philosophers; they are tacitly saying that equity considerations have no value. This behavior should not be accepted. A good student of policy must understand both efficiency and equity issues and must not ignore either. Since this is a book on applied economic theory, it has kept considerations of equity to a minimum, but there are some economic issues in which equity considerations play a crucial role and cannot be ignored. Health care is one of them.

About 42 million U.S. residents had no health insurance in 1998.⁹⁸ Those without health insurance are at higher risk of disease and death and are less likely to receive medical services than those with health insurance. Some believe that it is the responsibility of society to provide health care services to all individuals whether or not they can afford to pay for it themselves. Others believe that individuals are responsible for making enough money to pay for their own health care. The discipline of economics (and this book) cannot resolve the philosophical debate between these two points of view, but it can help assess the effectiveness of plans aimed at making health care available to more people.

Whether or not U.S. residents really should have a right to health care, the government has implemented programs that appear to be based on the belief that there is such a right. Medicaid is a means-tested program intended to provide health care to the indigent. Medicare is a non-means-tested program intended to provide health care to the elderly. The United States

also has public clinics and hospitals that are legally obligated to provide care regardless of a patient's ability to pay. The belief that everyone has a right to health care also appears to be the basis for one of the most far-reaching proposals to reform the health care system yet imagined: universal health care. The rest of this section discusses the problem of determining what is meant by universal health care as well as several approaches to providing it.

Economists would say that the nation doesn't have the resources to provide all the health care everyone wants. Social workers are likely to respond by saying that we could provide all the health care everyone needs. This, of course, raises the difficult philosophical question of what are health care needs. Do we need only care that will keep us alive? Does that include extremely expensive procedures that will extend the life of a very ill person in extreme pain by only a few days? Do we need only that care that will maintain us in a state of well being? If so, how do we know when we have reached a state of well being? Do we need only that care that will make us feel physically and emotionally well? If so, what if an elderly person would only feel well if he looked younger and could only look younger if he received plastic surgery; would he *need* plastic surgery?

An economist is likely to answer these questions by saying that notions of what people need are so subjective that health care needs are practically no different from health care wants. There is no positive (objective) definition of need, but we as a society can determine on a normative basis what medical procedures ought to be considered needs and we could meet those needs by saving money in other areas. If, under a universal health care system, some limit would have to be placed on what people were entitled too, some grave ethical issues would arise. For example, Genie is a 95-year old woman who is hospitalized and has just slipped into a coma. Her physicians feel that she is very unlikely to come out of the coma but could live for some time if

she were put on life support. If this were done, her care would cost about \$2000 a day. Should Genie be entitled to life support? Paul is a five-year old boy who is suffering from the measles. Treatment that would lead to a full recovery would cost \$100. Should Paul be entitled to measles treatment? Pedro is a two-week old infant who was born premature. During birth his heart stopped and physicians have stated that his brain was deprived of oxygen for about three minutes. Pedro is now in a coma on life support, and it isn't known if he'll ever regain consciousness. It also isn't known if his brain will function normally even if he does. Pedro's care cost \$4000 a day. Should Pedro be entitled to this care?

No doubt readers will have different opinions about whether the care of each of these people should be covered in a universal health plan. Answers may differ depending on the question of what happens to the money not spent on treatment. If not treating Genie means \$2000 a day in higher profits for an insurance company, many people (who aren't stockholders of the insurance company) might be more likely to say she should be treated than they would if not treating her meant that 20 Pauls a day would be saved from the Measles. But even then people will have substantial differences about what they believe to be necessary care. Differences in people's opinions on the standard benefits package will be largely based on differences in values. If we grant the assumption of scarcity, we would somehow have to transcend such value differences in order to arrive at some agreement on a standard benefit package that all would be entitled to. In a country as ideologically diverse as the United States, this would not be an easy task and the package would always be controversial, but assuming one can be determined, turn now to the question of how to provide it.

This section discusses the potential economic consequences of three approaches to universal health care, each of which would provide all U.S. residents with access to a standard

set of benefits. The discussion in this book is limited in this way because the main contribution economics can make to discussions of how best to attain more equity is by examining the possible outcomes of different means of trying to attain a goal.

First, the *play or pay* plan, which received a great deal of press during President George Bush's administration, requires employers either to provide health insurance to their employees or to pay a special tax that would be earmarked to finance health care for the uninsured. A possible consequence of the play or pay plan is that it would lead to an increase in the price of goods or to a decrease in wages in industries that don't currently provide health insurance for their employees. If employers were required to provide care to their employees or pay a health care tax, their costs would increase. Unless firms reduced wages, supply would decrease leading to an increase in price and a decrease quantity in output markets. The extent to which employers would be able to raise prices would depend on market structure and the price elasticity of demand in affected markets. Whether or not universal health care is worth the risk of higher prices is not a question that economics can answer; it is one each citizen must answer for him or herself: is it universal health care worth the tradeoff? This normative question can only be addressed after the positive question (what is the tradeoff?) has been answered.

Second, *managed competition*, which was proposed by the Clinton administration, would allow those not already in Medicaid or Medicare to purchase health insurance through their employers or new government agencies organized by the states. Employers who provide health insurance, and their employees would be required to pay a specific proportion of their premiums. Self-employed and unemployed persons would have to pay out-of-pocket for their insurance but would be eligible for government subsidies. All employers would have to pay a payroll tax to finance the subsidies. The Clinton administration anticipated that most self-employed and

unemployed persons would purchase insurance from the new government agencies. Architects of the proposal thought that employers and government agencies would then bargain with groups of providers and insurers to obtain the best deals for their employees and group members. Since the Clinton approach would require employers to pay parts of health insurance premiums and an increased payroll tax, for reasons discussed above, it could also lead to price increases for goods. This plan would probably spread the increased costs around more industries than the play-or-pay plan.

Third, *the single player* plan is based closely on existing health care systems in Canada and Europe, but has received less attention in the United States. Under this plan, the federal government would essentially become a large health insurance company. Some combination of federal income taxes, payroll taxes, or others would finance the plan, in effect serving as insurance premiums. The federal government would allocate these revenues to state health agencies that would use the money for the budgets of hospitals, clinics, other health facilities and to compensate individual health providers. The levels of these budgets and compensation would result from negotiations between representatives of providers and health facilities and the state agencies. Under the single-payer plan, individuals would not have to pay out-of-pocket for their health care.

