Chapter 2

A theory of the market process

Most economic theory today is almost exclusively concerned with equilibrium states. Research efforts are largely devoted to proving the existence of equilibrium for specific models, proving its stability, and comparing the equilibria for different sets of *data* (comparative statics). As the theory becomes more sophisticated, so do the models and their equilibria. Thus there are not only static equilibria but also a variety of 'dynamic' and 'stochastic' equilibria, among others.

However dissimilar different areas of economics are in other respects, they almost all rely heavily on the notion of equilibrium. And to practically all these areas can be applied Franklin Fisher's remark about microeconomic theory. According to Fisher, in microeconomics

> very little is said about the dynamics of the process that leads an equilibrium to be established in the first place or by which the system adjusts to a new equilibrium when the old one is displaced by a parameter shift. Attention is centered on the equilibria themselves…, and points of non-equilibrium are discussed by showing that the system cannot remain at such points.
>
> (Fisher 1983:3)

This is true of most theory, whether it is concerned with static equilibrium, equilibrium 'paths,' 'sequential' equilibria, or any other equilibrium state.

THE DEFINING CHARACTERISTIC OF EQUILIBRIUM

In spite of the centrality of equilibrium to economic theory, most economists have been using what Hahn (1984a:8) describes as a 'sloppy equilibrium concept'.[1] Although equilibrium has frequently been associated with situations of market-clearing,[2] the essential property of equilibrium, as Hayek (1937) pointed out, is the perfect co-ordination of individual plans. The confusion may have arisen because this wider definition will often include situations of market-clearing. However, it is the perfect co-ordination of plans that allows the theorist to imagine that in such a state no further change will occur, thus allowing him to speak of equilibrium.

Frank Hahn (1984a:44), who describes himself as a neoclassical economist, has, in a Hayekian vein, described equilibria as 'those states in which the intended actions of rational economic agents are mutually consistent and can therefore be implemented'.[3] The stochastic equilibrium notion he has in mind would be consistent with 'short enough and rare enough episodes of uncleared markets,' although it 'implies almost the missing traditional complement that markets are cleared' (Hahn 1984a:60). Stiglitz (1987: 28) has also recently pointed out some limitations in the traditional notion of equilibrium. According to him,

> Traditional theory has taken the equality of supply and demand to be part of the definition of equilibrium. This, I think, is wrong.[4]

And, he adds,

> the equality of demand and supply should not be taken as a definition of equilibrium, but rather as a consequence following from more primitive behavioral postulates.

For Stiglitz, equilibrium is better defined as 'a state where no economic agents have an incentive to change their behavior'. Such a state can occur only when there remain no unexploited profit opportunities. As long as any opportunity continues to exist there is the possibility that the agents will discover it and disturb the existing situation (which therefore is not properly described as in equilibrium). In other words, equilibrium occurs only once agents have discovered all the available opportunities and once they know they have done so. (As will be indicated below, this situation is compatible with the

existence of optimal ignorance.) The perfect co-ordination of individual plans mentioned by Hayek is made theoretically possible by assuming that individuals have acquired the necessary knowledge to achieve it.

The essential point, then, is that the defining characteristic of equilibrium is not the equality of quantities supplied and demanded but, instead, the knowledge (and exploitation) by the trading agents of all profitable opportunities, that is, 'perfect' knowledge. As Hayek (1937:42) put it, the assumption of 'correct foresight' is not a precondition for the achievement of equilibrium but, instead, its *defining characteristic*.

WHY IS DISEQUILIBRIUM IMPORTANT?

This informational characteristic of equilibrium serves to explain why equilibrium does not provide an adequate framework for studying how an economic system solves the knowledge problem involved in discovering profit opportunities: in equilibrium the problem is already solved. To the extent that many observed market phenomena arise as a consequence of this knowledge problem, an economics interested exclusively in equilibrium would never be able to explain them satisfactorily.[5] Specifically, for the purposes of this study, such an economics is unable to say much about any informational role that prices may perform in disequilibrium. An economic theory of disequilibrium is necessary for this task.

Many economists appear to be reticent about studying disequilibrium situations, both because they believe that most economic phenomena of interest will, sooner or later, be accommodated within an equilibrium framework, and because they fear that a concern with disequilibrium is synonymous with the abandonment of rigorous economic theorizing. However, some have started to take a different attitude and to point out that much is missed by neglecting the study of disequilibrium. Because their remarks to this effect do not seem to have received much attention, they will be quoted here at some length. One example is provided by Frank Hahn's (1984:4) comments regarding the 'danger' of considering 'nothing but equilibrium' and the 'foolishness' of claiming 'that all theory should be equilibrium theory':

> What is plain is that by narrowing our viewpoint in this manner we shall remove a great deal of interest and importance from scrutiny.

