

The Austrian School

The Austrian School

Market Order and Entrepreneurial Creativity

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Introduction

In this book we shall outline in detail the essential ideas of the Austrian school of economics, as well as the characteristics which most distinguish it from the paradigm thus far predominant in economic science. In addition we shall analyse the development of Austrian thought from its origins to the present, and highlight ways in which the contributions of the Austrian school may foreseeably enrich the future development of economics.

Given that most people are unfamiliar with the central tenets of the Austrian school, in Chapter 1 we shall explain the fundamental principles of the dynamic, Austrian concept of the market, and we will point out the main differences between the Austrian perspective and the neoclassical paradigm, which is still the one taught at most universities, despite its deficiencies. Chapter 2 examines the essence of the entrepreneurship-driven tendency toward coordination which Austrians maintain explains both the emergence of the spontaneous order of the market and the existence of the laws of tendency which constitute the object of research in economic science. Chapter 3 introduces our study of the history of Austrian economic thought, starting with the school's official founder, Carl Menger, whose intellectual roots extend back to the remarkable theorists of the School of Salamanca in the Spanish Golden Age. Chapter 4 is devoted entirely to the figure of Böhm-Bawerk and the analysis of capital theory, the study of which represents one of the most needed elements in the economic theory programs offered at European and American universities. Chapters 5 and 6 discuss, respectively, the contributions of the two most important Austrian economists of the twentieth century, Ludwig von Mises and Friedrich A. Hayek. A grasp of these contributions is crucial to understanding how the modern Austrian school of economics has developed and what it has become today on a worldwide scale. Finally, Chapter 7 is devoted to the resurgence of the Austrian school, a revival which has sprung from the crisis of the prevailing paradigm, and for which a large group of young researchers from a number of European and American universities is responsible. To conclude the book we shall consider the research program of the modern Austrian school and the contributions it is likely to make to the future development of economics. We shall also answer the most common criticisms of the Austrian point of view, the majority of which derive from a lack of knowledge or understanding.

We should stress that it is impossible for us to present a complete, detailed

view of all the characteristic features of the Austrian school. Instead we aim merely to provide a clear, stimulating overview of its main contributions. Thus the present work should be regarded as a simple introduction for anyone interested in the Austrian school, and readers who wish to delve deeper into a particular facet may refer to the selected bibliography at the end of the book. For the purpose of brevity we shall omit the innumerable quotes we could include in the text to elaborate on its content and illustrate it further. Our prime objective is to present the Austrian paradigm in an inviting manner to a wide range of potential readers who are presumably unfamiliar with it, but who will, upon reading this book, be prepared to explore in greater depth an approach they should surely find both novel and fascinating.

1. Essential principles of the Austrian school

One of the chief shortcomings of the study programs offered by economics departments at European universities is that up until now they have not given students a complete, integrated view of the essential theoretical elements in the contributions of the modern Austrian school of economics. In this chapter we aim to rectify this notable omission, to provide an overall view of the fundamental distinguishing features of the Austrian school, and thus to shed light on the historical evolution of Austrian thought, which we shall consider in subsequent chapters. To this end, in Table 1.1 we clearly and concisely list the crucial differences between the Austrian school and the prevailing (neoclassical) paradigm, which is generally the one taught at European universities. In this way it will be possible to understand at a glance the different points of conflict between the two approaches, which we shall then discuss in detail.

1.1 THE AUSTRIAN THEORY OF ACTION VERSUS THE NEOCLASSICAL THEORY OF DECISION

Austrian theorists conceive economic science as a theory of action, rather than of decision, and this is one of the traits which most distinguishes Austrians from their neoclassical colleagues. In fact the concept of human action includes and far exceeds, in scope, that of individual decision. For the Austrian school the vital concept of action incorporates not only the hypothetical process of decision in a context of “given” knowledge about ends and means, but also, and especially, “the very perception of the ends-means framework within which allocation and economizing [which neoclassicals tend to exclusively focus on] is to take place” (Kirzner 1973, 33). Moreover, what concerns Austrians is not the fact that a decision is made, but that it is embodied in a human action, which is a process (that may or may not be completed) involving a series of interactions and acts of coordination. It is precisely these which Austrians view as the object of research in economics. Thus, for Austrians, economics is not a set of theories on choice or decision at all, but instead it is a theoretical corpus which deals with the processes of social interaction,