Depending on the types of taxes that financed the policy, the single-payer approach could also lead to price increases, wage decreases, or more unemployment. However, there are those who believe that the single payer plan could yield cost savings and decrease prices. This argument is based on the idea that eliminating profit making insurance companies from the health care market will allow the government to more ethically contain costs. Opponents of the single payer system believe that government mismanagement would increase costs more than

these strategies would decrease costs. There is no way to know for sure who's right without trying both systems. But evidence for cost-savings of a single payer plan is given by the fact that countries, such as Canada and Britain,⁹⁹ which have a single payer system tend to have citizens who are as healthy as those in the United States, but have considerably lower health care costs. In addition to saving advertising and administrative costs, eliminating health insurance profits, and paying doctors less, these plans save money by limiting use of expensive medical procedures. Instead of going to stock-holder profits this money stays in the system to provide health care that is more cost effective. These savings, however, don't deny the basic economic notion of scarcity. It comes from making a very important decision about what to tradeoff. Countries with single payer systems tend to be much better at providing treatment to "Pauls" but the United States tends to be better at providing treatment to "Pedros" and "Genies." If you need a prescription drug to keep your high blood pressure under control, you're better off in Canada; if you need a helicopter to take you from the bottom of a cliff to an emergency Catscan, you're better off in the United States.

Another economic aspect of an equity intervention like universal health care has to do with moral hazard. Recall from chapter five, that moral hazard occurs when insurance provides people with incentives to engage in behaviors that increase the likelihood of the events insured against. For example, before Jean got health insurance, Jean was a very careful driver, did not smoke, and had a very healthy diet. After she got insured, she started speeding, smoking, and eating salty cornchips for dinner. She knows that all of these activities increase the likelihood that she will suffer health problems, but engages in them anyway because she realizes that someone else will be paying for her health care. The moral hazard problem, regarding universal health care, simply means that more "Jeans" would exist than do now.

Social workers are likely to be skeptical about the existence of moral hazard in health care. Surely, concern about the pecuniary cost of health problems is not the main reason people engage in healthy behaviors. People eat healthy and drive carefully because being healthy feels better than being unhealthy. Headaches, broken bones, and cancer are painful and disfiguring conditions that people want to avoid. These concerns are more than enough to restrain the extent to which any decline in monetary health care costs would lead to an increase in unhealthy practices.

Economists and social workers probably agree here more than they disagree. Economists would be the first to recognize that there are other costs of health care besides pecuniary ones. They would also recognize that these non-monetary costs could be so high that monetary costs are insignificant by comparison. Where they probably part company with social workers is that economists focus on marginal factors. Even if the money cost of health care is only a small part of the cost of unhealthy behavior, a marginal decrease in money cost can cause a marginal increase in risky behavior. Of course, careful empirical research would be necessary to determine what kind of moral hazard there would be in the health care market.

10.3 The Economics of Organ Transplantation¹⁰⁰

An issue that has received increasing public attention is organ transplantation. Most of the discussion of this issue has dealt with the question of the equity of the mechanism used to allocate organs. The fairness question is obviously important, but here the focus will be on efficiency. The notion of efficiency used is the Pareto improvement criterion. The place to begin an economic consideration of organ transplantation is with the recognition that organs are scarce

goods.¹⁰¹ That is, there are fewer organs to go around than there are people who want them. Moreover, the extent of scarcity has been increasing over the years. Between December 1987 and December 1991, the total number of patients on organ transplantation waiting lists increased by about 75 percent. The number of people who died while waiting for an organ doubled between the early 1980s and the early 1990s. About 33 percent of patients die while awaiting a matched donor.

Currently, the organ transplantation system in the United States is administered by the United Network for Organ Sharing (UNOS). UNOS keeps a list of all transplantation candidates. Its job is to distribute organs fairly among transplant recipients based on seriousness of need and elapsed time spent waiting for an organ. The organ transplantation system is voluntary and based on altruistic motives. That is, people are allowed to choose whether they want to donate their organs, and they do so out of concern for helping others. They are not allowed to obtain monetary compensation in return for their donations.¹⁰² Donated organs are kept at local organ banks and distributed at the behest of UNOS. A perennial problem is that the annual numbers of donated organs aren't large enough to meet the need. Concerned parties are considering ways to get more people to donate, and several policies have been proposed.

One proposal is *mandated choice*. Under this proposal, everyone who reached a certain age would be required to state whether they wanted to donate any of their organs. This would occur when they renewed a driver's license, filed income taxes, or performed some other task mandated by government. This proposal would not necessarily result in an increase in the number of organs donated because people would still have the right to refuse donating their organs.

Another proposal is *presumed consent*. Here hospitals would be allowed to recover organs unless the deceased had explicitly forbidden them to do so. In other words, silence on the donation question would be taken to mean yes. Depending on how many people who don't answer the question explicitly would take efforts to explicitly refuse to donate, this proposal could lead to a significant increase in the number of donated organs.

A third proposal is *routine retrieval*. Under this approach, organs would be harvested from all deceased persons whether or not this had been approved when they were alive. Exceptions would be made only for religious reasons with objections made formally in advance. Of the three proposals mentioned, this would probably lead to the greatest increase in the number of organs available for transplantation. This increase, however, would come at the expense of what some might consider an unacceptable escalation of government intrusion into our lives (or deaths, if you will).

Another possible approach involves the creation of a market in human organs. This receives the most attention because it is most relevant to economics. This proposal has three components. 1) Living donors would be allowed to sell their nonessential organs while they're still alive; presumably, most organs sold by such people would be kidneys. 2) Living donors would be allowed to sell the right to their organs once they are deceased. 3) Families would be allowed to sell the organs of recently deceased relatives. The relevance of economic theory to this proposal ought to be clear. If people were able to obtain money in return for selling their organs, they would be more likely to do so and they would save more lives. Thus, both sellers and recipients of organs would be made better off without anyone else being made worse off; that is, there would be a Pareto improvement.

Social workers and many others, including some economists, are likely to be troubled by this line of reasoning. The buying and selling of human organs strikes many people as morally wrong whatever its effects on Pareto efficiency. Can one say that there is an externality because some people find the practice offensive? Under a very loose definition of externality one could. However, if one says that what you do has an externality just because some other people don't like the fact that you do it, the door is open to nearly everything you do becoming an externality to someone: then there is an externality involved if some people don't like the fact that others go to the wrong church, read the wrong literature, eat the wrong foods, or have abortions. There is hardly any activity you can engage in that someone else might not want you to do. If these are accepted as externalities, many activities that are believed to be human rights could be discouraged or banned. For this reason, it may be better to think of an externality as something that *directly* affects a third party. For example, if your next door neighbor cooks on his barbecue and his smoke goes onto your property or into the environment that's an externality. But if you just don't like the fact that he eats barbecued food, that's not an externality. Those who oppose the sale of organs may have to look to elsewhere for a justification. How can we draw the line between what *directly* affects someone and what does not? That is a difficult philosophical question that cannot be answered here.

One efficiency justification is that relying on the market may not bring out the best organs. The practice of paying for blood donations has been cut back because it was found that people who sell their blood are more likely to have a blood born disease than people who donate their blood freely are. It's possible that a similar situation could develop with organ donations, but no one would know for certain unless the practice was tried. There may be more convincing equity reasons to ban the sale of organs.

