PROPERTY RIGHTS AND CONTRACT ENFORCEMENT

Chapter 3 explained why markets result in Pareto efficient outcomes. For markets to work, however, there needs to be a government to define property rights and enforce contracts. In some societies, land is held in common: anyone can graze cattle and sheep on it. Because no one has the property right to the land, though, no one has an incentive to ensure that overgrazing does not occur. In the former communist countries, property rights were not well defined, so people had insufficient incentive to maintain or improve their apartments. In market economies, though, the benefits of such improvements are reflected in the market price of the property.

Similarly, if individuals are to engage in transactions with each other, the contracts they sign must be enforced. Consider a typical loan, in which one person borrows money from another and signs a contract to repay it. Unless such contracts are enforced, no one would be willing to make a loan.

At an even more primitive level, unless there is protection of private property, people will have insufficient incentive to save and invest, as their savings might be taken away.

Government activities aimed at protecting citizens and property, enforcing contracts, and defining property rights can be thought of as providing the foundations on which all market economies rest.

PROPERTY RIGHTS AND MARKET FAILURES: THE TRAGEDY OF THE COMMONS REVISITED

The **tragedy of the commons** is a term that encapsulates how difficult it is to achieve the appropriate level of property rights. Oft-cited examples of this are the common pasture that is ruined by overgrazing or the common lake that is depleted by overfishing. Although the action of each individual is a rational attempt to promote one's own short-term self-interest, the group's collective actions are not in the community's long-term best interests. This dilemma raises the perplexing and hotly debated policy question: How does one manage a resource that formally does not belong to anyone?

For a long time, the common response was either conversion of common resources to private property or the external regulation of these common resources. If a resource is converted to private property, the owner should have both the profit incentives and the protection of property rights to manage the entire resource responsibly. If the resource is regulated by the government, rules could be imposed on individual users for the common good.

However, in 1999, Nobel Prize-winning economist Elinor Ostrom revisited these solutions because they sometimes left the commons worse off. Private control over previously public resources could create the usual problems resulting from monopoly business practices, whereas external oversight could generate inappropriate and poorly implemented regulations. She noted a third response to the tragedy of the commons, one that she documented empirically by drawing on many cases from around the world: utilization of community social capital to devise creative and effective local solutions.

Another twist on this debate is referred to as the **tragedy of the anticommons**, a term coined by Michael Heller of Columbia Law School. In contrast to the problems created by ambiguous ownership of a community resource, this refers to the opposite: excessive private ownership of a community resource that prevents achievement of a desirable outcome for society. The tragedy of the anticommons is now commonly applied to excessive property rights in areas such as biomedical research, for instance, in the patenting of genes (see Chapter 12).

MARKET FAILURES AND THE ROLE OF GOVERNMENT

The first fundamental theorem of welfare economics asserts that the economy is Pareto efficient only under certain circumstances or conditions. Markets are not Pareto efficient under six important conditions, referred to as **market failures**, which provide a rationale for government activity.

1. FAILURE OF COMPETITION

For markets to result in Pareto efficiency, there must be **perfect competition**; that is, there must be a sufficiently large number of firms that each believes it has no effect on prices. However, in some industries—supercomputers, operating systems and chips for PCs, aluminum, cigarettes, and greeting cards, for instance—there are relatively few firms, or one or two firms have a large share of the market. When a single firm supplies the market, economists refer to it as a **monopoly**; when a few firms supply the market, economists refer to them as an **oligopoly**. Even when there are many firms, each may produce a slightly different good, and may thus perceive itself facing a downward-sloping demand curve.

Economists refer to such situations as **monopolistic competition**. In all these situations, competition deviates from the ideal of perfect competition, in which each firm is so small that it believes there is nothing it can do to affect prices.

It is important to recognize that under these circumstances, firms may still seem to be competing actively against each other, and that the market economy may seem to "work" in the sense that goods are being produced that consumers seem to like. The first fundamental theorem of welfare economics—the result that market economies are Pareto efficient—requires more than just that there be *some* competition. As we saw in the last chapter, Pareto efficiency entails stringent conditions, such as exchange, production, and product mix efficiency; these conditions typically are satisfied only if each firm and household believes that it has *no* effect on prices.

