Market Failure

The concept of market failure refers to the numerous ways in which real markets fail to display the characteristics and performances of theoretical or perfect markets and/or to generate social outcomes that are analytically superior to those produced by other means of societal allocation. The modern conception of ideal market exchange and its perceived benefits dates at least to the classic work of Adam Smith in the *The Wealth of Nations* (1776).

Characteristics of a Perfect Market

The concept of a “perfect market” is an abstraction. A perfect market is an exchange system featuring many buyers and sellers; actors who pursue rational self-interest with completely free choice and stable preferences; perfect information held by all the actors; goods that are all private in character in that their consumption can be excluded from consumption by other potential consumers; exchange among the buyers and sellers that is costless; actors who begin their market exchanges with resource endowments that can neither increase nor change in quality or capability over time nor have any special characters or values (but can be used only to fund the exchanges); actors who are solitary and self-contained in that they act as atomistic, disconnected entities with no internal complexity and no external, dependent relationships such as stakeholder ties; no technology effects like those that would cause markets of different sizes to behave differently so that trading in goods at different scales produces different behaviors; no byproduct costs or impacts from the exchange, so the market itself is self-contained, and has no memory or history, among other characteristics.

In contrast, real-world markets can violate any of these conditions. They can have few sellers and/or few buyers; consumers can be inconsistent in their choices and be influenced by other actors and historical patterns; false or incomplete product information can flood the market; buyers can collude with one another; the supply of goods can be joint, not private, in that
once supplied to one consumer they are at the same time consumable by other consumers; there
are many, and many kinds of, transactions costs in the market; actors can possess widely-varying
endowments of resources that can be transformed in quality and value by innovation and
technology, yet for some actors may be too little or of such type or quality as to prevent those
actors from using them to conduct any market exchanges or participate meaningfully in the
market; production in the market produces unintended by-product effects not priced in the
market; technology can cause rational market actors to collude and/or combine so that the market
itself collapses into a single actor; information about all aspects of the market and its actors can
be unevenly distributed and costly to elicit; market actors are often internally complex, as in
firms, and intricately interdependent with stakeholders who affect or are affected by the actor,
i.e., the firm; and so on.

**Pareto Optimality**

Perfect markets are held to be desirable because they can produce the exchange condition
that economists label *Pareto optimality*, after the Italian economist Vilfredo Pareto (1848-1923).
In the exchanges leading to Pareto optimality, market participants have employed their
endowments to make exchanges with other participants in response to their self-interest and their
perfect knowledge of available exchanges. Participants are driven by the benefits of each
exchange to continue to trade until they can no longer – either they have exhausted their
endowment, or, what is equivalent, there is no available trade that will make them better off. In
other words, there is no trade available that will make at least one actor better off while leaving
the other actors indifferent to the exchange. Such a condition is, in essence, the best of all
possible worlds available to market participants at that position in the sense that they cannot
move to any state where they would be better off. Movement toward that condition is also
desirable – any trade that makes at least one actor better off while no other actor is harmed is a
Pareto efficient transaction.

Now, being at a Pareto optimum does not mean that every actor is at their own optimum possible through market trade, i.e., that the result is globally optimal – there can be many possible positions of the market in which no further trades are possible without making at least one actor worse off. In other words, trade could have brought the actors to other, perhaps better positions that would also have been Pareto optimal in that no further exchange would be rational. An abstract, perfectly competitive market can produce a Pareto optimum, but cannot guarantee that each and every actor in that market will be in a globally optimal position when that optimum is reached.

The obvious problem is that, just as perfect markets are an abstraction that the real world can only approximate in rare instances, so would a perfect market that has traded its way to Pareto optimality be more abstract than real. Although one can easily think of situations in real market exchange that would be Pareto efficient, and perhaps see trading systems that trade their way to an end point in which no further trades are volitionally possible, one cannot consider the result Pareto optimal in any global sense. The absence of trading opportunities does not mean that the cessation of trade has gotten us to the best of all possible worlds for all actors, especially given that the market in which trading occurred was not perfect. And trading to a Pareto end means only that in available trades market actors took maximal benefit from the endowment with which they began trading, not that the condition of the world at the end of the trade was in any larger sense optimal.