> For instance, imposing the axiom that the economy is at every instant in competitive equilibrium simply removes the actual operation of the invisible hand from the analysis. By postulating that all perceived Pareto-improving moves are instantly carried out all problems of co-ordination between agents are ruled out. Economic theory thus narrowly constructed makes many important discussions impossible.

Similarly, Fisher (1983:7) thinks 'disequilibrium questions cannot be avoided' and that

> If disequilibrium effects are in fact unimportant we need to prove that they are. If such effects are important, then the way in which we tend to think about the theory of value needs to be revised. Interest must then center not on equilibrium itself but on disequilibrium adjustment. Different economies cannot then be studied as though their future were determined solely by tastes, technology, and initial endowments with adjustment but a transient matter.

He concludes that

> The issues involved in disequilibrium analysis are too important to economics to be avoided. They must be faced head on rather than assumed away in the course of a desire to do what economists do best—analyze equilibrium without regard for the foundations on which such analysis must rest.[6]
>
> (ibid.: 217–18)

TOWARDS A DISEQUILIBRIUM THEORY OF MARKETS

Of course, the step from emphasizing the importance of disequilibrium to providing a disequilibrium theory is a large one and may require some important changes in the theoretical apparatus of economics. Attempts to model disequilibrium have found that some characteristic elements of equilibrium theory are inadequate for the task. This is particularly so with respect to the behaviour of economic agents. For example, Fisher says that

> it is a mistake to ground disequilibrium theory in the equilibrium

> behavior of agents. Rather, the theory of the household and the firm must be reformulated and extended where necessary to allow agents to perceive that the economy is not in equilibrium and to act on that perception. Without this, we cannot hope to provide a theory of what happens when arbitrage opportunities appear, for the essence of the appearance of such opportunities is that agents see and act on them.

He points out that

> Agents in the standard theory react to given prices and take no account either of the fact that prices may change or of the possibility that they may not be able to complete their own transactions. So long as the plans which agents make are compatible, this presents no difficulty; in equilibrium the equilibrium assumptions of agents are fulfilled. If we are to deal with disequilibrium, however, this will not be the case, and we must start at the level of individual agents.
>
> (1983:11)

Related considerations lead Hey (1981:201) to state that 'if one wants to model genuine disequilibrium, then the optimising model of individual choice must be abandoned'.

Israel M.Kirzner (1973) has described the main problem with the economic agent of equilibrium theory, whom he terms the Robbinsian (for Lionel Robbins) maximizer. The neoclassical agent maximizes either utility or profits (or some other magnitude in less frequent versions). The facts the agent uses for such a calculation (technologies, resource availabilities, prices, probabilities of occurrences of events, and so on) are presumed to be somehow given to him and, most frequently, also to be correct. How these facts were perceived, or what the agent would do if they were to turn out to be wrong, is beyond the scope of the maximizer. For example, the plans of a set of such agents, based on incorrect facts, would produce surpluses and shortages that, strictly speaking, could persist indefinitely: there is no indication of how, if at all, these agents' perceptions would be modified under such circumstances. As T.W.Schultz (1975:829) puts it, 'determining precisely what people do who are not in equilibrium is not one of the notable achievements of economics'.

Kirzner describes this characteristic by saying that the standard maximizer operates within a *given* means-ends framework. When there is disequilibrium 'the Robbinsian framework suggests that the

unsuccessful plans will be discarded or revised, but we are unable to say much more than this'. The problem is that 'Robbinsian theory only applies after a person is confronted with opportunities; for it does not explain how that person learns about opportunities in the first place' (Kirzner 1983:6–7). It does not say anything about how agents *discover* unexploited opportunities.