There are a variety of reasons why competition may be limited. When average costs of production decline as a firm produces more,[1] a larger firm will have a competitive advantage over a smaller firm. There may even be a **natural monopoly**, a situation in which it is cheaper for a single firm to produce the entire output than for each of several firms to produce part of it. Even when there is not a natural monopoly, it may be efficient for only a few firms to operate. High transportation costs mean that goods sold by a firm at one location are not perfect substitutes for goods sold at another location. Imperfect information may also mean that if a firm raises its price it will not lose all its customers; it only faces a downward-sloping demand curve.

Firms may also engage in strategic behavior to discourage competition. They may threaten to cut prices if potential rivals enter; such threats may both be credible and serve to discourage entry.

Finally, some imperfections of competition arise out of government actions. Governments grant patents—exclusive rights to an invention—to innovators. Although patents are important in providing incentives to innovate, they make competition in the product market less than perfect. Of course, even without patents, the fact that an innovator has some information (knowledge) that is not freely available to others may enable it to establish a dominant market position.

It is easy to see why imperfect competition leads to economic inefficiency. We saw earlier that under competition, firms set output at the Pareto efficient level. They set price equal to the marginal cost of production. Price can be thought of as measuring the marginal benefit of consuming an extra unit of the good. Thus, with competition, marginal benefits equal marginal costs. Under imperfect competition, firms set

[1] Declining average costs correspond to increasing returns: doubling inputs more than doubles output.

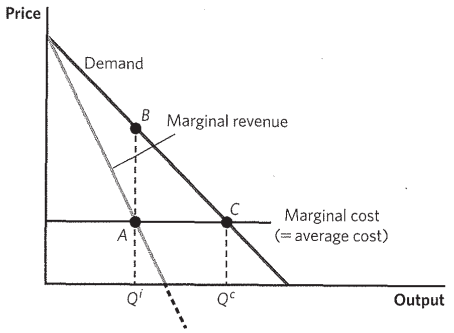

FIGURE 4.1

MONOPOLY PRICING

Monopoly output is lower than competitive output, or the output at which profits are zero. There is a resulting welfare loss.

the extra revenue they obtain from selling one unit more—the **marginal revenue**—equal to the marginal cost. With a downward-sloping demand curve, the marginal revenue has two components. When a firm sells an extra unit, it receives the price of the unit, but to sell the extra unit, it must lower the price it charges on that and all previous units—the demand curve is downward sloping. The revenue gained from selling the extra unit is its price minus the revenue forgone because the expansion in sales lowers the price on all units. Thus, marginal revenue is less than price. Figure 4.1 shows the demand curve facing a firm and the marginal revenue, which lies below the demand curve. Competitive equilibrium occurs at Q^c, whereas the imperfect competition equilibrium occurs at Q^i, a much lower level of output. This reduction in output is the inefficiency associated with imperfect competition.

Of course, if there is a natural monopoly, with declining average costs, and with marginal costs below average costs,[2] competition is not viable; if a firm charged a price equal to the marginal cost (as would be the case under competition), it would operate at a loss, as the marginal cost is lower than the average cost. Even then, however, a private monopoly would typically charge more than a government-run monopoly; the private monopoly would seek to maximize profits, whereas the government-run monopoly, which did not receive any subsidy, would only seek to break even.

[2] When average costs are declining, marginal costs always lie below average costs; it is the low value of the marginal cost—the cost of producing the last unit—that brings down the average costs.

2. PUBLIC GOODS

Some goods either will not be supplied by the market or, if supplied, will be supplied in insufficient quantity. An example on a large scale is national defense; on a small scale, navigational aids (such as buoys). These are called **pure public goods**. They have two critical properties. First, it costs nothing for an additional individual to enjoy their benefits: formally, there is zero marginal cost for the additional individual enjoying the good. It costs no more to defend a country of one million and one individuals than to defend a country of one million. The costs of a lighthouse do not depend at all on the number of ships that sail past it. Second, it is, in general, difficult or impossible to exclude individuals from the enjoyment of a pure public good. If I put a lighthouse in a rocky channel to enable my ships to navigate safely, it is difficult or impossible for me to exclude other ships entering the channel from its navigational benefits. If our national defense policy is successful in diverting an attack from abroad, everyone benefits; there is no way to exclude any single individual from these benefits.