Table 1.1 Essential differences between the Austrian and neoclassical schools

Points of comparison	Austrian paradigm	Neoclassical paradigm
1. Concept of economics (essential principle)	A theory of human action, understood as a dynamic process (praxeology)	A theory of <i>decision</i> : maximization subject to restrictions (narrow concept of “rationality”)
2. Methodological outlook	<i>Subjectivism</i>	Stereotype of <i>methodological individualism</i> (objectivist)
3. Protagonist of social processes	Creative <i>entrepreneur</i>	<i>Homo economicus</i>
4. Possibility that actors may err a priori, and nature of entrepreneurial profit	Actors may conceivably commit pure entrepreneurial errors that they could have avoided had they shown greater entrepreneurial alertness to identify profit opportunities	Regrettable errors are not regarded as such, since all past decisions are rationalized in terms of costs and benefits; entrepreneurial profits are viewed as rent on a factor of production
5. Concept of information	Knowledge and information are <i>subjective</i> and <i>dispersed</i> , and they <i>change</i> constantly (entrepreneurial creativity); a radical distinction is drawn between scientific knowledge (objective) and practical knowledge (subjective)	Complete, objective, and <i>constant</i> information (in certain or probabilistic terms) on ends and means is assumed; practical (entrepreneurial) knowledge is not distinguished from scientific knowledge
6. Reference point	General process which tends towards coordination; no distinction is made between micro and macroeconomics:	Model of <i>equilibrium</i> (general or partial); separation between micro and macroeconomics

each economic problem is studied in relation to others

Process of entrepreneurial rivalry

State or model of “perfect competition”

7. Concept of “competition”

8. Concept of cost

Subjective (depends on entrepreneurial alertness and the resulting discovery of new, alternative ends)

Objective and constant (such that a third party can know and measure it)

9. Formalism

Verbal (abstract and formal) logic which introduces subjective time and human creativity

Mathematical formalism (symbolic language typical of the analysis of atemporal and constant phenomena)

10. Relationship with the empirical world

Aprioristic-deductive reasoning: radical separation and simultaneous coordination between theory (science) and history (art); history cannot validate theories

Empirical validation of hypotheses (at least rhetorically)

11. Possibilities of specific prediction

Impossible, since future events depend on entrepreneurial knowledge which has not yet been created; only qualitative, theoretical *pattern predictions* about the discoordinating consequences of interventionism are possible

Prediction is an objective which is deliberately pursued

12. Person responsible for making predictions

The entrepreneur

The economic analyst (social engineer)

Table 1.1 (continued)

Points of comparison	Austrian paradigm	Neoclassical paradigm
13. Current state of the paradigm	Remarkable <i>resurgence</i> over the last 25 years (particularly following the crisis of Keynesianism and the collapse of real socialism)	State of <i>crisis</i> and rapid <i>change</i>
14. Amount of “human capital” invested	A <i>minority</i> , though it is increasing	The <i>majority</i> , though there are signs of dispersal and disintegration
15. Type of “human capital” invested	Multidisciplinary theorists and philosophers; radical libertarians	Specialists in economic intervention (<i>piecemeal social engineering</i>); an extremely variable degree of commitment to freedom
16. Most recent contributions	<ul style="list-style-type: none"> • Critical analysis of institutional coercion (socialism and interventionism) • Theory of free banking and economic cycles • Evolutionary theory of (juridical, moral) institutions • Theory of entrepreneurship • Critical analysis of “social justice” 	<ul style="list-style-type: none"> • Public choice theory • Economic analysis of the family • Economic analysis of law • New classical macroeconomics • Economics of information • New Keynesians
17. Relative position of different authors	Rothbard, Mises, Hayek, Kirzner	Coase, Friedman, Becker, Samuelson, Stiglitz

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processes which vary in their degree of coordination depending upon the alertness that actors show in their entrepreneurship.