These remarks are not made unaware of the fact that newer versions of this Robbinsian agent are sometimes assumed to possess 'learning functions' allowing them to modify their behaviour. But the methods most frequently used to model this 'learning' still require that the agents already have a great amount of given knowledge. Although an analysis of the limitations of this approach is not possible here, it has been said that to use it

> there must be some aspects of the world that the decision-maker takes as given…. The question then arises: how does the decision-maker know that what he takes as given is, in fact, true? Indeed, once we have entertained the idea that the 'given' may possibly turn out not to be true, then an even more worrying question arises: what happens if some evidence is generated which suggests that the 'given' is, in fact, not true? … In other words, what happens if the decision-maker is *surprised*? It seems to us that the Bayesian approach rules out the possibility of surprise…This seems a rather alarming deficiency.
>
> (Hey 1981:99; emphasis in original)

In fact, some authors are sceptical about the possibility of ever modelling 'learning' formally for a reasonably realistic world. Gordon and Hynes (1970:377) state that

> a formal decision process for this learning is not possible in a world where the underlying stochastic process is not stable. It is true that the response sellers make to new *data* can, ex post, be described as the rational response to subjective prior distributions. However, since there is not sufficient information to accumulate relative frequencies, these subjective estimates will depend, in part at least, on 'judgment', will differ among rational persons confronted with the same measurable *data,* and will also alter from period to period in an unpredictable manner on the basis of information external to the individual's own sampling experience.[7]

However insuperable these difficulties in the way of a

disequilibrium theory of markets may seem, there are economists who have been working in this direction. Although most of their work has, for a variety of reasons, not been formalized mathematically, it constitutes a body of theory that is useful for the examination of the informational role of prices in the following chapters. The remainder of this chapter is therefore devoted to the description of the main aspects of this disequilibrium approach.

THE AUSTRIAN VIEW OF THE MARKET PROCESS

This disequilibrium view of markets is sometimes termed a 'market-process' approach and is associated with the writings of Ludwig von Mises, Friedrich A.Hayek, and Israel M.Kirzner, among others. These authors are often grouped as belonging to the modern Austrian school of economics.

Although Kirzner (1973, 1983, 1985a) has most explicitly and consistently articulated the Austrian view of markets, he has repeatedly stated that much of his work is a development of arguments that were more or less explicit in the writings of Mises and Hayek. This section will draw mostly from the writings of these two latter authors for a description of the market-process approach because, although on some of the topics there are differences— of greater or lesser significance—among contemporary Austrian economists, all acknowledge their intellectual debt to Mises and Hayek.

The knowledge problem

Mises's 1920 critique of the socialist economy already displayed a concern with problems of information that did not appear so prominently in other economists' work. His whole argument against the central planning of an economy was based on the lack of information that would make the planner's attempt to improve on, or even mimic, the results of capitalism impossible. As Mises (1949:692) put it some years later, if one were to attribute omniscience to the planner,

> then one could not help concluding that the infallible state was in a position to succeed in the conduct of production activities better than erring individuals. It would avoid all those errors that often

> frustrate the actions of entrepreneurs and capitalists. There would no longer be malinvestment or squandering of scarce factors of production; wealth would multiply. The 'anarchy' of production appears wasteful when contrasted with the planning of the omniscient state.

But, Mises affirmed, to assume such an omniscience and infallibility on the part of the planner 'would be nothing short of idiocy' (1949:696). What had to be emphasized was 'that the market is peopled by men who are not omniscient and have only a more or less defective knowledge of prevailing conditions' (ibid.: 379). However, this was not the direction in which economics developed, as the assumption of perfect knowledge became an increasingly common ingredient of economic theorizing. This development was noted with growing dissatisfaction by Hayek, who dealt with these specific issues even more explicitly than Mises.

Hayek (1945:91) considered 'the unavoidable imperfection of man's knowledge and the consequent need for a process by which knowledge is constantly communicated and acquired…an essential part of the phenomena with which we have to deal'. For him

> to assume all the knowledge to be given to a single mind in the same manner in which we assume it to be given to us as the explaining economists is to assume the problem away and to disregard everything that is important and significant in the real world.
>
> (ibid.)

Like Mises, he stated that 'if anyone really knew all about what economic theory calls the *data,* competition would indeed be a very wasteful method of securing adjustment to these facts' (1968:179).

In other words, economists in the Austrian tradition emphasize that a crucial aspect of the economic problem is one of knowledge.[8] The problem of what can be demanded and produced, of what resources and technologies are available, and so on, is one that must be solved before any optimizing procedure can be carried out. Hayek (1945:77–8) pointed out that

> The economic problem of society is…not merely a problem of how to allocate 'given' resources—if 'given' is taken to mean given to a single mind which deliberately solves the problem set by these *'data.'* It is rather a problem of how to secure the best use of

> resources known to any of the members of society, for ends whose relative importance only these individuals know. Or, to put it briefly, it is a problem of the utilization of knowledge which is not given to anyone in its totality.