The market either will not supply, or will not supply enough of, a pure public good. Consider the case of the lighthouse. A large shipowner with many ships might decide that the benefits it receives from a lighthouse exceed the costs; but in calculating how many lighthouses to put in place, it will look only at the benefits it receives, not at the benefits received by others. Thus, there will be some lighthouses for which the total benefits (taking into account *all* of the ships that make use of the lighthouse) exceed the costs but for which the benefits of any single shipowner are less than the costs. Such lighthouses will not be put into place, and that is inefficient. The fact that private markets will not supply, or will supply too little of, public goods provides a rationale for many government activities. Public goods are discussed in detail in the next chapter.

3. EXTERNALITIES

In many cases, the actions of one individual or one firm affect other individuals or firms, such as when one firm imposes a cost on other firms but does not compensate them, or, alternatively, when one firm confers a benefit on other firms but does not reap a reward for providing it. Air and water pollution are examples. When I drive a car that is not equipped with a pollution control device, I lower the quality of the air, and thus impose a cost on others. Similarly, a chemical plant that discharges its chemicals into a nearby stream imposes costs on downstream users of the water, who may have to spend a considerable amount of money to clean up the water to make it usable.

Instances in which one individual's actions impose a cost on others are referred to as **negative externalities**. Not all externalities are negative, though. There are some important instances of **positive externalities**, in which one individual's actions confer a benefit on others. If I plant a beautiful flower garden in front of my house, my neighbors may benefit from being able to look at it. An apple orchard may confer a positive externality on a neighboring beekeeper. An individual who rehabilitates his or her house in a neighborhood that is in decline may confer a positive externality on the neighbors.

There are a large number of other examples of externalities. An additional car on a crowded highway will add to road congestion, both reducing the speed at which other drivers can travel safely and increasing the probability of an accident. An additional fisherman fishing in a given pond may reduce the amount of fish that others will be able to catch. If several oil wells are drilled in the same oil pool, taking more oil from one of the wells may reduce the amount of oil extracted by the other wells.

The crisis of 2008 made it clear that the financial sector could (and did) impose large externalities on the rest of the economy. In fact, many described what they did using language similar to that associated with environomental externalities: the financial sector was accused of polluting the global economy with toxic mortgages.

Whenever such externalities exist, the resource allocation provided by the market will not be efficient. Because individuals do not bear the full cost of the negative externalities they generate, they will engage in an excessive amount of such activities; conversely, because individuals do not enjoy the full benefits of activities generating positive externalities, they will engage in too little of these. Thus, for example, without government intervention of some kind, the level of pollution would be too high.

Externalities and environmental policy are discussed in detail in Chapter 6.

4. INCOMPLETE MARKETS

Pure public goods and services are not the only goods and services that private markets fail to provide adequately. Whenever private markets fail to provide a good or service even though the cost of providing it is less than what individuals are willing to pay, there is a market failure that we refer to as **incomplete markets** (because a complete market would provide all goods and services for which the cost of provision is less than

what individuals are willing to pay). Some economists believe that private markets have done a particularly poor job of providing insurance and loans, and that this provides a rationale for government activities in these areas.

INSURANCE AND CAPITAL MARKETS The private market does not provide insurance for many important risks that individuals face, although insurance markets are much better today than they were ninety years ago. The government has undertaken a number of insurance programs, motivated at least in part by this market failure. In 1933, following the bank failures of the Great Depression, the government set up the Federal Deposit Insurance Corporation. Banks pay the corporation annual premiums, which provide insurance for depositors against a loss of savings arising from the insolvency of banks. The government has also been active in providing flood insurance. Following urban riots in the summer of 1967, most private insurance companies refused to write fire insurance in certain inner-city areas, and again the government stepped in.

Similarly, government has provided farmers with crop insurance, partly because of the failure of markets to do so; it provides unemployment insurance; and until Medicare, the government health insurance program for the aged, was introduced in the 1960s, many of the elderly found it difficult to procure health insurance in the market. To protect investors against the effects of inflation, the government has been issuing Treasury inflation-protected securities (TIPS) since 1997.

In recent decades, the government has taken an active role not only in remedying deficiencies in risk markets but also in ameliorating the effects of imperfect capital markets. In 1965 the government passed legislation providing for government guarantees on student loans, making it less difficult for individuals to obtain loans to finance their college education. Today, after it was discovered that private lenders were making massive profits out of student loans and charging excessive interest rates, the government has become a major provider of student loans. This is only one of several government loan programs: the government provides loans to businesses engaged in international trade through the Export–Import Bank, it provides loans for small business through the Small Business Administration, and so forth. In each of these credit markets, there were allegations that access to credit was restricted prior to the introduction of the government program.