Austrians are particularly critical of the narrow concept of economics which originated with Robbins and his well-known definition of the subject. In his own words, “economics is the science which studies human behavior as a relationship between ends and scarce means which have alternative uses” (Robbins 1932, 16). Robbins’s conception implicitly presupposes a given knowledge of ends and means and reduces the economic problem to a technical problem of mere allocation, maximization or optimization, subject to certain restrictions which are also assumed known. In other words, Robbins’s concept of economics reflects the essence of the neoclassical paradigm and can be considered completely foreign to the methodology of the Austrian school as it is understood today. Indeed, Robbins portrays man as an automaton, a simple caricature of a human being, who may only react passively to events. In contrast with this view, Mises, Kirzner and the rest of the Austrian school maintain that man does not so much allocate given means to given ends, as constantly seek new ends and means, while learning from the past and using his imagination to discover and create the future (via action). Thus, for Austrians, economics forms part of a much broader and more general science, a general theory of human action (and not of human decision or choice). According to Hayek, if for this general science of human action “a name is needed, the term *praxeological* sciences now clearly defined and extensively used by Ludwig von Mises, would appear to be most appropriate” (Hayek 1952a, 209).

1.2 AUSTRIAN SUBJECTIVISM VERSUS NEOCLASSICAL OBJECTIVISM

Another matter of key importance to Austrians is subjectivism. For the Austrian school the subjectivist conception is essential and consists precisely of an attempt to construct economic science based on real, flesh-and-blood human beings, viewed as creative actors and the protagonists of all social processes. Hence Mises states:

Economics is not about things and tangible material objects; it is about men, their meanings and actions. Goods, commodities, and wealth and all the other notions of conduct are not elements of nature; they are elements of human meaning and conduct. He who wants to deal with them must not look at the external world; he must search for them in the meaning of acting men. (Mises 1996, 92)

Thus we clearly see that Austrian theorists, largely unlike neoclassicals,

believe that restrictions in the economy are imposed not by objective phenomena or material factors of the outside world (for example, oil reserves), but by human entrepreneurial knowledge (the discovery of a carburetor capable of doubling the efficiency of internal combustion engines would exert the same economic effect as a doubling of all physical oil reserves). Therefore Austrians do not consider production a natural, physical, external event but, on the contrary, an intellectual, spiritual phenomenon (Mises 1996, 141).

1.3 THE AUSTRIAN ENTREPRENEUR VERSUS THE NEOCLASSICAL *HOMO ECONOMICUS*

Entrepreneurship, to which much of Chapter 2 is devoted, is the driving force behind Austrian economic theory, and yet, by contrast, it is conspicuously absent in neoclassical economics. In fact entrepreneurship is a distinctive phenomenon of the real world, which is in a perpetual state of disequilibrium and cannot play any role in the equilibrium models that absorb the attention of neoclassical authors. Moreover neoclassical theorists view entrepreneurship as an ordinary factor of production which can be allocated depending on expected costs and benefits. They fail to realize that when they analyse the entrepreneur in this way, their thinking involves an insoluble logical contradiction: to demand entrepreneurial resources based on their expected costs and benefits entails the belief that one has access today to certain information (the probable value of future costs and benefits) before this information has been created by entrepreneurship itself. In other words, the main task of the entrepreneur, as we shall see, is to create and discover new information which did not exist up to that point, and until this process of creation is complete the information does not exist nor can it be known, and thus it is not humanly possible to make in advance any neoclassical, allocative decision based on expected costs and benefits.

In addition, Austrian economists today almost unanimously view as a fallacy the belief that entrepreneurial profit derives from the simple assumption of risks. On the contrary, risk merely represents another cost of the production process and is completely unconnected with the pure entrepreneurial profit that emerges when an entrepreneur discovers a profit opportunity that they were unaware of before and acts accordingly to take advantage of it (Mises 1996, 809–11).