Furthermore, the problem is not only the use of existing dispersed information but also the discovery of knowledge which no individual in the economy yet has (Bartley 1985:31).

Prices and information

It is mainly Hayek who is nowadays, justly, credited with pointing out most explicitly the service that prices perform with respect to this knowledge problem. Until he wrote his classic 1945 article, 'The use of knowledge in society', most economists explained prices almost exclusively as useful incentives for adjusting individual plans to scarcity. According to Hayek, however, market prices also perform an informational role. The point can be conveyed by describing his often cited tin example. Assuming that one source of supply has disappeared, the resulting rise in the price of tin leads its consumers to economize on it and other suppliers to increase their output. The price is not only an incentive for this economizing to occur: the adjustment also happens without most of the people who are carrying out the necessary adjustments 'knowing anything at all about the original cause of these changes' (Hayek 1945:86). The real function of prices, Hayek said, is to communicate information.

Competition as a discovery procedure

Although, as shown in later chapters, Hayek's point has generally been interpreted in terms of an efficient use of existing dispersed information, and although this may have been his central concern in his 1945 article, in later years he came to see the problem also as one of discovering previously unknown information. According to Hayek, what has to be discovered is, among other things, 'which goods are scarce goods, or which things are goods' (1968:181), the prices, quantities or qualities of the goods to be produced and sold, the lowest cost at which the commodity can be produced, and even 'the most effective size of the individual firm' (1979:78). Contrasting with the

impression sometimes given that the only fact to discover is the appropriate configuration of prices and quantities, for Hayek (1946:101) the solution of the economic problem had become 'a voyage of exploration into the unknown, an attempt to discover new ways of doing things better than they have been done before'. He had come to view prices as carrying out two informational tasks: he described the price system as

> a sort of discovery procedure which both makes the utilization of more facts possible than any other known system, and which provides the incentive for constant discovery of new facts which improve adaptation to the ever-changing circumstances of the world in which we live.
>
> (1968:236)

It is clear that, for him, the problem to be solved by an economic system

> is not merely a task of utilizing information about particular concrete facts which the individuals already possess, but one of using their abilities of discovering such facts as will be relevant to their purposes in the particular situation.
>
> (1979:190, n.)

If competition, for market-process economists, is a 'discovery procedure',[9] at least two questions can be asked: (1) How and why does this discovery take place in a market economy? (2) What is the role of prices in this procedure? These questions are tackled in the following sections.

Entrepreneurship and profits

The entrepreneur

As long as useful information regarding economic opportunities remains undiscovered, better courses of action will be left unpursued by individuals in an economy. This is the same as saying that as long as there is ignorance in the economy[10] there will be profit opportunities: there will be trades available at more convenient terms, there will be arbitrage opportunities, there will be different goods to

produce, better technologies to use, more efficient organizational forms to adopt, and so on. The individuals who, spurred by the profit opportunities, discover and adopt the better courses of action the modern Austrians term the entrepreneurs.[11]

The term 'entrepreneur' refers to those individuals who are, to use Kirzner's terminology, 'alert' to the existence of previously unknown profit opportunities. ('Entrepreneurs' are, of course, an abstraction of economic theory, such as 'resource owners' and 'consumers'. Strictly speaking, all individuals are entrepreneurial to some extent.) Entrepreneurship is, according to Mises, understanding 'there is a discrepancy between what is done and what could be done' (1949:336), being 'shrewd', quick of apprehension and far-sighted (328). To say that they possess this ability is not to say that these agents have perfect knowledge: their advantage is only a relative one. They

> earn profit not because they are clever in performing their tasks, but because they are more clever or less clumsy than other people are. They are not infallible and often blunder.
>
> (1974:114)

The Austrian entrepreneur may be said to include the Robbinsian maximizer, but the former agent also has the ability to perceive the ends-means framework, and to revise it when his plans are disappointed. In this view, this perceptive ability constitutes the entrepreneurial component of the agent's action. Given he has (correctly or incorrectly) perceived the facts of the market, this agent also optimizes.[12] But the act of perception is crucial; the remainder is merely a problem of mechanical computation (in the sense that, in principle, a computer could solve it).

It should be noticed that the Robbinsian approach does not make the entrepreneurial task unnecessary. Instead, it presupposes implicitly that it has been done elsewhere, and that it has been done perfectly, allowing the agent to optimize with respect to correct information.