The question of why capital and insurance markets are imperfect has been the subject of extensive research during the past four decades. At least three different answers have been put forward; each may have some validity. One focuses on *innovation*: we are used to new products

STUDENT LOANS: INCOMPLETE REFORM OF AN INCOMPLETE MARKET

Government guarantees opened the door to student loans, but the student loan market has not always worked well. Many of the problems arise out of the undue influence of the financial sector and the private education sector in shaping the student loan program. For a long while, although the government guaranteed the loans, the private sector charged interest rates *as if* they were risky, imposing enormous costs on students. By replacing government-guaranteed loans by government loans, students and the government were able to save an estimated $80 billion over ten years. Many for-profit schools entice poorly informed students; they fail to provide them with the skills they need to get a job. However, these schools have successfully repelled attempts to regulate them effectively, or even to deny them access to government loan programs, without which they would not survive. Making matters worse, several pieces of legislation (most recently, in the so-called reform of bankruptcy) made it extraordinarily difficult to discharge student debt, to get a fresh start, *even if the school did not deliver the education and jobs promised.*

There are increasing worries too that the private sector will attempt to "skim the cream," offering loans to the best risks, leaving the government with the highest risks.

With student debt now exceeding a trillion dollars—exceeding even credit card debt—and many young Americans saddled with seemingly crushing debts, there is a growing sense that there must be better ways of financing these important investments.

Australia has explored one such approach, in which the amount students repay depends on their income. *Income-contingent loan programs* are now being experimented with by several countries around the world (see Chapter 14).

constantly coming onto the market; but there are also innovations in how the economy functions—innovations in creating new markets, including inventing new securities and new insurance policies. Indeed, those working in the insurance and securities industries refer to these advances as new products. However, there is often an undersupply of innovations, which is why there is an important role for government in research.

The introduction of many of these new products is related to the second explanation: *transactions costs*. It is costly to run markets, to enforce contracts, and to introduce new insurance policies. An insurance firm may be reluctant to go to the trouble of designing a new insurance policy if it is unsure whether anyone will buy the policy, or if even if the product is successful, whether it will be able to reap the rewards as other competitors come into the market.

The third set of explanations centers around *asymmetries of information* and *enforcement costs*. The insurance company is often less informed

about the nature of some risks than the person purchasing insurance. When the two parties to a transaction have different information of this kind, we say that there is an information asymmetry. Thus, a firm might well wish to buy insurance against the risk that the demand for its product will decline. The insurer, on the other hand, may well reason: I want to estimate the risk, and charge a premium based on that estimate. If I overestimate the risk, the premium will be too high, and the firm will refuse to buy my policy; whereas if I underestimate the risk, the premium will be too low, in which case, the firm will buy my policy, but on average, I will lose money. I am in a heads-you-win-tails-I-lose situation. When information asymmetries like this are large, markets will not exist.

Similarly, in capital markets, lenders worry about getting repaid. They may not be able to tell which borrowers are likely to repay. This is particularly a problem with loans, such as student loans, for which there is no collateral. (In the case of a loan on a house, if the borrower defaults, at least the lender can sell the house and recoup most or all of what it has put out.) The bank finds itself in a dilemma: if it increases the interest rate to reflect the fact that many loans are not repaid, it may find that the default rate actually increases; those who know that they are going to repay refuse to borrow, while those who are not planning to repay care very little about the amount the lender is nominally charging, as in all likelihood they will not pay that amount anyway. The phenomenon is called **adverse selection**. It may turn out that there is no interest rate that the bank can charge for, say, student loans (without a government subsidy) at which it can reap an *expected return* commensurate with what it can obtain on other investments.

This basic principle—that when there are asymmetries of information and enforcement problems markets may not exist—has been shown to provide part of the explanation of many missing markets.[3] We shall examine these problems in greater depth in the context of health insurance, in Chapter 13.

The reasons why markets do not exist may have implications for how governments might go about remedying the market failure. Government, too, faces transactions costs, enforcement problems, and asymmetries of information, although in many instances they are different from those faced by the private sector. Thus, in designing loan programs or interventions in capital markets, governments need to bear in mind that they too are often less informed than the borrower.