1.4 THE POSSIBILITY OF PURE ENTREPRENEURIAL ERROR (AUSTRIANS) VERSUS THE *A POSTERIORI* RATIONALIZATION OF ALL DECISIONS (NEOCLASSICALS)

The very different role the concept of error plays in Austrian, as opposed to neoclassical, economics is usually overlooked. For Austrians “pure” entrepreneurial errors may be committed whenever a profit opportunity remains undiscovered by entrepreneurs in the market. It is precisely the existence of this type of error that gives rise to “pure entrepreneurial profit”, when the error is discovered and eliminated. In contrast, for neoclassical authors, genuine entrepreneurial errors that one should regret *a posteriori* never exist. This is because neoclassicals rationalize all past decisions in terms of a supposed cost–benefit analysis carried out within the framework of constrained mathematical maximization. Thus it is clear that pure entrepreneurial profit has no purpose in the neoclassical world, and that when such profit is mentioned it is deemed to be simply payment for the services of an ordinary factor of production or income derived from the assumption of a risk.

1.5 THE SUBJECTIVE INFORMATION OF THE AUSTRIANS VERSUS THE OBJECTIVE INFORMATION OF THE NEOCLASSICALS

Entrepreneurs constantly generate new information which is fundamentally subjective, practical, dispersed and difficult to articulate (Huerta de Soto 1992, 52–67, 104–10). Therefore the subjective perception of information is an essential element in Austrian methodology, one that happens to be missing in neoclassical economics, since neoclassical theorists invariably tend to treat information objectively. Most economists do not realize that when Austrians and neoclassicals use the term “information”, they are referring to radically different realities. In fact neoclassicals view information as an objective entity which, like merchandise, is bought and sold in the market as a result of a maximizing decision. This “information”, which is storable in various media, has nothing at all to do with the subjective information that Austrians write about, which is practical and vital, and which the actor subjectively interprets, knows and uses within the context of a specific action. Austrian economists criticize Stiglitz and other neoclassical information theorists for failing to integrate their theory of information with entrepreneurship, which is always the source and protagonist of knowledge. As we shall see, Austrian economists have succeeded in this area. Furthermore, from the Austrian perspective, Stiglitz has

not managed to grasp that information is always fundamentally subjective and that the markets he considers “imperfect” do not so much generate “inefficiencies” (in the neoclassical sense), as give rise to potential opportunities for entrepreneurial profit, opportunities entrepreneurs tend to discover and seize in the process of entrepreneurial coordination that they continually drive in the market (Thomsen 1992).

1.6 THE ENTREPRENEURIAL PROCESS OF COORDINATION (AUSTRIANS) VERSUS GENERAL AND/OR PARTIAL EQUILIBRIUM MODELS (NEOCLASSICALS)

In their equilibrium models neoclassical economists usually overlook the coordinating force that Austrians attribute to entrepreneurship. In fact entrepreneurship not only prompts the creation and transmission of information but, even more importantly, it fosters coordination between the maladjusted behaviors which occur in society. As we shall see in Chapter 2, all social discoordination materializes as a profit opportunity which remains latent until entrepreneurs discover it. Once an entrepreneur recognizes the opportunity, and acts to take advantage of it, the opportunity disappears and a spontaneous process of coordination is triggered. This process explains the tendency toward equilibrium that is reflected in every real market economy. Moreover it is the coordinating nature of entrepreneurship which alone makes possible economic theory as a science, understood as a theoretical corpus of laws of coordination which elucidate social processes.