One equity problem is that if organs were bought and sold, the rich would be able to obtain them easily, the poorest people would sell them routinely, and the middle class would have a great difficulty affording them if they needed them. This situation is not necessarily inefficient but it might be inequitable. Many people find ability to pay as an ethically unacceptable criterion for determining who deserves an organ transplant. Another equity consequence of authorizing a market in human organs is that it could cheapen human life. Some people believe that if parts of our bodies could be sold like refrigerators we might come to value them no more than we value refrigerators. Needless to say, many would find this outcome deeply offensive. This sort of consideration is less likely to be considered by economists because it requires a perspective on markets that they usually don't adopt. When economists focus on markets, they tend to be concerned with whether they lead to efficient outcomes given the preferences of consumers. They rarely address the question of the impact of markets on our preferences.¹⁰³

This chapter has attempted to show what economics can contribute to discussions in one of the most important areas of U.S. social policy. The next chapter attempts to do the same for other important issues including marriage, migration, and aging.

CHAPTER ELEVEN

ECONOMIC DEMOGRAPHY

Demography is the study of human populations. Demographers' concerns include, for example, fertility, migration, marriage, divorce, cohabitation, mortality, and aging. These kinds of subjects may seem like strange topics for the science that studies buying and selling, but economists have found ways to apply rational choice theories and supply and demand models to topics that are far removed from the marketplace. Critics have accused economists of academic imperialism, saying that economics seems no longer to be a discipline that specializes in the study of the economy, but a discipline that specializes in the use of rational choice theory in any conceivable context. The fact that economists are applying their methodology to problems that had formerly been considered the realm of other disciplines makes a good understanding of economic theory more important to all other social scientists.

Section 11.1 discusses an economic model of fertility and relates it to a controversial policy debate that's probably familiar to social workers. Next, section 11.2 examines economic models of marriage and divorce and relates these to some important policy issues. Section 11.3 follows with a discussion of the economic aspects of migration, section 11.4 examines the economic consequences of the aging of our society, and 11.5 concludes.

11.1 The Economics of Fertility

People choose to become parents for a number of reasons, such as to carry on the family name, to have someone to love, or to carry out their religious duty. Following the influential

approach of Gary S. Becker,¹⁰⁴ economists who study fertility tend not to pay much attention to these reasons, not because they don't think the reasons people want children is unimportant, but because they don't think the reasons need to be considered to construct an adequate model of fertility decisions. Economists let other social scientists worry about why people want anything, whether it is a child or a car. They focus on how people respond to costs and constraints, given their wants. The economist asks, given that people want children what factors will influence them to have more or less children?

Demand is the relationship between the price of a good and the quantity demanded, with all other factors held equal. Just as with any other good, the demand for children (how many kids one decides to have) depends on the price of children.¹⁰⁵ Before readers throw this book away in disgust, it should be made clear that economists don't think that people should be required to pay money to have children. But people do incur costs when they decide to have and raise children. The opportunity cost of children is used as the price of children in defining the demand for children. Thus, the economic theory of fertility amounts largely to looking at the cost of children. If the cost of children declines, the quantity of children demand will rise and vice versa.

The cost of having a child includes the price of all the things a parent will have to buy for that child in its lifetime plus time the parent will have to spend with the child.¹⁰⁶ One might mistakenly believe that these aren't really costs because parents enjoy buying things for their children and spending time with their children. But no matter how much parents enjoy doing these things they are still costs: One dollar spent buying something for a child is one less dollar available for buying anything else that one enjoys. One hour spent with the child is one less hour available to do anything else including working. Therefore the time and money a parent devotes to a child represents the opportunity cost of a child.

By now readers probably have no problem figuring out that economists measure the opportunity cost of having children in money. It's easy to estimate the cost of everything a parent will buy for a child in the child's lifetime, but how is the price of the allocation of time measured? Recall from chapter one, that the opportunity cost of something is what must be forgone to obtain it. The opportunity cost of spending time with children can be measured by the parent's wage whether that time would have been spent working or at leisure because if she is already chosen the optimal amount of leisure time, the marginal benefit of work time and leisure time are equal. Thus, forgone earnings are used to attach monetary values to the time spent having and rearing children.

Suppose Julia decides that if she has a child, she will have to drop entirely out of the labor force¹⁰⁷ for 4 years, she will be able to work less than she otherwise would have for years to come after that, she will lose work experience, and she will have much less time available to spend at other leisure activities such as playing tennis. Thus, the time cost of have a child is all the lost wages she could have earned in the time she would have spent working, plus the lifetime loss in earnings due to four years loss of work experience, plus the value of her lost leisure time.

If the law of demand holds, the relationship between the quantity of children demanded and the price (or more accurately in this case the cost) of a child is negative: the higher the cost the smaller the quantity demanded. Thus, if women's wages were to increase, fertility rates would decline. Economists have focused on women's wages because they give birth to kids and have typically been their primary caretakers. There is evidence in support of the contention that there is a negative relationship between women's wages and fertility rates.¹⁰⁸

The model of fertility discussed so far has been the basis for work on the relationship between out-of-wedlock fertility and welfare. A number of public officials and social

commentators have argued that out-of wedlock fertility is at the root of many of the social problems currently plaguing the United States.¹⁰⁹ Some of these officials and commentators have also argued that welfare is a major cause of out-of-wedlock fertility. The rational choice approach can be applied to out-of-wedlock fertility just as it can to fertility decisions in general. If an indigent unmarried woman has a child, she may be eligible for welfare. Also, in many cases, if single women on welfare have another child, their subsidy is increased. These aspects of the welfare program, in effect, lower the price of rearing children. Thus, one would predict a positive relationship between welfare and out-of-wedlock fertility. Welfare doesn't need to pay the *entire* cost of having a child to increase out-of-wedlock fertility, because people want to have children. If something one wants becomes relatively less expensive one is more likely to demand it even if it is still not free. The problem here is that policies that are designed to make it easier for single parents to get by also encourage woman to become single parents.

A number of studies suggest there's a positive relationship between welfare and out-of-wedlock fertility, although not a very large one. In other words, other factors appear to have a greater impact on fertility decisions among single women than the level of welfare, factors such as years of schooling and socialization.¹¹⁰ Thus, policies that curtail welfare benefits for single parents or deny recipients increased benefits when they have more children will apparently do little to decrease out-of-wedlock fertility.¹¹¹ One provision of the 1996 federal welfare reform legislation allows states to deny increased benefits for welfare recipients who have another child. Although most members of Congress are not economists, they presumably based their decision, in part, on a model of fertility similar to the one being discussed.

In much of the literature read by social workers, one finds a cultural argument pertaining to out-of-wedlock fertility. According to this view, unmarried women are currently more likely

to have children than they were two generations ago because social norms have changed. Two generations ago unmarried mothers were more likely to be socially ostracized than they are today. That is, they were more likely to be viewed as immoral, disowned by relatives, or shunned by the rest of their community. Although, economists often leave such cultural considerations out of their models, they can easily be included. Being punished for having a child out of wedlock is a cost. Thus, a decrease in the likelihood of being so punished can lead to an increase in quantity of children demanded by unmarried women. If women internalize changing social norms, their preferences change and the demand for children will increase.