[3] The literature in this area is extensive. The basic articles are George Akerlof, "The Market for Lemons: Qualitative Uncertainty and the Market Mechanism," *Quarterly Journal of Economics* 84 (1970): 488–500; and Michael Rothschild and Joseph Stiglitz, "Equilibrium in Competitive Insurance Markets: An Essay on the Economics of Imperfect Information," *Quarterly Journal of Economics* 90 (1976): 629–650.

COMPLEMENTARY MARKETS Finally, we turn to the problems associated with the absence of certain complementary markets. Suppose all individuals enjoy only coffee with sugar. Assume, moreover, that without coffee there is no market for sugar. Given that sugar was not produced, an entrepreneur considering whether to produce coffee would not do so, because he would realize that he would have no sales. Likewise, given that coffee was not produced, an entrepreneur considering whether to produce sugar also would not do so, since she too would realize that she would have no sales. If, however, the two entrepreneurs could get together, there would be a good market for coffee and sugar. Each *acting alone* would not be able to pursue the public interest, but acting together they could.

This particular example is deliberately quite simple, and in this case coordination (between the potential sugar producer and the potential coffee producer) might easily be provided by the individuals themselves without government intervention. In many cases, however, particularly in less developed countries, large-scale coordination is required; this may require government planning. Similar arguments have been put forward as justification for public urban renewal programs. Redeveloping a large section of a city requires extensive coordination among factories, retailers, landlords, and other businesses. One of the objectives of government development agencies is to provide that coordination (if markets were complete, the prices provided by the market would perform this "coordination" function).

5. INFORMATION FAILURES

A number of government activities are motivated by imperfect information on the part of consumers, and by the belief that the market, by itself, will supply too little information. For instance, the Truth in Lending Act requires lenders to inform borrowers of the true rate of interest on their loans. The Federal Trade Commission and the Food and Drug Administration have both adopted a number of regulations concerning labeling, disclosure of contents, and the like. At one time, the Federal Trade Commission proposed that used-car dealers be required to disclose whether they had tested various parts of the car, and, if so, what the outcomes of the tests were. These regulations generated a considerable amount of controversy, and under pressure from Congress, the FTC was forced to back down.

Opponents of regulations on information disclosure contend that they are unnecessary (the competitive market provides incentives for firms to

disclose relevant information), irrelevant (consumers pay little attention to the information the law requires firms to disclose), and costly, both to government that must administer them and to the firms that must comply with the regulations. Proponents of these regulations claim that, though they are sometimes difficult to administer effectively, they are still critical to the affected markets.

The government's role in remedying information failures goes beyond these simple consumer and investor protections, however. Information is, in many respects, a public good. Giving information to one more individual does not reduce the amount others have. Efficiency requires that information be freely disseminated or, more accurately, that the only charge be for the actual cost of transmitting the information. The private market will often provide an inadequate supply of information, just as it supplies an inadequate amount of other public goods. The most notable example of government activity in this area is the National Weather Service. Another example is the information provided to ships by the U.S. Coast Guard.

Various other market failures are associated with imperfect information. One of the assumptions that went into the proof of the fundamental theorems of welfare economics was that there was perfect information, or, more precisely, that nothing firms or households did had any effect on beliefs or information. In fact, much economic activity is directed at obtaining information, from employers trying to find out who are good employees, to lenders trying to find out who are good borrowers, investors trying to find out what are good investments, and insurers trying to find out who are good risks. Later, we shall see that information problems lie behind several government programs. For instance, many of the problems in the health sector in general and health insurance markets in particular can be traced to problems of information.

Resources devoted to producing new knowledge—**research and development (R&D)** expenditures—can be thought of as a particularly important category of expenditures on information. Again, the fundamental theorems of welfare economics, which form the basis of our belief in the efficiency of market economies, simply assume that there is a given state of information about technology, begging the question of how the economy allocates resources to research and development. Chapter 12 will explain why the market, on its own, may engage in an insufficient amount of at least certain types of R&D.[4]

[4] For an extended discussion of the market failures associated with incomplete markets and imperfect information, see B. Greenwald and J. E. Stiglitz, "Externalities in Economies with Imperfect Information and Incomplete Markets," *Quarterly Journal of Economics* 105 (May 1986): 229–264.