Finally, it is worth pointing out that the entrepreneur may be difficult to incorporate into standard economic theory as it is currently conceived because, whereas Robbinsian maximizing lends itself to being formalized mathematically, entrepreneurial behaviour seems much less deterministic and is much less understood. In fact, it may never be amenable to such a representation, except under very restrictive simplifications.[13] These difficulties may help explain the relative neglect of entrepreneurship by standard theory.

Profits as incentives

The role of the price system in the entrepreneurial discovery procedure is the provision of profit opportunities that spur the discovery of better alternatives. As long as some ignorance persists in the market, there is a constellation of disequilibrium prices. By definition, disequilibrium prices provide pecuniary profit opportunities. And these opportunities attract the attention of alert entrepreneurs.

Of course, as human action in reality cannot be instantaneous, the prices here referred to are not current prices but, rather, expected prices (even if they only refer to the following minute).[14] It is thus, for example, that profit opportunities can appear for goods that have not been traded, or even produced, previously at all. But the important point is that it is prices that translate the situations of ignorance in the market into profit opportunities and thus provide the incentive for their elimination.

Economic theory has generally interpreted profits as incentives to action in a market economy. But, with their perception of the knowledge problem, market-process economists make a distinction between two types of incentives, a distinction that sometimes turns out to be important.

Incentives, in the standard sense, are rewards that encourage the agents' adoption of certain courses of action already perceived and known by them. Profits, from such a point of view, make it worth while for the agent to engage in these actions. These actions, however, were known to him before, but were not worth the costs involved without the reward. This type of incentive is undoubtedly important, but it is not the only one. Profit incentives, in the sense emphasized by market-process economists, are rewards that encourage the discovery of 'opportunities that have until now been perceived by no one at all' (Kirzner 1985a:29; emphasis removed).[15] If this second type of incentive were to be absent, the problem, as Lavoie has put it, would not be

> that people will be insufficiently motivated to do the right things but, more fundamentally, that they will not know what the right things to do *are,* even if they passionately wanted to do them.
>
> (1985b:21; emphasis in original).

The differences between these types of incentives turn out to be

important in discussions concerning the relative merits of different economic systems.

This distinction also exemplifies the possibilities of confusion caused by the fact that the market-process approach often attaches to terms and concepts meanings which are slightly different from those of standard economics. To reduce the risk of such confusion happening here, some ambiguous notions will be clarified in the remaining sections of this chapter. In particular, what role market-process economists attribute to the notion of equilibrium in economic theory and some differences in their approach to ignorance will be considered. Also, brief mention will be made of some of their reservations regarding the normative standards often used in economics.

The role of equilibrium

The perfect (or sometimes only optimal) knowledge feature of equilibrium is the reason why market-process economists do not consider equilibrium an adequate framework for studying how an economic system solves the knowledge problem. Their complaint is that equilibrium theory assumes

> that the *data* for the different individuals are fully adjusted to each other, while the problem which requires explanation is the nature of the process by which the *data* are thus adjusted.
>
> (Hayek 1946:94)

All this was also clear to Mises several years earlier when he stated, with slightly older terminology, that

> under stationary conditions there no longer exists a problem for economic calculation to solve. The essential function of economic calculation has by hypothesis already been performed.
>
> (Mises 1936:120)

In such a situation there is no room, or need, for entrepreneurial behaviour (Mises 1949:702). Others have remarked that the entrepreneur has 'virtually disappeared from the theoretical literature' (Baumol 1968:64), and that the 'received theory of competition gives the impression that there is no need for entrepreneurship' (Leibenstein 1968:72). The almost exclusive concentration of most economics on

equilibrium states may provide a good explanation for this neglect. It certainly helps to explain why the market-process view of competition differs from the standard one. For Hayek 'what the theory of perfect competition discusses has little claim to be called "competition" at all' because it 'throughout assumes that state of affairs already to exist which, according to the truer view of the older theory, the process of competition tends to bring about (or to approximate)' ((1946:92).[16] This confusion is due to

> the absurdity of the usual procedure of starting the analysis with a situation in which all the facts are supposed to be known. This is a state of affairs which economic theory curiously calls 'perfect competition.' It leaves no room whatever for the activity called competition, which is presumed to have already done its task.
>
> (Hayek 1968:182)

It is because of these differences that Austrian economists claim to view the market as a process and that they attribute to equilibrium economists the view of the market as a state. For the Austrians real-world market activity is a disequilibrium process in which the facts are not fully known, and in which, therefore, profit opportunities abound. Entrepreneurs are constantly engaged in discovering these opportunities and correcting their mistakes, without equilibrium ever being achieved. This, of course, raises the question of what role, if any, is attributed to the notion of equilibrium in a market-process approach.