The important lesson in the use of economics to understand fertility decisions is to understand the factors that contribute to the demand for children. Wages, welfare rules, and social norms all affect the cost of having children. Economic theory can give you an idea about whether these factors are likely to lead to an increase or a decrease in the demand for children, but theory alone cannot reveal how important each factor will turn out to be. Empirical studies may give some indication of the size of the effects. To understand how policy decisions are likely to affect fertility one should understand the theory and how well that theory has held up to empirical scrutiny.

11.2 The Economics of Marriage and Divorce

As most social workers are probably aware, there is a debate in the United States about “the decline of the family.” Several trends are thought to be indicative of this decline, including the higher divorce rate and the higher proportion of people having children out-of-wedlock. Since the second issue was briefly addressed in the previous section, this section focuses on the

first. One could question whether these trends are really indicative of a decline in the family. If one takes family to mean two heterosexual parents who are married and live together with their children, decline might be the correct term to use. But uses a broader definition, then, perhaps the family should be thought of as changing instead of declining. From the point of view of economic theory, it doesn't matter whether one thinks of the family as declining or changing, because economists are interested in what accounts for different kinds of family forms regardless of how they are viewed morally or politically.

Marriage is a contract. Two parties make certain promises to each other, many of which have important financial implications for both. These promises are, of course, often made within the context of certain religious rituals and symbols. But such practices don't detract from the fact that some aspects of marriage are similar to contracts, such as publishing agreements, mortgages, or business partnerships.

As you might expect, economists typically examine marriage using the rational choice model. People get married if its benefits exceed its costs. What are some of the benefits of marriage? Since married couples often pool their incomes and other resources, one benefit might be a larger budget to draw from. Other possible gains from marriage might be more sociological. A couple may receive approval from their families and their community. Some government tax policies favor married people. One may say that people get married because they enjoy spending time together, but this need not enter the decisionmaking process because people can spend as much time together as they want without getting married. However, one of the more significant benefits of marriage is a legal commitment (a contract) to stay together and to support each other.

What are some of the costs of marriage? The cost of a ceremony and a marriage license are two. Although some tax policies favor marriage others make marriage more costly.¹¹² Marriage can also lead to increased costs of decision-making. If Jack wants to purchase a new car when he is alone and has the money to do so, he can just go out and buy one. When married to Jill he may have to enter a long conversation about such a purchase before doing so. This is a cost of marriage because the extra time spent making decisions in marriage could be allocated to some other enjoyable activity.

Economists study divorce the same way they study marriage. People choose to divorce if the expected benefits of remaining married are less than the expected costs. Another way to state this is that people divorce if the expected benefits of getting a divorce exceed the expected costs. These statements are the equivalent because the benefits of remaining married are equal to the costs of divorce and the cost of remaining married are equal to the benefits of divorce.¹¹³ The U.S. divorce rate is significantly higher than it was fifty years ago. Economists would try to explain this by seeking changes in the costs and benefits of remaining married. A higher divorce rate suggest that either the benefits of remaining married have declined or the benefits of divorce have increased, although it is possible that people have changed their preferences toward divorce.

If one is married within a culture that stigmatizes divorce, a cost of divorce is social ostracism. Cultural acceptance of divorce increased greatly in the second half of the twentieth century and the divorce rate increased as well, because, economists would say, the cost of divorce decreased. Readers might think this is a shallow explanation of the increase in divorce because it doesn't address why the cultural shift occurred, but economists might respond that this question is better left to sociologists or, perhaps, psychologists.

Another reason divorce is that women are more financially independent. More women in the United States are employed than they were 50 years ago. One of the possible benefits of remaining married is continued access to the income of one's spouse. If a woman is considering whether to get a divorce, it is an expensive prospect if she has no income of her own. In other words, the fact that working wives have higher incomes, independent of their husband's incomes, may account for increased demand for divorce. Thus, the fact that women have careers of their own doesn't make them want to leave their husbands, as some people who speak about the decline of the family claim, but it does make them more able to leave their husbands if they want to. Little of the said here of the role of husbands. Their financial independence has not changed, but now that women are less dependent on men, husbands have less financial leverage to make demands on wives to have things done their way, and so are more likely to seek divorce as well.

The economic model of divorce is related to an issue that might interest many social workers. A number of social workers counsel women who are victims of domestic violence. One of the most common questions asked about such women is why they choose to stay with the men who victimize them. An economist would approach this question by assuming that for women who choose not to leave their abusive husbands, the costs of leaving must exceed the benefits of doing so. She would then try to assess the different costs and benefits women in abusive relationships consider.

Suppose Jill is being abused by Jack and is considering leaving him. If she faces imminent poverty or the threat of murder by Jack if she leaves him, Jill may be reluctant to go, even given the abusive situation. The "Jills" of the world could be supported in their efforts to leave abusive husbands by criminal justice and social policies that provide protection and

pecuniary support to them. Social workers could and, perhaps, should be at the forefront of efforts to get such policies enacted. Recognition of this sort of situation also raises questions about the concept of the decline of the family. A family with an abusive spouse has already declined significantly. Government policies that increase the economic costs of divorce for woman in abusive relationships will probably reduce the number of divorces, but they will not lead to happier and healthier families. Thus, it's hard to say that such policies would prevent the decline of the family.

11.3 The Economics of Migration

Economists also apply the rational choice model to migration. People move from one place to another if they think the benefits of moving will exceed the costs of doing so. What are some of the benefits of moving? One of the most important benefits that enter people's migration decisions is the expectation of higher wages. The expectation of better employment opportunities influences migration decisions as well, but the available evidence has been less supportive of this contention.¹¹⁴ There are, no doubt, other benefits that enter into people's migration decisions. People may want to live closer to (or farther from?) family members and friends. They may want to live in a warmer climate. They may want to live in a safer place with better schools for their children. They may want to live someplace with more interesting cultural attractions, such as plays, musicals, etc. The list is almost endless. The fulfillment of these wants generates utility, and perhaps they should be considered in a rational choice approach to migration, but there have not been great relative changes in regional climate or the placement of families and cultural

attractions, and so to explain changes in migration patterns economists focus on things that do undergo significant regional changes such as safety, schools, and money.