6. UNEMPLOYMENT, INFLATION, AND DISEQUILIBRIUM

Perhaps the most widely recognized symptoms of market failure are the periodic episodes of high unemployment, both of workers and machines, that have plagued capitalist economies during the past two centuries. Even though these recessions and depressions were greatly moderated in the period between World War II and 2008, perhaps partly because of government policies, the unemployment rate still climbed over 10 percent in 1982 and reached that level again in 2009. Although this is low compared to the rate during the Great Depression, when unemployment reached 24 percent in the United States, high unemployment rates during the current Great Recession persisted despite government interventions to kickstart the economy. The national unemployment rate also masks significantly higher rates in especially hard-hit parts of the country and among highly vulnerable populations. At one time, more than one of six Americans who wanted a full-time job could not get one. The global economic crisis has hit several countries in Europe particularly hard; by 2013, average unemployment had reached record levels, and several countries were in a depression, with average unemployment in excess of 25 percent and youth unemployment in excess of 50 percent.

Most economists take the high levels of unemployment as prima facie evidence that *something* is not working well in the market. To some economists, high unemployment is the most dramatic and most convincing evidence of market failure.

The issues raised by unemployment and inflation are sufficiently important, and sufficiently complicated, that they warrant a separate course in macroeconomics. Some aspects of these issues are touched on in Chapter 28, which is concerned with the consequences of government deficits and attempts to survey some of the important ways that these macroeconomic considerations affect the design of tax policy.

SIX BASIC MARKET FAILURES

1. Imperfect competition
2. Public goods
3. Externalities
4. Incomplete markets
5. Imperfect information
6. Unemployment and other macroeconomic disturbances

INTERRELATIONSHIPS OF MARKET FAILURES

The market failures we have discussed are not mutually exclusive. Information problems often provide part of the explanation of

missing markets. In turn, externalities are often thought to arise from missing markets: if fishermen could be charged for using fishing grounds—if there were a market for fishing rights—there would not be overfishing. Public goods are sometimes viewed as an extreme case of externalities, where others benefit from my production of the good as much as I do. Much of the recent research on unemployment has attempted to relate it to one of the other market failures.

MARKET FAILURES: EXPLANATIONS OR EXCUSES?

The agricultural price support program provides an illustration of an instance in which the appeal to market failures is more of an excuse for a program than a rationale. There are important market failures in agriculture. Prices and output are highly variable. Farmers typically cannot buy insurance to protect them against either price or output fluctuations. Even though they could reduce their exposure to price risk somewhat by trading in futures and forward markets, these markets are highly speculative, and farmers worry that they are at a marked disadvantage in trading in them. For example, there are five very large traders in wheat that have access to more information; as a result, farmers view trading on futures markets with these informed traders as playing on an unlevel playing field.

What farmers really care about, of course, is not price variability, but income variability. Programs to stabilize prices do not fully stabilize income, as income depends both on the price received and the quantity produced. Indeed, in some cases, stabilizing prices may actually increase the variability of income. Normally, prices rise when, on average, quantities fall. If prices rise proportionately, then income may vary very little, with price increases just offsetting quantity decreases. In such a situation, stabilizing prices will increase income variability.

Price support programs are also justified as helping poor farmers—reflecting the failure of markets to provide an appropriate distribution of income. Critics ask, though, why are poor farmers particularly deserving of aid, rather than poor people in general? Moreover, the price support programs give aid on the basis of how much a farmer produces. Thus, large farmers gain far more than small farmers do.

If the objective of the farm programs were to address these market failures, then the farm program would be designed in a markedly different manner. In fact, a major objective of the farm program is to transfer resources—to subsidize farmers (and not just poor farmers)—not to correct a market failure. The program is designed to keep a large part of its cost hidden: only a part of the cost is reflected in the federal budget; the rest is paid for by consumers in the form of higher prices. The market failure approach has provided some of the rhetoric for the program, but not the rationale. For that, we have to look into politics and the role of special interest groups.

REDISTRIBUTION AND MERIT GOODS

The sources of market failure discussed thus far result in economic inefficiency in the absence of government intervention. Even if the economy were Pareto efficient, though, there are two further arguments for government intervention. The first is income distribution: the fact that the economy is Pareto efficient says nothing about the distribution of income; competitive markets may give rise to a very unequal distribution, which may leave some individuals with insufficient resources on which to live. One of the most important activities of the government is to redistribute income. This is the express purpose of welfare activities, such as food stamps and Medicaid. How we think systematically about issues of distribution is the subject of Chapter 7.