The traditional market-process approach does not deny the usefulness of equilibrium for economic theorizing, although there have been some recent moves in this direction. However, equilibrium is only an 'auxiliary tool', an 'imaginary construction' that is 'an indispensable tool of economic reasoning' but that 'has…no counterpart in reality' (Mises 1949:701–2). Mises was aware that this construction 'cannot even be thought through consistently to its ultimate logical consequences' but did not feel this detracts from its usefulness. He argued that the equilibrium state is useful as a 'negative description' of the market process: it is a state that would suspend the motion of the market process, a state in which there would no longer be the restlessness and activity perceived as characteristic of the market (ibid.: 355).

Although it may seem paradoxical, something is learnt about the market process by imagining a state in which it would have no function. But, for Mises, this negative description is 'merely

auxiliary': the fundamental part of economics is the 'positive description', which shows how the price discrepancies that characterize disequilibrium provide profit opportunities for entrepreneurs who, in the process of successfully exploiting them, improve the co-ordination of the economy, without, in reality at least, ever reaching equilibrium. From such a perspective, the concentration on the study of equilibrium states distracts attention from the crucial problem. Hence Mises's provocative statements that 'the mathematical description of various states of equilibrium is mere play. The problem is the analysis of the market process' (Mises 1949:356), and that the 'problems of process analysis' are 'the only economic problems that matter' (ibid.). In this view, the equilibrium approach has led not only to a neglect but, even worse, also to a misunderstanding of crucial aspects of the market.[17]

For thinkers such as Mises and Hayek an equilibrium state is not only a useful, though unrealistic, imaginary construction. For them it is also a description of a state towards which real markets 'tend'. This has become an increasingly controversial idea among market-process economists,[18] and will be only briefly described here. For Mises, it is the activity of entrepreneurs, bent on discovering and exploiting profit opportunities, that produces a 'tendency' towards equilibrium (which is why, although markets are viewed as always in disequilibrium, they are at the same time not viewed as chaotic). This tendency would be fully realized were it not that the facts are constantly changing in reality (Mises 1949: 337–8).[19] Markets do not achieve a state of co-ordination; instead, market competition is a co-ordinat*ing* process. It is this entrepreneurial process that is deemed worthy of attention, and not a state in which people are already assumed to know all that is worth knowing.

Ignorance and the economics of information

Starting perhaps with George Stigler's 1961 article, the problems of information in an economy have attracted much attention. Since that essay, the field known as the economics of information has grown very rapidly. As Machlup (1984:13) put it with characteristic thoroughness, this new specialization studies

> the complexities that may arise from the fact that information, new or old, may be inordinately uncertain, incomplete, partial, biased,

misleading, costly, available to some but not to others, or giving rise to expectations, warranted or unwarranted, of various future developments.

Most, if not all, work in this field, however, continues to be done primarily within an equilibrium framework. Knowledge is treated as a costly commodity that, like all other commodities, must be economized on. Therefore, the resulting equilibria entail not perfect but only optimal knowledge: agents will have deliberately uneradicated ignorance. Such ignorance remains uneradicated because the benefits of additional information do not compensate for the costs of acquiring it. However, this approach has some problems, or at least limitations, in that to make such decisions correctly—as must be the case in equilibrium—agents must know beforehand, among other things, what they are ignorant of and the costs and benefits of the knowledge they could acquire; that is, *they must know what it is they do not know*. This is obviously still a strong assumption—at best only slightly weaker than the assumption of perfect knowledge. The attempt to treat this required initial knowledge also as deliberately acquired knowledge leads to an infinitely regressing argument. This infinite regress means that the origin of some initial knowledge is always left unexplained by the theory.[20]

The market-process approach, in Kirzner's work, distinguishes this optimal ignorance from what can be termed 'sheer' ignorance.[21] For the economics of information, ignorance seems to signify almost exclusively the result of a deliberate decision by an optimizing individual, after weighing the costs and benefits of an additional 'unit', not to acquire further information. In contrast, when market-process economists refer to ignorance and error and to the need for a discovery process, they have in mind pure error. In this case agents have failed to fully perceive the alternatives available to them not because they have correctly judged the effort unprofitable, but because they either have not noticed the alternatives or have not noticed the profitability of searching for them.[22] This ignorance is due to the individual's lack of alertness and not to his optimal response to costly information. Of course, this emphasis on sheer ignorance does not imply the non-existence or lack of importance of optimal ignorance. The point is only that sheer ignorance should not be ignored or assumed away in economic analysis. Recognition of its existence is important for a proper understanding of market processes.