To the extent to which the normative defense of markets rests on the perfect market’s display of Pareto optimal outcomes, the judgment of market success or failure depends on an essentially procedural criterion. The optimal endpoint has value only in the way it was reached
and in the absence of possibility of actor benefits beyond the end point. Nothing whatsoever is said regarding the relative desirability of actual end states. Nothing matters about which actors are benefited in what ways, but only that no further enhancement of those benefits will be chosen by the market actors. Thus, markets fail in the sense of being unable to function in ways that produce outcomes that in and of themselves may be recognized as invariably more desirable than those produced by other societal means of allocation.

**The Stakeholder Paradox**

Setting aside the notion of whether markets produce desirable outcomes, one can examine whether the essential characteristics of markets by themselves provide support for the value of markets. One such characteristic is *consumer sovereignty*. Under consumer sovereignty, markets are understood to be driven by the choices made by market participants, consumers. No authority dictates market exchange or exchange values, i.e., prices. In essence, markets are decentralized exchange systems that defer to the freely-expressed judgments of market actors. Normative value may be attached to consumer sovereignty to the extent that any principle of freedom of choice has normative content. Thus, no matter their outcomes, markets may be judged desirable simply because they are economic systems that permit free choice.

But market participants are not all individuals. In the modern economic world, many economic actors are, of course, corporate actors. The criterion for the success of such an actor is typically given as the maximization of its value. That is, the firm as corporate “person” is operated in the market so as to provide maximal benefit to its owners by maximizing the value of their holdings in the firm.

A paradox, here called the *stakeholder paradox*, follows: Markets are held desirable because they permit free choice to their participants (consumer sovereignty) and because they permit the unfettered pursuit of shareholder value. But the two principles – consumer
sovereignty, and maximization of shareholder value, in essence, shareholder sovereignty – do not necessarily coincide. The unregulated pursuit of one can be invidious to the realization of the other.

Consider, for example, the case of the diabetes drug Rezulin, which was marketed by Warner-Lambert (later acquired by Pfizer). Rezulin’s side effects led to the deaths of over 60 people who took the drug – all, of course, quite literally, consumers. Warner-Lambert kept the drug on the market well past the time at which the lethal side effects were recognized, and it kept the drug on the market because it was extremely profitable. Warner-Lambert earned over a billion dollars from the drug until it was finally obliged to withdraw it, less its costs from the legal actions of surviving family members. Even after subtracting the costs of the civil actions, the drug provided an enormous profit to Warner-Lambert and, of course, ultimately, value to its shareholders and those of its corporate heir, Pfizer.

Thus, the interests of consumers and of shareholders do not necessarily coincide. In other words, the normative world of markets is not the same as the normative world of firms. Nor would the general argument be in essentials different if one were to substitute other stakeholders, such as employees or the local community, for consumers. The stakeholder paradox prescribes that normative principles that are generated in support of one stakeholder cannot be sustained in preference to those generated in support of any other. One cannot necessarily apply a moral principle derived from and/or applied to market behavior to the behavior of any other stakeholder, and vice versa. Thus the performances of markets, and of their corporate participants, firms, fail to generate support for any overarching normative principle or principles that would support the general desirability of markets.

**Some Forms of Market Failure**
There are a number of ways in which the behavior of empirical markets diverges from that expected in perfect markets. In example, three classes of such failure are identified below: market failures related to the characteristics of goods traded in markets, market failures related to the characters of market participants, and market failures related to market structures and performances.