The second argument for government intervention in a Pareto efficient economy arises from concern that individuals may not act in their own best interests. It is often argued that an individual's perception of his or her own welfare may be an unreliable criterion for making welfare judgments. Even fully informed consumers may make "bad" decisions. Individuals continue to smoke, for instance, even though it is bad for them, and even though they know it is bad for them. Individuals fail to wear seat belts, even though wearing seat belts increases the chances of survival in an accident, and even though individuals know the benefits of seat belts. The same holds true for motorcycle helmets. There are those who believe that the government should intervene in such cases, in which individuals seemingly do not do what is in their own best interest; the kind of intervention that is required must be stronger than simply providing information. Goods that the government compels individuals to consume, such as seat belts and elementary education, are called **merit goods**.

The view that the government should intervene because it knows what is in the best interest of individuals better than they do themselves is referred to as **paternalism**. The paternalistic argument for government activities is quite distinct from the externalities argument discussed earlier. One might argue that smoking causes cancer, and that because individuals who get cancer may be treated in public hospitals or financed by public funds, smokers impose a cost on nonsmokers. This, however, can be dealt with by making smokers pay their full costs—for instance, by imposing a tax on cigarettes. Alternatively, smoking in a crowded room does indeed impose a cost on nonsmokers in that room. But this, too, can be dealt with directly. Those who take a paternalistic view might argue that individuals should not be allowed to smoke, even in the privacy of their

own homes, and even if a tax that makes the smokers take account of the external costs imposed on others is levied. Although few have taken such an extreme paternalistic position with respect to smoking, this paternalistic role undoubtedly has been important in a number of areas, such as government policies toward drugs (illegalization of marijuana) and liquor (prohibition in the 1930s).

In contrast to the paternalistic view, many economists and social philosophers believe that the government should respect consumers' preferences. Though there may occasionally be cases that merit a paternalistic role for the government, these economists argue that it is virtually impossible to distinguish such cases from those that do not. And they worry that once the government assumes a paternalistic role, special interest groups will attempt to use government to further their own views about how individuals should act or what they should consume. The view that government should not interfere with the choices of individuals is sometimes referred to as **libertarianism**.

There are two important caveats to economists' general presumption against government paternalism. The first concerns children. Someone—either the parents or the state—must make paternalistic decisions on behalf of children, and there is an ongoing debate concerning the proper division of responsibility between the two. Some treat children as if they were the property of their parents, arguing that parents alone should have responsibility for taking care of their children. Most argue, however, that the state has certain basic responsibilities, such as, for instance, ensuring that every child gets an education and that parents do not deprive their children of needed medical care or endanger them physically or emotionally.

The second caveat concerns situations in which the government cannot, at least without difficulty, commit itself to refrain from helping individuals who make poor decisions. For instance, individuals who do not save for their retirement become a burden on the government; this provides part of the rationale for Social Security. In other instances, individuals who fail to take appropriate precautions become a burden to society, and a sense of compassion makes it difficult, in the face of a crisis, to simply say, "You should have taken appropriate precautions." Government accordingly responds by *forcing*, or at least *encouraging*, precautionary behavior. Individuals, for example, who neither buy earthquake insurance nor build homes that can withstand the effects of an earthquake become a burden on the government when an earthquake strikes. The government finds itself compelled to act compassionately, even if the victims' dire situation is partly of their own making. Recognizing this, the government may compel individuals to take adequate precautions against

the event of an earthquake by, for instance, enforcing high standards for earthquake-resistant construction and making the purchase of earthquake insurance mandatory.

TWO PERSPECTIVES ON THE ROLE OF GOVERNMENT

We saw in Chapter 1 that there are two aspects of the analysis of public sector activities: the normative approach, which focuses on what the government should do, and the positive approach, which focuses on describing and explaining both what the government actually does and what its consequences are. We can now relate our discussion of market failures, redistribution, and merit goods to these two alternative approaches.

NORMATIVE ANALYSIS

The fundamental theorems of welfare economics are useful because they clearly delineate a role for the government. In the absence of market failures and merit goods, all the government needs to do is worry about the distribution of income (resources). The private enterprise system ensures that resources will be used efficiently.