Some writers, notably Hayek and Lavoie, have emphasized a different difficulty regarding knowledge. Their concern is that much useful knowledge is inarticulate or inarticulable (or 'tacit'), an idea influenced by the work of Michael Polanyi.[23] In their argument, the market is a process for discovering and conveying such knowledge.[24] Although this approach seems perfectly compatible with Kirzner's, a comparison of both approaches will not be attempted here.

Not all economists have noticed the limitations of the economics of information for an understanding of market processes. Because of their interpretation of ignorance exclusively in terms of costly information, some still believe that

> although the problem of decentralized co-ordination of economic activity in an environment of transaction and information costs is complicated, there is certainly no reason why maximization techniques cannot and should not be used…. We just must assume a richer informational background under which individual maximizing decisions take place.
>
> (Klein 1975:1307–8)

A disequilibrium view of normative economics

Another implication of the market-process approach is that the usual welfare standards—such as Pareto optimality—that operate (implicitly) from the point of view of an omniscient observer (or planner) become irrelevant for evaluating actual markets once the latter are viewed as always in disequilibrium. From such a point of view, to use Fisher's words,

> welfare comparisons of equilibria would be largely irrelevant since what would matter would be the comparison of the relatively 'transient' behavior of alternative systems including alternative forms of market organization.[25]
>
> (Fisher 1983:9)

Fisher's position, it should be noted, is not exactly the same as that of market-process economists. For the latter, markets never achieve full equilibrium, so that the market process is certainly not seen as 'relatively transient behavior'.

Although the above citation puts the problem in terms of equilibrium and disequilibrium, which is, of course, perfectly acceptable, it is important to understand that what this really means is that to judge reality from an omniscient perspective becomes irrelevant once it is seen that there is no human being in possession of such omniscience. Hayek has expressed the complaint clearly:

> To use as a standard by which we measure the actual achievement of competition the hypothetical arrangements made by an omniscient dictator comes naturally to the economist whose analysis must proceed on the fictitious assumption that he knows all the facts which determine the order of the market. But it does not provide us with a valid test which can meaningfully be applied to the achievements of practical policy. The test should not be the degree of approach towards an unachievable result, but should be whether the results of a given policy exceed or fall short of the results of other available procedures.
>
> That standard for judging the performance of competition, in other words, must not be the arrangements which would be made by somebody who had complete knowledge of all the facts.
>
> (Hayek 1979:67)

This market-process position must be carefully distinguished from the important criticisms of standard welfare analysis offered by Harold Demsetz. In a 1969 article Demsetz criticized 'much public policy economics' for implicitly presenting 'the relevant choice as between an ideal norm and an existing "imperfect" institutional arrangement'. According to him,

> This nirvana approach differs considerably from a comparative institution approach in which the relevant choice is between alternative real institutional arrangements. In practice, those who adopt the nirvana viewpoint seek to discover discrepancies between the ideal and the real and if discrepancies are found, they deduce that the real is inefficient. Users of the comparative institution approach attempt to assess which alternative real institutional arrangement seems best able to cope with the economic problem; practitioners of this approach may use an ideal norm to provide standards from which divergences are assessed for

> all practical alternatives of interest and select as efficient that alternative which seems most likely to minimize the divergence.
> (Demsetz 1969:1)

Demsetz identifies several logical fallacies frequently committed in standard welfare analysis, two of which are of interest here:

1. The habit of 'invoking an unexamined alternative' as soon as a discrepancy between the ideal and the real is detected. This, which he terms 'the grass is always greener fallacy' (ibid.), usually takes the form of calling for government intervention as soon as any 'market failure' is found. The fallacy consists in ignoring that showing that actual markets are not as efficient as ideal ones is not by itself proof that regulating or eliminating such markets, or even eliminating the whole market system, will lead to greater efficiency.[26]

2. The analyst often judges some market outcomes non-optimal because certain costs are neglected by him. This, which Demsetz calls 'the fallacy of the free lunch' (Demsetz 1969:4), frequently appears with respect to the problems supposedly caused by the 'absence of complete markets' (neglecting that the cost of establishing certain markets may exceed the benefits), and by incomplete information and incomplete risk-shifting (neglecting their costliness). Equating this type of incompleteness to non-optimality is, according to Demsetz, equivalent to denying 'scarcity is relevant to optimality', obviously a difficult position for an economist to hold.