**Characteristics of Goods**

Pure public or collective goods are goods such that their consumption is joint or “nonrival,” and “nonexcludable.” Thus, once provided to one consumer, they are provided to others, without diminution due to the consumption of others (i.e., their consumption is nonrival). National defense is one example. Furthermore, the good cannot be excluded from consumption by others. An example is air pollution – once provided to one consumer, it is provided to all, and it is not feasible to exclude some from consuming it. Goods vary in their degrees of jointness/nonrivalness and excludability. As the economist Mancur Olson described, public policies act like public goods – once the benefit of the policy is available to one citizen, it is available to all. Markets fail to provide optimal levels of public goods, because potential contributors to the supply of such goods judge that they can be free riders on the contributions of others – they will enjoy the good whether or not they contribute because of its public character. Hence, positively valued public goods will be inappropriately priced, or priced not at all, and be in chronic undersupply. And negatively valued public goods, such as air pollution, will not be part of market exchange.

The demand for public goods, particularly in view of their artificially low apparent market price, can generate congestion effects. Congestion can mimic the effects of rivalry or exclusion, as high demand for the good interferes with consumption of the public good.
Goods also vary in the extent to which consumers can evaluate their characteristics, including their quality. Markets will fail to perform adequately because the normal forces of supply and demand will fail to operate if consumers cannot make choices based on full or correct information regarding the goods they are purchasing. *Search goods* are goods that require consumers to invest in their detection or evaluation in advance of purchase. Absent payment of search costs, consumers will either fail to purchase goods, or purchase goods that may not have the characteristics that the consumers would prefer. Or they may rely on simplifying and economizing heuristics, such as brand, product reputation, or ratings or product referrals. These may not, however, actually direct the consumer to the optimal purchase.

*Experience goods* can only be evaluated after purchase. But post-purchase evaluation increases the chances for consumer error. Because consumers essentially pre-commit to a particular good before being able to make their own judgment of how well it meets their preferences, it becomes more difficult for consumers to acquire more highly preferred goods. If the good does not measure up, consumers are faced with paying the perhaps considerable costs of exchange or replacement of the good. Consumers can attempt to deal with the issue by seeking out reports of the experiences of others, such as product ratings, or purchase warranties as a form of insurance against products that turn out to be of low quality.

*Credence or trust or post-experience* goods are those goods whose qualities are not evident even after consumption. In essence, the consumer must trust in their performance. Prescription drugs that have long-term negative side effects fall into the category of credence goods, as do those prescribed by physicians when the patient is unable to detect either the illness or its resolution. An example is medication against high blood pressure or against high cholesterol. The problems may have been detectable only by the physician; while taking the drugs, the patient feels no different than before. Markets cannot provide the appropriate
evaluations to consumers; consumers must often seek out skilled agents to interpret their need for the goods as well as the performance of the good.

**Characteristics of Market Participants**

Markets can be unable to provide appropriate judgments of the performance of agents in agent-principal relationships; flows of information can be asymmetric. In *adverse selection*, the principal can observe the agent’s behavior, but is unable to judge whether that behavior is optimal in the agency relationship, i.e., whether the agent is serving the principal with the quality expected. The context often offered is that of employment, in which an agent has expertise not shared by the principal who engaged him or her. The principal is consequently unable to judge whether the agent is doing work of highest quality, because s/he cannot evaluate it directly. Kenneth Arrow termed the problem of being unable to judge quality, the problem of *hidden information*. According to Barry Mitnick, the problem of adverse selection actually conflates two kinds of problems. One, *adverse claims*, relates to the difficulty encountered by principals in trying to evaluate the qualities of prospective agents. The second, *adverse performance*, relates to the different problem of evaluating an agent’s performance when s/he is being supervised within an agency relationship, such as an employment relation. The methods and measures used by the principal are different across these cases.

A second general agent-principal problem, termed *moral hazard*, occurs when the principal could judge the optimality of the agent’s behavior, but cannot observe it so as to be able to apply that expertise. The most common examples are taken from insurance contexts. The existence of insurance leads agents to reduce the care with which they treat insured objects. Insurers can tell the difference between careful and careless behavior, but cannot observe the insured to see if his or her actions are consistent with good care. Arrow thus terms the problem of being unable to observe, a problem of *hidden action*. 
In general, market participants may be unable to appropriately evaluate the risks of market actions, or may display any of a number of biases of social cognition in evaluating their market participation and/or the qualities of the goods they seek in the market (see, for example, the work of such scholars as Amos Tversky, Daniel Kahneman, and Baruch Fischhoff). The market by itself cannot compensate for these effects.