If there are important market failures—imperfect competition, imperfect information, incomplete markets, externalities, public goods, and unemployment—there is a presumption that the market will not be Pareto efficient. This suggests a role for the government, but there are two important qualifications.

First, it must be shown that there is, at least in principle, some way of intervening in the market to make someone better off without making anyone worse off; that is, of making a *Pareto improvement*. Second, it must be shown that the actual political processes and bureaucratic structures of a democratic society are capable of correcting the market failure and achieving a Pareto improvement.

When information is imperfect and costly, the analysis of whether the market is Pareto efficient must take into account these information costs; information is costly to the government, just as it is to private firms. Markets may be incomplete because of transactions costs; the government, too, would face costs in establishing and running a public

insurance program. These costs must be considered in the decision to set up such a program.

Recent research has established a variety of circumstances under which, although the government has no advantage in information or transactions costs over the private market, the government could, in principle, bring about a Pareto improvement. The fact that there may exist government policies that would be Pareto improvements does not, however, necessarily create a presumption that government intervention is desirable. We also have to consider the consequences of government intervention, in the form it is likely to take, given the nature of our political process. We have to understand how real governments function if we are to assess whether government action is likely to remedy market failures.

In the 1960s, it was common to take a market failure, show that a government program could lead to a Pareto improvement (someone could be made better off without making anyone worse off), and conclude that government intervention was called for. When programs were enacted and failed to achieve what they were supposed to, the blame was placed on petty bureaucrats or political tampering. But, as we shall see in Chapters 8 and 9, even if bureaucrats and politicians behave honorably, the nature of government itself still may help explain government's failures.

Public programs—even those allegedly directed at alleviating some market failure—are instituted in democracies not by ideal governments or benevolent despots, but by complicated political processes.

POSITIVE ANALYSIS

The market failure approach to understanding the role of the government is largely a normative approach. The market failure approach provides a basis for identifying situations in which the government *ought* to do something, tempered by considerations of government failure.

The popularity of the market failure approach has caused many programs to be justified in terms of market failures. However, this may simply be rhetoric. There is often a significant difference between a program's stated objective (to remedy some market failure) and its design. Political rhetoric may focus on the failure of markets to provide insurance against volatile prices and the consequences that this has for small farmers, but government agricultural programs may, in practice, transfer income to large farmers. Insight into the political forces at work and the true objectives of the programs may be gained more easily by looking at how the programs are designed and implemented than by looking at the stated objectives of the legislation.

Some economists believe that economists should focus their attention on positive analysis, on describing the consequences of government programs and the nature of the political processes, rather than on normative analysis, what the government should do. However, discussions by economists (and others) of the role that government *should* play constitute an important part of the political process in modern democracies. Beyond that, an analysis of institutional arrangements by which public decisions get made may lead to designs that enhance the likelihood that the public decisions will reflect a broader set of public interests, not just special interests. These matters will be taken up in further detail in later chapters.

REVIEW AND PRACTICE

SUMMARY

1. Under certain conditions, the competitive market results in a Pareto efficient resource allocation. When the conditions required for this are not satisfied, a rationale for government intervention in the market is provided.
2. Government is required to establish and enforce property rights and enforce contracts. Without this, markets by themselves cannot function.
3. There are six reasons why the market mechanism may not result in a Pareto efficient resource allocation: failure of competition, public goods, externalities, incomplete markets, information failures, and unemployment. These are known as market failures.
4. Even if the market is Pareto efficient, there may be two further grounds for government action. First, the competitive market may give rise to a socially undesirable distribution of income. And second, some believe that individuals, even when well informed, do not make good judgments concerning the goods they consume, thus providing a rationale for regulations restricting the consumption of some goods, and for the public provision of other goods, called merit goods.
5. Even though the presence of market failures implies that there may be scope for government activity, it does not imply that a particular government program aimed at correcting the market failure is necessarily desirable. To evaluate government programs, one must take into account not only their objectives, but also how they are implemented.
6. The normative approach to the role of government asks: How can government address market failures and other perceived inadequacies in the market's resource allocation? The positive approach asks: What is it that the government does, what are its effects, and how does the nature of the political process, including the incentives it provides bureaucrats and politicians, help explain what the government does and how it does it?

KEY CONCEPTS

Adverse selection
Incomplete markets
Libertarianism
Marginal revenue
Market failures