Some politicians have argued that poor people move from states with lower welfare benefits to states with higher ones to take advantage of these higher benefits. On the basis of such claims, some governors have supported two-tiered welfare systems. Such systems encompass two benefit levels: a high one for those who've resided within a given state for at least a specific time period and a lower one for those who've resided there for less than this period. These officials might be onto something. Inter-state differences in welfare benefits increase the benefits of migration for recipients just as inter-state differences in wages affect the benefits of migration for those in the labor market. The available evidence on this question is mixed. Some studies have found that inter-state welfare benefit differences affect migration decisions at least as much as inter-state wage differences do, while others have found that such differences have little affect on migration.¹¹⁵ Thus, it is questionable whether two-tiered welfare systems will have much of an impact on inter-state migration.¹¹⁶

So far this section has only focused on migration decisions of potential employees and welfare recipients. Employers migrate as well, and the rational choice approach can easily be applied to these decisions. One of the potential benefits of migration that employers consider is wages; other things being equal, if wages are lower in some other region than where a firm is currently located, it will migrate to the other region. Taxes also enter employers' calculations of the cost and benefits of moving. If a firm can lower its tax bill by migrating it becomes more likely to do so. From a policy point of view, some politicians have argued that regions that want to retain businesses would do well to enact policies to insure that their wages and taxes are competitive with other regions. It should always be borne in mind, though, that competitive

wages and taxes may be very low wages and taxes and, therefore, may be accompanied by serious suffering and destitution. Critics of the policies of trying to encourage businesses to move in and welfare recipients to move out call it a “race to the bottom.” If enough locations create competitive pressure to take businesses from other locations the tax burden will shift from the most mobile industries onto those who are least able to move and policies to make wages livable will suffer.

11.4 Some Economic Consequences of the Aging of the U.S. Population¹¹⁷

Between 1870 and 1990, the median age of the U.S. population rose from 20.2 to 33.1 years, a rate of growth of about 1.1 years per decade. Between 1990 and 2025, the median age is forecast to rise to 40.9, about 2.2 years per decade. The aging of the U.S. population is attributed to two main forces: declining fertility and increasing life expectancy. Declining fertility increases the average age of the population by reducing the number of young people relative to the number of older people.

Some analysts have projected the economic consequences of the aging of the U.S. population, such as increased costs of Social Security. The older the population, the higher the *dependency ratio* a measure of the care burden placed on workers. This is the ratio of the number of social security recipients to workers or:

$$\text{Dependency Ratio} = \text{Social Security Recipients} \div \text{Workers}$$

For example, if there were 20 million recipients and 100 million workers, the dependency ratio would be about 20 percent (20 million divided by 100 million equals 20 percent). That is, for everyone 1 recipient there are 5 workers paying Social Security taxes. A lower dependency ratio means there were more workers to support each recipient, and a higher one would mean there were fewer workers to do so. The dependency ratio was as low as 1 to 16 when Social Security was started in the 1930s and could go as high as 1 to 2 after the baby boom generation retires. Social security is financed by a tax that's shared by employers and employees. Thus, either taxes will have to increase or benefits will have to decrease. Neither of these options is terribly appealing.

Increasing the Social Security payroll tax is unappealing because it is a *regressive tax*. A tax is regressive if people with higher incomes pay a lower percentage of their income in taxes. In 1998, employers and employees each paid 7.65 percent of wages up to a maximum of \$68,400 per employee. That is, wages over \$68,400 were not taxed for social security purposes.¹¹⁸ Everyone with a payroll income of \$68,400 per year or less pays 7.65 percent of their income in taxes, but everyone with an income over \$68,400 pays the maximum amount of payroll taxes of about \$5,200 per year. This is 7.65 percent of an income of \$68,400 but it is only about 3.8 percent of an income of \$136,800. Thus, the burden of Social Security taxes is more difficult for people with lower incomes than for people with higher incomes. If the government raises the social security tax to maintain the level of benefits in the face of a rising dependency ratio the burden will fall more on the poor than on the rich. Perhaps the government could raise taxes on employers instead of employees. However, arguably, taxes on employers fall on workers as well if they raise the cost of hiring them. If the cost of hiring workers rose demand for labor would fall and, thus, the wages workers receive would fall (see figure 7 in chapter 3). Another way

would be to increase or eliminate the \$68,400 cap on taxable payroll income. Critics, however, fear that such an action will erode political support for the program.

Most readers are probably aware that Social Security is universal. That is, everyone is eligible regardless of income. Some have argued that one way to deal with the Social Security implications of the increasing dependency ratio is to make the program means-tested. Under such a system only elderly persons with incomes below a certain level would be eligible for the program. This proposal raises a long-standing issue that anyone who has taken a policy course in a school of social work is familiar with: should benefits be provided to all regardless of income or should they just be provided to those who need them most. Social workers often advocate universal programs out of the belief that if everyone is a potential beneficiary there will be built in political support.¹¹⁹ From a more economic point of view, it could be argued that social programs should be means-tested because if it didn't give money to those who don't need it, it would have more funds available to help the poor while creating a smaller tax burden on others. An advocate of the universal approach would be likely to respond that the poor wouldn't get more under a means-tested program because those who aren't gaining from the program would resent having to pay for it.

11.5 Conclusion

This chapter has touched on some demographic issues that interest economists and social workers. The use of economic methodology to study these issues is still controversial, but so much of it is going on that anyone interested in policy in any of these areas should understand the economic approach. Hopefully this chapter has also deepened your understanding of these

issues. We hope that this chapter and this book have increased your understanding of how economic theory can be used to toward a deeper examination of issues of importance to social workes.

¹ As many social workers are probably aware, sociology also studies cultures so there is a lot of overlap between sociology and cultural anthropology.

² Robbins, Lionel. *The Nature and Significance of Economic Science*. London: Macmillan and Co., Limited, 1937. The contemporary definition of economics is essentially unchanged.

³ Economists define *leisure* as the time spent not working for money. They consider leisure to be a type of good (See chapter ____).

⁴ Lewis, Ben W. *Economic Understanding: Why and What*. New York: Joint Council on Economic Education, 1957.

⁵ Roemer, John. "Market Socialism, a Blueprint: How Such an Economy Might Work." Roosevelt, Frank and Belkin, David (editors). *Why Market Socialism*. New York: M.E. Sharpe, 1994.

⁶ Smith, Adam. *An Inquiry into the Nature and Causes of the Wealth of Nations*. Oxford: Oxford University Press, 1776/1976.

⁷ Becker, Gary. S. *A Treatise on the Family*. Massachusetts: Harvard University Press, 1981.

⁸ Singer, Peter. *A Companion to Ethics*. Massachusetts: Blackwell, 1994.

⁹ No profit equilibrium is a long run condition. It takes time for firms to react to profit possibilities in other industries and however long that takes, profits can exist in perfectly competitive industries.

¹⁰ Typically the number of firms in an industry changes in response to the market price in that industry and so it could be considered the result of a movement along a supply curve rather than a shift of a curve. Typically, in the short run, the number of firms is fixed and cannot respond quickly to price. More advanced textbooks make a distinction between the short run and the long run. Although important this distinction makes the supply and demand model more complicated and so it is left out of this book. Thus, for the purposes of this book, the number of firms is considered something that causes a shift in the supply curve.

¹¹ Smith, Adam. *An Inquiry into the Nature and Causes of the Wealth of Nations*. Oxford: Oxford University Press, 1776/1976.

¹² Atkinson, Anthony B. and Stiglitz, Joseph E. *Lectures on Public Economics*. New York: McGraw-Hill Book Company, 1980.

¹³ Named for the late economist-sociologist Vilfredo Pareto who defined the conditions for efficiency.