**Characteristics of Market Structure or Performance**

Markets often cannot take account of the production of goods or effects that are generated as unintended by-products of the primary task of producers. These goods are termed *externalities*. Often these goods have negative impacts, and so escape market pricing – no one wants to purchase them. The most common example is environmental pollution. Positive externalities can also be produced, and can experience problems with market inclusion because their origin may be unplanned and unstructured. Thus, creation of a public park may have the unintended by-product effect of increasing the value of nearby houses. But the market has no means of capturing that added value, other than in the increased selling price of the houses. In that case, the benefit of the park is transferred to increased income for the sellers of the house.

The municipality cannot recover the benefit bestowed on the homeowners from the placement of the park (except, perhaps indirectly, via house transfer taxes tied to selling price, and increased property taxes).

A second structural problem for markets stems from the transaction, information, and bargaining costs attending market interactions. Market participants may make suboptimal choices because of the costs of extracting information from the market; it may not be rational for such participants to pay the cost of getting complete information because the costs of extracting information and assuring its quality exceed the benefits of doing that.
A third problem for markets that comes from structural or performance characteristics arises when buyers or sellers combine so that markets collapse into monopsony (one buyer) or monopoly (one seller). Such market structure problems can, of course, be the result of deliberate manipulation unrelated to underlying market defects, as when entrepreneurs create cartels to control pricing and reap monopoly profits. A condition of natural monopoly occurs when average cost declines with increasing demand for the product or service. In essence, producers can economize by combining their production, reducing the average cost of producing a unit of the product or service. The rationale for public utility regulation rests on fears that unregulated utility markets will collapse to natural monopolies as producers see the advantages of building only a single distribution network, rather than several, parallel, competing ones. It is the technical characteristic of the product or service that structures cost so that only one system makes economic sense. As a result, the market cannot be sustained, and, indeed, rational market exchanges will result in collapsing the market to a monopoly. The resulting single producer can then extract monopoly profits from consumers with no alternative market choices.

A fourth market problem is reflected in business cycles, as the economy cycles between boom and recession. Markets cannot manage such cycling on their own. Such cycles require the intervention of central banks and other economic policy actions to shape the cycling in ways that produce healthy, sustained market competition.

**General Issues in Market Failure**

In general, markets have no mechanisms for incorporating public or community interests; they are good in attending to the wants of consumers, but poor in balancing interests across society. Markets ignore disparities in original endowments; they have no means of redistributing society’s wealth in order to aid the least advantaged. Markets have no mechanisms for resolving disputes or conflicts of interest other than the raw application of economic power. Indeed, one
prerequisite to a successful market system is a government that can establish, operate, and defend a legal system that protects private property and establishes limited liability for corporate investors. Finally, markets cannot protect employees lacking market power from exploitation. After all, one rationale for government regulation is to create a governmental protector or agent to serve interests who have no ability to protect themselves.

Thus, although markets are the centerpiece of Western economic systems, and are commonly valued for their mimicking of the democratic values of free choice, both their normative principles and their behavioral characteristics can fail to provide the satisfactory rationales as well as performances that are essential in a modern, complex society.

Barry M. Mitnick

See also Adverse Selection; Arrow, Kenneth; Asymmetric Information; Cartels; Collective Choice; Externalities; Free Market; Hazard, Moral; Information Costs; Market Bubbles; Monopolies, Duopolies, and Oligopolies; Monopsony; Pareto Efficiency; Pareto, Vilfredo; Pollution Externalities, Socially Efficient Regulation of; Public Goods; Public Utilities and Their Regulation.

Further Readings and References