With respect to this second fallacy, Demsetz's conclusion at the time was that

> modern analysis has yet to describe efficiency in a world where indivisibilities are present and knowledge is costly to produce. To say that private enterprise is inefficient because indivisibilities and imperfect knowledge are part of life, or because people are susceptible to the human weaknesses subsumed in the term moral hazards, or because marketing commodity-options is not costless, or because persons are risk-averse, is to say little more than that the competitive equilibrium would be different if these were not the facts of life. But, if they are the facts of life, if, that is, they cannot be erased from life at zero cost, then truly efficient institutions will yield different long-run equilibrium conditions than those now used to describe the ideal norm.
> (ibid.: 19)

Demsetz's is, undoubtedly, an important contribution. However, it

should be noticed that it is a contribution that does not require the abandonment of an equilibrium approach to economics. What he can be read as saying is that equilibria must be constructed without omitting relevant costs, and that they must not be compared to non-existent ideal alternatives. Significant as it is, nothing in this position suggests any need for the study of disequilibrium market processes, nor are its insights derived from adopting such a perspective.

The adoption of a market-process perspective, it can be argued, yields an additional insight, one that will only be dealt with briefly in this book. To view the world in disequilibrium terms, as this perspective does, leads to an acceptance of the possible existence of many of the problems and inefficiencies pointed out by critics of the market, but also suggests the as yet undeveloped possibility of a normative standard that is not the Pareto-optimal state and that does not focus so exclusively on allocational outcomes of the market process. This standard would try to establish which institutional arrangements are more likely to stimulate the discovery of, among other things, these problems and inefficiencies and of possible solutions to them.

How does this differ from Demsetz's position? Briefly, in the entrepreneurial or market-process view, the market system can be said to be, at any time, chock-full of regrettable inefficiencies and mistakes (many of which will be in the process of being entrepreneurially discovered and corrected), inefficiencies and mistakes that cannot be explained away by resorting to neglected costs but that are due only to ignorance.[27] The Demsetzian perspective, by contrast, risks degenerating into a Panglossian view that states that whatever is is best (i.e. is perfectly efficient once all the relevant costs are taken into consideration). The entrepreneurial perspective can view the market process as imperfect, as seen through the eyes of some hypothetical omniscient being. But, from such a perspective, it is not reasonable simply to assume the existence of a non-market entity in possession of all the knowledge necessary for solving these imperfections, and thus to conclude that the market is inefficient. The analysis should, more appropriately, consider which social arrangement has means for the discovery of such knowledge. Viewed in the light of such a standard, the market, as a preliminary conclusion, has at least one major advantage over other systems: through its translation of countless inefficiencies and mistakes into pecuniary profit opportunities, it alone seems to have the capacity to mobilize and awaken the entrepreneurial alertness of

market participants. It thus promotes the discovery of these inefficiencies and of their solutions.[28]

Although market-process economists may be accused of not having fully developed an alternative normative standard, they certainly do not attribute to free markets the achievement of anything like Pareto optimality, as has sometimes been suggested. Mises (1949:705), for example, states that

> We do not assert that the capitalist mode of economic calculation guarantees the absolutely best solution of the allocation of factors of production…. What the operation of a market not sabotaged by the interference of compulsion and coercion can bring about is merely the best solution accessible to the human mind under the given state of technological knowledge and the intellectual abilities of the age's shrewdest men. As soon as any man discovers a discrepancy between the real state of production and a realizable better state, the profit motive pushes him toward the utmost effort to realize his plans. The sale of his products will show whether he was right or wrong in his anticipations.

And, again,

> There are [in the market economy] disadvantages caused by inadequate foresight. It would be a universal boon if every man and all the members of the market society would always foresee future conditions correctly and in time and act accordingly. If this were the case, retrospection would establish that no particle of capital and labor was wasted for the satisfaction of wants which now are considered as less urgent than some other unsatisfied wants. However, man is not omniscient.
>
> (ibid.: 665)

The development of a more appropriate normative standard for judging disequilibrium market processes is only one among several research projects which still remain to be done. Even so, market-process theory in its present state serves to shed light on the informational role of prices and to examine other theoretical approaches to this matter, tasks to be undertaken in the following chapters.