¹⁴ Or, more technically, the law of diminishing returns does not set in at the quantity demanded.

¹⁵ Although social workers assume there are needs, whether there really are is an unsettled philosophical question.

¹⁶ Stiglitz, Joseph E. *Economics of the Public Sector*. New York: W. W. Norton & Company, 1988.

¹⁷ Viscusi, W. Kip; Vernon, John M.; and Harrington, Joseph E. *Economics of Regulation and Antitrust*. Washington, D.C., Health and Company, 1992.

¹⁸ See the chapter on game theory in Heap, Shaun Hargreaves; Hollis, Martin; Lyons, Bruce; Sugden, Robert; and Weale, Albert. *The Theory of Choice: A Critical Guide*. Massachusetts: Blackwell, 1998.

¹⁹ Atkinson, Anthony B. and Stiglitz, Joseph E. *Lectures on Public Economics*. New York: McGraw-Hill Book Company, 1980.

²⁰ Transfers are government payments to citizens for which it gets no goods in return. Welfare benefits are examples of transfers.

²¹ Atkinson, Anthony B. and Stiglitz, Joseph E. *Lectures on Public Economics*. New York: McGraw-Hill Book Company, 1980.

²² Weimer, David L. and Vining, Aidan R. *Policy Analysis: Concepts and Practice*. New Jersey: Prentice Hall, 1992

²³ Hahn, Robert W. "Driving and Talking do Mix." *The New York Times*, November 1999, p. A33.

²⁴ Coleman died a few years ago.

²⁵ Myles, Gareth D. *Public Economics*. New York: Cambridge University Press, 1995. Nicholson, Walter. *Microeconomic Theory: Basic Principles and Extensions*. Illinois: The Dryden Press, 1989. Stiglitz, Joseph E. *Economics of the Public Sector*. New York: W.W. Norton, 1988.

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- ²⁶ Coleman, James S. *Foundations of Social Theory*. Massachusetts: Harvard University Press, 1990.
- ²⁷ Since Ricky would have to spend time in a waiting room before receiving treatment, from an economic perspective, the treatment really isn't free. It is only free in the pecuniary sense.
- ²⁸ Weimer, David L. and Vining, Aidan R. *Policy Analysis: Concepts and Practice*. New Jersey: Prentice Hall, 1992.
- ²⁹ Tanner, Michael. *The End of Welfare: Fighting Poverty in the Civil Society*. Washington, D.C.: Cato Institute, 1996.
- ³⁰ Akerlof, George. "The Market for Lemons." *Quarterly Journal of Economics*, vol. 84, no. 3, August 1970, pp. 488-500. Also, see Varian, Hal R. *Intermediate Microeconomics: A Modern Approach*. New York: W.W. Norton, 1999.
- ³¹ Barr, Nicholas. *The Economics of the Welfare State*. California: Stanford University Press, 1993. We define moral hazard in terms of insurance because it's thought to be especially associated with insurance markets. The problem can occur outside of insurance markets, however.
- ³² Often the net benefits of a policy extend and change over time. Economists have tools to deal with such situations but discussing them would go beyond the scope of this book.
- ³³ For example, the Bureau of Labor Statistics collects such data.
- ³⁴ Levy, John M. *Essential Microeconomics for Public Policy Analysis*. Connecticut: Praeger, 1995.
- ³⁵ Weimer, David L. and Vining, Aidan R. *Policy Analysis: Concepts and Practice*. New Jersey: Prentice Hall, 1992.
- ³⁶ Assume—for the purpose of illustration—that reducing teenage drinking would not also reduce domestic violence.
- ³⁷ Kelman, Steven. "Cost-Benefit Analysis: An Ethical Critique." Gillroy, John Martin and Wade, Maurice (editors). *The Moral Dimensions of Policy Choice: Beyond the Market Paradigm*. Pennsylvania: University of Pittsburgh Press, 1992.
- ³⁸ Rice, Dorothy P. and Cooper, Barbara S. "The Economic Value of Human Life." Rhoads, Steven E. (editor). *Valuing Life: Public Policy Dilemmas*. Colorado: Westview Press, 1980.
- ³⁹ Drummond, Michael F.; O'Brien, Bernie; Stoddart, Greg L.; and Torrance, George W. *Methods for the Economic Evaluation of Health Care Programmes*. New York: Oxford University Press, 1999.
- ⁴⁰ Pigou, A. C. *Economics of Welfare*. New York: Macmillan, 1938.
- ⁴¹ For an accessible discussion of the types of inefficiencies associated with government decisions see Weimer, David L. and Vining, Aidan R. *Policy Analysis: Concepts and Practice*. New Jersey: Prentice Hall, 1992. For more in depth works in the field, see Downs, Anthony. *An Economic Theory of Democracy*. New York: Harper, 1957. And, Buchanan James M. and Tullock, Gordon. *The Calculus of Consent*. Michigan: University of Michigan Press, 1962.
- ⁴² See Tullock, Gordon. "Rent Seeking." Eatwell, John; Milgate, Murray; and Newman, Peter (editors). *The World of Economics*. New York: W. W. Norton and Company, 1991.
- ⁴³ Waring, Marilyn. *If Women Counted: A New Feminist Economics*. California: Harper, 1988.
- ⁴⁴ For accessible reviews of these findings, see Davies, David G. *United States: Taxes and Tax Policy*. New York: Cambridge University Press, 1986. Also, see Burtless, Gary and Bosworth, Barry. "Effects of Tax Reform on Labor Supply, Investment, and Saving." *The Journal of Economic Perspectives*, vol. 6, no. 1, (Winter 1992), pp. 3-25.
- ⁴⁵ For an attempt to incorporate these more sociological considerations into an economic model of the work decision, see Neubourg, Chris de. "Job Libido and the Culture of Unemployment: An Essay in Sociological Economics." Coughlin, Richard (editor). *Morality, Rationality, and Efficiency: New Perspectives on Socio-Economics*. New York: M. E. Sharpe, Inc., 1991.
- ⁴⁶ The standard approach of modeling the demand for labor focuses on for-profit firms instead of not-for profit ones, which, of course, are the types frequented by social workers.
- ⁴⁷ Gottschalk, Peter K. "Inequality, Income Growth, and Mobility: The Basic Facts." *The Journal of Economic Perspectives*, vol. 11, no. 2, (Spring 1997), pp. 21-40.