This approach explains why Austrian economists are interested in studying the dynamic concept of competition (a process of rivalry), whereas neoclassical economists focus exclusively on the equilibrium models typical of comparative statics (“perfect” competition, monopoly, “imperfect” or monopolistic competition). Hence, for Austrians, it is absurd to construct economic science based on the equilibrium model, which presupposes that all information crucial for drawing the corresponding supply and demand functions is “given”. In contrast, Austrians prefer to study the market process which leads toward a state of equilibrium that is never ultimately reached. There has even been discussion of a model called the social “Big Bang”, which permits unlimited growth of knowledge and civilization in a manner as adjusted and harmonious (that is, coordinated) as humanly possible in each set of historical circumstances. This is because the entrepreneurial process of social coordination never ends nor is exhausted. In other words the entrepreneurial act consists basically of the creation and transmission of new information which

necessarily modifies the general perception of each actor in society concerning potential ends and means. This modification in turn gives rise to the appearance of countless new maladjustments which represent new opportunities for entrepreneurial profit, opportunities that entrepreneurs tend to discover and coordinate. And so the process continues. It is a dynamic, never-ending process which constantly spreads and furthers the advancement of civilization (coordinated social Big Bang model) (Huerta de Soto 1992, 78–9).

Thus Austrians disagree strongly with neoclassical economists on the nature of the essential economic problem. Austrians study the dynamic process of social coordination in which individuals constantly and entrepreneurially generate new information (which, therefore, is never “given”) as they seek the ends and means that they consider relevant within the context of each action they are immersed in and, by so doing, they inadvertently set in motion a spontaneous process of coordination. Hence, for Austrians, the fundamental economic problem is not technical nor technological, though neoclassical theorists usually conceive it that way, since they assume that ends and means are given and view the economic problem as simply a technical problem of optimization. In other words, for the Austrian school, the essential economic problem is not the maximization of a known, objective function subject to known restrictions but, on the contrary, it is strictly economic in nature: it emerges when ends and means are numerous and compete, and knowledge of them is not given, but instead is dispersed throughout the minds of countless human beings who are constantly creating it *ex novo*, and thus one cannot know all the existing possibilities and alternatives, nor the relative intensity with which each is desired.

Furthermore we must realize that even those human actions which appear to be solely maximizing or optimizing invariably possess an entrepreneurial component, since the actor involved must first have recognized that such a robotic, mechanical and reactive course of action was the most advantageous in the concrete circumstances in which they found themselves. In other words, the neoclassical approach is merely a relatively unimportant particular case within the Austrian model, which is much richer and more general, and explains real society much better.

Moreover Austrian theorists see no sense in maintaining a radical division between micro and macroeconomics, as neoclassical economists usually do. On the contrary, economic problems must be studied together as interrelated issues, without distinctions between micro and macro aspects. The radical separation of “micro” and “macro” in economics is one of the most typical inadequacies of modern, introductory economics textbooks and manuals, which do not provide unitary treatment to economic problems, as Mises and other Austrian economists continuously attempt to do, but instead invariably present economic science as divided into two distinct disciplines (“micro” and

“macroeconomics”) which share no connection and thus can be studied and, in fact, are studied separately. As Mises clearly indicates, this separation springs from the use of concepts which, like the general price level, overlook the application of the subjective, marginalist theory of value to money and continue rooted in the pre-scientific stage of economics when theorists were still attempting to perform their analyses in terms of overall classes or aggregates of goods, rather than in terms of incremental or marginal units of them. This explains the development of an unfortunate “discipline” which centers around examining the supposed mechanical relationships between macroeconomic aggregates, while the connection of these with human action is very difficult, if not impossible, to comprehend (Mises 1996, 400).

At any rate, neoclassical economists have chosen the equilibrium model as the focal point of their research. This model presupposes that all information is given (either in certain or probabilistic terms) and that perfect adjustment exists between the different variables. From the Austrian perspective, the main disadvantage of neoclassical methodology is that this assumption of perfect adjustment can quite easily lead to erroneous conclusions regarding the cause-effect relationships between different economic concepts and phenomena. In this way, Austrians maintain, equilibrium acts as a sort of veil which prevents the theorist from discovering the true direction of the cause and effect relationships reflected in economic laws. In fact more than unidirectional laws of tendency, neoclassical economists see a mutual (circular), functional relationship between the different phenomena, the initial origin of which (human action) remains hidden or is deemed unimportant.