- ⁴⁸ See Becker, Gary. *S. Human Capital: A Theoretical and Empirical Analysis with Special Reference to Education*. Illinois: The University of Chicago Press, 1993. Also, see Mincer, Jacob. *Schooling, Experience, and Earnings*. New York: National Bureau of Economic Research, 1974.
- ⁴⁹ Varoufakis, Yanis. *Foundations of Economics: A Beginner's Guide*. New York: Routledge, 1998.
- ⁵⁰ Frances fox Piven and Richard A. Cloward are two political analysts who've made this point in works social workers are probably familiar with. See Piven, Frances Fox and Cloward, Richard A. "The Historical Sources of the Contemporary Relief Debate" and "The Contemporary Relief Debate." Block, Fred; Cloward, Richard A.; Ehrenreich, Barbara; and Piven, Frances Fox. *The Mean Season: The Attack on the Welfare State*. New York: Patheon Books, 1987.
- ⁵¹ National Association of Social Workers. *Code of Ethics*. Washington, D.C.: National Association of Social Workers, 1996, p. 27.
- ⁵² Becker, Gary. S. *The Economics of Discrimination*. Illinois: The University of Chicago Press, 1957.
- ⁵³ Darity, William A. and Mason, Patrick. "Evidence on Discrimination in Employment: Codes of Color, Codes of Gender." *The Journal of Economic Perspectives*, vol. 12, no. 2, (Spring 1998), pp. 63-90.
- ⁵⁴ Edwards, Richard. *Contested Terrain: The Transformation of the Workplace in the Twentieth Century*. New York: Basic Books, 1979. Reich, Michael. "The Economics of Racism." Grusky, David B. (editors). *Social Stratification in Sociological Perspective*. Colorado: Westview Press, Inc., 1994.
- ⁵⁵ Wilson, William Julius. *When Work Disappears: The World of the New Urban Poor*. New York: Vintage Books, 1996.
- ⁵⁶ Although the surveys the government uses to estimate unemployment would probably count this person as unemployed.
- ⁵⁷ Interested readers should see a macroeconomics textbook.
- ⁵⁸ Ehrenberg, Ronald G. and Smith, Robert S. *Modern Labor Economics: Theory and Public Policy*. New York: Harper Collins College Publishers, 1994.
- ⁵⁹ The price level is a measure of overall prices in the economy.
- ⁶⁰ Bellin, Seymour S. and Miller, S. M. "The Split Society." Erikson, Kai and Vallas, Steven Peter (eds.). *The Sociology of Work: Sociological Perspectives*. Connecticut: Yale University Press, 1990.
- ⁶¹ Handler, Joel F. and Hasenfeld, Yeheskel. *We the Poor People: Work, Poverty, and Welfare*. Connecticut: Yale University Press, 1997.
- ⁶² For further discussion of variation in unemployment rates see Dinitto, Diana M. *Social Welfare: Politics and Public Policy*. Massachusetts: Allyn and Bacon, 1995.
- ⁶³ Meyer, Bruce. "Lessons from the U.S. Unemployment Insurance Experiments." *Journal of Economic Literature*, vol. 33, no. 1, (March 1995), pp. 91-131.
- ⁶⁴ Mead Lawrence. *Beyond Entitlement: The Limits of Benevolence*. New York: Free Press, 1988.
- ⁶⁵ Piven, Frances Fox and Cloward, Richard A. *Regulating the Poor*. New York: Vintage Books, 1993.
- ⁶⁶ The topic of inflation is beyond the scope of this book and readers are again referred to a macroeconomics textbook.
- ⁶⁷ Keynes, John Maynard. *The General Theory of Employment, Interest, and Money*. New York: Harcourt, Brace, and Company, 1935. Davidson, Greg and Davidson, Paul. *Economics for a Civilized Society*. New York: W. W. Norton and Company, 1988.
- ⁶⁸ *Keynesian* economists tend to believe that monetary and fiscal policy can be effective in reducing unemployment, but *Monetarists* tend to believe that they are ineffective and will lead only to inflation. A detailed discussion of this debate is beyond the scope of this text. Those interested in such a discussion can see Dornbusch, Rudiger and Fischer, Stanley. *Macroeconomics*. New York: McGraw-Hill Book Company, 1981.
- ⁶⁹ National Research Council. *Measuring Poverty: A New Approach*. Washington, D.C.: National Academy Press, 1995.
- ⁷⁰ Rainwater, Lee. *What Money Buys: Inequality and the Social Meaning of Income*. New York: Basic Books, 1974.
- ⁷¹ Schwarz, John E. and Volgy, Thomas J. *The Forgotten Americans*. New York: W. W. Norton & Company, Press, 1995.
- ⁷² The U.S. Census Bureau, *Poverty in the United States: 1998*. Poverty statistics for 1999 were not available when the book when to press.
- ⁷³ For additional criticism see National Research Council. *Measuring Poverty: A New Approach*. Washington, D.C.: National Academy Press, 1995.

- ⁷⁴ Schwarz, John E. and Volgy, Thomas J. *The Forgotten Americans*. New York: W. W. Norton & Company, Inc., 1992.
- ⁷⁵ Levy, Frank. *Dollars and Dreams*. New York: Russell Sage Foundation, 1987.
- ⁷⁶ U.S. Census Bureau. Historical Poverty Tables. Table 2. Poverty Status of People, by Family Relationship, Race, and Hispanic Origin: 1959 to 1998.
- ⁷⁷ Harvey, Philip. *Securing the Right to Full Employment: Social Welfare Policy and the Unemployed in the United States*. New Jersey: Princeton University Press, 1989.
- ⁷⁸ Many Institutionalist and Post Keynesian economists and some others have endorsed the market power explanation.
- ⁷⁹ Atkinson, A. B. *The Economics of Inequality*. New York: Oxford University Press, 1983.
- ⁸⁰ Danziger, Sheldon and Gottschalk, Peter. *America Unequal*. Massachusetts: Harvard University Press, 1995.
- ⁸¹ The term Keynesian is used here to group together a number of distinct schools of thought that all trace their origin to John Maynard Keynes, including Post Keynesians and New Keynesians.
- ⁸² There are many subgroups within the Neoclassical tradition that are sometimes called Monetarism, New Classical economics, Supply Side economics and the Rational Expectations School. All are united (among other things) by the idea that over-stimulating the economy is a serious danger.
- ⁸³ Unfortunately, an adequate discussion of inflation is beyond the scope of this book. Those interested in an accessible discussion of this debate should see Galbraith, James K and Darity, William Jr. *Macroeconomics*. New Jersey: Houghton Mifflin Company, 1994.
- ⁸⁴ Those interested in more on this topic are again referred to Galbraith and Darity. *Macroeconomics*. New Jersey: Houghton Mifflin Company, 1994.
- ⁸⁵ Center on Social Welfare Policy and Law. *Implementation of the Temporary Assistance for Needy Families Block Grant: An Overview*. New York: Center on Social Welfare Policy and Law, 1996.
- ⁸⁶ The kinds of workfare policies in TANF aren't new but were parts of earlier reforms. The main difference is that TANF requires more extensive participation of recipients in workfare than earlier reforms. There's evidence that suggest that former participants in these earlier workfare programs who obtained jobs tended to receive sub-poverty level wages. See Friedlander, Daniel and Burtless, Gary. *Five Years After*. New York: Russel sage Foundation, 1995. Also, see Guron, Judith and Pauly, Edward. *From Welfare to Work*. New York: Russel Sage Foundation, 1991. It's very possible that more recent workfare programs could have the same effects.
- ⁸⁷ Currie, Elliot. *Confronting Crime*. New York: Pantheon Books, 1985.
- ⁸⁸ Kim, Marlene, "The Working Poor: Lousy Jobs or Lazy Workers?" The Jerome Levy Economics Institute Working Paper No. 194, May 1997.
- ⁸⁹ For an example of a study that finds a link between the minimum wage an unemployment see Brown, Charles. "Minimum Wage Laws: Are They Overrated?" *The Journal of Economic Perspectives*, vol. 2, no. 3, (Summer 1988), pp. 133-145. For an example of a study that shows evidence that the minimum wage does not cause unemployment see Card, David and Krueger, Alan. *Myth and Measurement: The New Economics of the Minimum Wage*. New Jersey: Princeton University Press, 1995.
- ⁹⁰ Lav, Iris J. and Lazere, Edward B. *A Hand Up: How the Earned Income Credits Help Working Families Escape Poverty*. Washington, D.C.: Center on Budget and Policy Priorities, 1996.
- ⁹¹ Lav, Iris J. and Lazere, Edward B. *A Hand Up: How the Earned Income Credits Help Working Families Escape Poverty*. Washington, D.C.: Center on Budget and Policy Priorities, 1996.
- ⁹² Harvey, Philip. *Securing the Right to Full Employment: Social Welfare Policy and the Unemployed in the United States*. New Jersey: Princeton University Press, 1989.
- ⁹³ Minsky, Hyman. *Stabilizing an Unstable Economy*. New Haven: Yale University Press, 1986.
- ⁹⁴ It could, however, not eliminate *underemployment* as defined in chapter 8.
- ⁹⁵ Economists also refer to this as a marginal tax rate because a benefit reduction (per dollar increase in earnings) is, in effect, a tax on the recipient's income.
- ⁹⁶ Burtless, Gary. "The Work Responses to a Guaranteed Income: A Survey of the Experimental Evidence." Munnell, Alicia H. (editor). *Lessons from the Income Maintenance Experiments: Proceedings of a Conference Held at Melvin Village*, New Hampshire, September, 1986.
- ⁹⁷ Berger, Candyce C. S. "Managed care: Evolution or Revolution?" *Continuum*, (May-June 1999), pp. 10-13.
- ⁹⁸ U.S. Department of Commerce/Bureau of the Census. *Statistical Abstract of the United States*. Texas: Hoover's Business Press, 1998.

- ⁹⁹ There are actually some technical differences between Canada and Britain's systems, but there isn't a need to go into them here.
- ¹⁰⁰ This section relies heavily on Bose, Mrigen. "Organ Transplantation: Problems and Prospects." *Proceedings of the Pennsylvania Economic Association 1998 Conference*, pp. 157-168.
- ¹⁰¹ We apologize for any offense we might cause by calling organs "goods," but they are scarce items that are valued by some individuals so they fit the economic definition.
- ¹⁰² Stern, Paul C. "The Socio-Economic Perspective and its Institutional Prospects." *The Journal of Socio-Economics*, vol. 22, no. 1, (1993), pp. 1-11.
- ¹⁰³ For a work by an economist who does consider what might be called the cultural effects of markets see Bowles, Samuel. "Endogenous Preferences: The Cultural Consequences of Markets and Other Economic Institutions." *Journal of Economic Literature*, vol. 36, (March 1998), pp. 75-111.
- ¹⁰⁴ Becker, Gary S. *A Treatise on the Family*. Massachusetts: Harvard University Press, 1981.
- ¹⁰⁵ See Becker, Gary S. *A Treatise on the Family*. Massachusetts: Harvard University Press, 1981.
- ¹⁰⁶ One could also add the pain and suffering the mother will have to go through in child birth.
- ¹⁰⁷ "Labor" or "work" are used here in the economic sense, of time getting paid by someone else to do something. Some readers may be more comfortable with the more cumbersome terms "paid work" or "paid labor." By calling "paid labor" simply "labor" we don't mean to imply any moral judgement that labor is somehow superior non-paid work; in fact we view time spent in (paid) labor as inherently inferior to time spent doing what one truly enjoys.
- ¹⁰⁸ See Isserman, Andrew. "Forecasting Birth and Migration Rates: The Theoretical Foundation." Isserman, Andrew (editor). *Population, Change, and the Economy: Social Science Theories and Models*. Massachusetts: Kluwer Academic Publishers, 1986. Also, see Cain, Glen C. and Dooley, Martin D. "Estimation of a model of Labor Supply, Fertility, and Wages of Married Women." *The Journal of Political Economy*, vol. 84, no. 4, part 2, pp. S179-S199.
- ¹⁰⁹ The relationship between out-of wedlock fertility and poverty will be discussed in the last chapter.
- ¹¹⁰ Davis, William L.; Olson, Kent W.; and Warner, Larkin. "An Economic Analysis of Teenage Fertility." *The American Journal of Economics and Sociology*, vol. 52, no. 1 (January 1993), pp. 86-99.
- ¹¹¹ Litchter, Daniel T; McLaughlin, Diane K; and Ribar, David C. "Welfare and the Rise in Female-Headed families." *American Journal of Sociology*, vol. 103, no. 1, (July 1997), pp. 112-143. Fairlie, Robert W. and London, Rebecca A. "The Effect of Incremental Benefit Levels on Births to AFDC Recipients." *Journal of Policy Analysis and Management*, vol. 16, no. 4, (Fall 1997), pp. 575-597.
- ¹¹² Currently there is considerable discussion about a marriage penalty, but there is a question as to whether, on balance, the tax code favors or disfavors married couples.
- ¹¹³ Readers who find this confusing should go back to our discussion of opportunity cost in chapter one.
- ¹¹⁴ Ehrenberg, Ronald G. and Smith Robert S. *Modern Labor Economics: Theory and Public Policy*. New York: Harper Collins College Publishers, 1994.
- ¹¹⁵ See Peterson, Paul E. and Rom, Mark C. *Welfare Magnets: A New Case for National Standard*. Washington, D.C.: The Brookings Institution, 1990. Also, see Vartanian, Thomas; Schram, Sanford; Baumohl, Jim; and Soss, Joe. "Already Hit Bottom: General Assistance, Welfare Retrenchment, and Single Male Migration." *Journal of Sociology and Social Welfare*, vol. 26, no. 2, (June 1999), pp.151-174.
- ¹¹⁶ Such systems have also been found unconstitutional, but this has not discouraged other states from trying to enact them.
- ¹¹⁷ This section draws heavily on Weil, David N. "The Economics of Population Aging." Rosenberg Mark R. and Stark, Oded (editors). *Handbook of Population and Family Economics Volume B*. New York: Elsevier Science B.V., 1997.
- ¹¹⁸ United States Congress Committee on Ways and Means. *The 1998 Green Book*. <http://www.house.gov/ways-means/publica.htm>.
- ¹¹⁹ See Blau, Joel. *Illusions of Prosperity: America's Working Families in an Age of Economic Insecurity*. New York: Oxford University Press, 1999.