1.7 SUBJECTIVE COSTS (AUSTRIANS) VERSUS OBJECTIVE COSTS (NEOCLASSICALS)

Another essential element of Austrian methodology is the purely subjective conception of costs. Many authors believe that this idea can be incorporated into the prevailing neoclassical paradigm without much difficulty. Nevertheless neoclassical theorists only rhetorically incorporate the subjective nature of costs into their models, and in the end, though they mention the importance of “opportunity cost”, they always present it in an objectified manner. For Austrians, cost is the subjective value the actor attaches to those ends they give up when they decide to pursue a certain course of action. In other words, there are no objective costs but, instead, every actor must use their entrepreneurial alertness to continually discover costs in each set of circumstances. Indeed an actor may fail to notice many alternative possibilities which, once entrepreneurially discovered, radically change the actor’s

subjective conception of costs. Hence there are no objective costs which tend to determine the value of ends but, instead, quite the opposite is true: costs as subjective values are borne (and thus determined) based on the subjective value the actor places on the ends they actually pursue (final consumer goods). Therefore Austrian economists hold that the prices of final consumer goods, as an expression in the market of subjective valuations, are what determine the costs that an actor is willing to incur to produce such goods, and not the other way around, as neoclassical economists so often assert in their models.

1.8 THE VERBAL FORMALISM OF THE AUSTRIANS VERSUS THE MATHEMATICAL FORMALISM OF THE NEOCLASSICALS

Austrians and neoclassicals disagree on the use of mathematical formalism in economic analysis. From the beginning the founder of the Austrian school, Carl Menger, carefully pointed out the advantage of verbal language, namely, that it can capture the essence (*das Wesen*) of economic phenomena, while mathematical language cannot. In fact in a letter he wrote to Walras in 1884, Menger wondered: “How can we attain to a knowledge of this essence, for example, the essence of value, the essence of land rent, the essence of entrepreneurs’ profits, the division of labour, bimetallism, and so on, by mathematical methods?” (Walras 1965, 2: 3). Mathematical formalism is particularly suitable for expressing the equilibrium states neoclassical economists study, but it does not permit us to incorporate the subjective reality of time, much less entrepreneurial creativity, both of which are essential features of the analytical discourse of Austrian theorists. Perhaps it was Hans Mayer who best summed up the inadequacies of the use of mathematical formalism in economics when he wrote:

In essence, there is an immanent, more or less disguised, fiction at the heart of mathematical equilibrium theories, that is, they bind together, in simultaneous equations, non-simultaneous magnitudes operative in genetic-causal sequence as if these existed together at the same time. A state of affairs is synchronized in the “static” approach, whereas in reality we are dealing with a process. But one simply cannot consider a generative process “statically” as a state of rest, without eliminating precisely that which makes it what it is. (Mayer 1994, 92)

For the above reasons, members of the Austrian school find that many of the theories and conclusions that neoclassicals form in their analysis of consumption and production make no sense in terms of economics. One example is the “law of equality of price-weighted marginal utilities”, which rests on

very shaky theoretical foundations. In fact this law presupposes that the actor is able to simultaneously assess the utility of all goods at their disposal, and it overlooks the fact that every action is sequential and creative, and that goods are not assessed at the same time by equalizing their supposed marginal utilities, but rather one after the other, within the context of different stages and actions, for each of which the corresponding marginal utility may be not only different but incomparable (Mayer 1994, 81–3). In short, Austrians view the use of mathematics in economics as unsound because this method synchronizes magnitudes which are heterogeneous from the standpoint of time and entrepreneurial creativity. For the same reason, Austrians also regard neoclassical economists' axiomatic criteria of rationality as senseless. Indeed if an actor prefers A to B and B to C, they may very well prefer C to A, without ceasing to be "rational" or consistent, if they have simply changed their mind (even if only during the hundredth of a second that they think about the issue). For Austrian economists, the usual neoclassical criteria of rationality confuse the concepts of constancy and consistency (Mises 1996, 102–104).

1.9 THE LINK BETWEEN THEORY AND THE EMPIRICAL WORLD: THE DIFFERENT CONCEPT OF "PREDICTION"

Finally, on the relationship between theory and the empirical world, and on the sense in which predictions can be made, the Austrian paradigm differs radically from the neoclassical view, which is widely taught at European universities. Indeed, for Austrians, the fact that a scientific "observer" cannot obtain subjective information, which "observed" actors-entrepreneurs who are the protagonists of the social process continually create and discover in a decentralized manner, justifies their belief that empirical verification is theoretically impossible in economics. Actually, Austrians maintain that the factors which make socialism theoretically impossible, and which we shall analyse in Chapters 5 and 6, are the very factors which explain why empiricism, cost-benefit analyses and utilitarianism in its strictest interpretation are not feasible in our science. Moreover it is irrelevant whether it be a scientist or a political leader who vainly tries to obtain the vital practical information in each case, either to confirm theories or coordinate via commands. If such information could be obtained, it could just as feasibly be used for one purpose as for the other: to coordinate society through coercive commands (social engineering typical of socialism and interventionism) or to empirically validate economic theories. Nevertheless both the socialist ideal and the positivist or strictly utilitarian ideal are unattainable from the perspective of Austrian

economic theory for the following reasons: first, the huge volume of information involved; second, the nature of the crucial information (scattered, subjective and tacit); third, the dynamic quality of the entrepreneurial process (it is impossible to transmit information which entrepreneurs have not yet generated in their process of constant, innovative creation); and fourth, the effect of coercion and of scientific “observation” itself (which distorts, corrupts, hinders or simply precludes the entrepreneurial creation of information).

These very arguments, which we shall analyse later in greater detail when we discuss the history of the debate concerning the impossibility of socialist economic calculation, can also be employed to justify the Austrian belief that in economics specific predictions are theoretically impossible (that is, those which refer to specific coordinates of time and place and are of a concrete, empirical nature). The events of tomorrow cannot be scientifically known today, since they depend mainly on knowledge and information which have not yet been entrepreneurially generated and cannot yet be known. Thus, in economics, at most we can make general predictions of trends, which Hayek calls pattern predictions. Such predictions are exclusively qualitative and theoretical and, at most, they forecast the maladjustments and social discoordination which result from institutional coercion (socialism and interventionism) applied to the market.

Furthermore we must bear in mind that there are no directly observable, objective events in the outside world. According to the Austrian subjectivist conception, the objects of research in economic science are simply the ideas that others hold about what they do and the ends they pursue. Such ideas are never directly observable, but instead can only be interpreted in historical terms. To interpret the social reality which is history one must first have a theory, and one must make a non-scientific judgment of relevance (*verstehen* or understanding). This judgment is not objective, but rather may vary from one historian to the next, making the discipline of history a true art.

Finally, Austrians maintain that empirical phenomena vary constantly, such that there are no parameters nor constants in social events, but only “variables”, and thus the traditional aim of econometrics and any version of the positivist methodological program (from the most naive verificationism to the most sophisticated Popperian falsationism) are very difficult, if not impossible, to fulfil. In contrast to the positivist ideal of the neoclassicals, Austrian economists strive to construct their discipline in an aprioristic, deductive manner. In short, this involves developing a fully fledged arsenal of logical-deductive reasoning, based on self-evident knowledge (axioms, such as the subjective concept of human action itself, the essential elements of which either emerge through the introspection and personal experience of the scientist or are considered self-evident because no one can dispute them without contradicting themselves) (Hoppe 1995; Caldwell 1994, 117–38).

This theoretical arsenal is indispensable, according to Austrians, if one is to adequately interpret the apparently unconnected mass of complex historical phenomena which constitutes the social world, or to compile a history of the past or define prospects for the future (the mission of the entrepreneur) with at least minimum consistency, security and chances for success. Thus the great importance which Austrians in general attach to history as a discipline and to their attempt to distinguish it from, and adequately relate it to, economic theory (Mises 1957).

Hayek uses the term “scientism” to refer to the unjustified application of the methodology of the natural sciences to the field of the social sciences (Hayek 1952a). In the natural world constants and functional relationships exist which permit the application of mathematical language and the performance of quantitative experiments in a laboratory. However in economics, as opposed to physics, engineering and the natural sciences, Austrians see no functional relationships (and, hence, no supply, demand nor cost functions, nor functions of any other type). Let us recall that in mathematics, according to set theory, a function is simply a correspondence between the elements of two sets, the “original set” and the “image set”. Given the innate creative capacity of human beings, who are continually generating and discovering new information in each specific set of circumstances in which they act about the ends they seek and the means they deem available to achieve them, it is obvious that in economics none of the three elements necessary for a functional relationship to emerge are present: first, the elements of the original set are neither constant nor given; second, the elements of the image set are neither constant nor given; and, third, most importantly, correspondences between the elements of the two sets are not given, but instead vary constantly as a result of the action and creative capacity of human beings. Therefore Austrians assert that in economic science the use of functions requires an assumption of constancy in information which completely eliminates the protagonist of every social process: a human being equipped with an innate, entrepreneurial capacity for creativity. The great merit of the Austrians is to have demonstrated that it is perfectly possible to develop the entire corpus of economic theory in a logical manner, while introducing the concepts of time and creativity (praxeology); that is, without any need of functions nor assumptions of constancy which do not fit in with the creative nature of human beings, who are the only true protagonists of social processes, the object of research in economics.

Even the most prominent neoclassical economists have had to admit that important economic laws exist (such as the theory of evolution and natural selection) which cannot be empirically verified (Rosen 1997). Austrian theorists have particularly stressed that empirical studies are inadequate to stimulate the development of economic theory. In fact empirical studies can at most provide some historically contingent information about certain aspects of

outcomes that real-life social processes have produced, but they do not provide information about the formal structure of those processes, the knowledge of which is precisely the object of research in economic theory. To put it another way, statistics and empirical studies cannot provide any theoretical knowledge. (To believe the opposite was, as we shall see, precisely the error which the historicists of the nineteenth-century German school committed and which today the economists of the neoclassical school are largely repeating.) Furthermore, as Hayek clearly showed in his Nobel Prize acceptance speech, often aggregates which are measurable in statistical terms are of no theoretical use and vice versa: many concepts of paramount theoretical importance cannot be measured or handled empirically (Hayek 1989).

1.10 CONCLUSION

The main criticisms which Austrian economists level against neoclassicals and which, at the same time, highlight the basic distinguishing features of the Austrian viewpoint are as follows: first, neoclassicals focus exclusively on equilibrium states via a maximizing model, which presupposes that the information agents need regarding target functions and their restrictions is “given”; second, neoclassicals often arbitrarily select variables and parameters for both the target function and the constraints and, in doing so, they tend to include the most obvious aspects and overlook others which, though of vital importance, are more difficult to handle empirically (moral values, habits, traditions, institutions and so on); third, neoclassicals concentrate on equilibrium models which treat true cause-effect relationships with mathematical formalism and thus conceal them; and, fourth, neoclassicals raise mere interpretations of historical reality to the level of theoretical conclusions, interpretations which may be significant in certain specific situations, but which cannot be considered theoretically valid on a universal scale, since they reflect only knowledge which is historically contingent.

The above comments do not mean that all neoclassical conclusions reached thus far are erroneous. On the contrary, a large number of them can be recovered and deemed valid. Austrian theorists simply wish to point out that the validity of neoclassical conclusions cannot be guaranteed. The dynamic analysis that Austrians advocate provides a surer and more fruitful way of arriving at those conclusions which are valid. In addition, the dynamic analysis offers the advantage of permitting the isolation of untenable theories (also very numerous), since it reveals the defects and errors which are currently concealed by the empirical method rooted in the equilibrium model, on which mainstream economists base their theories.

2. Knowledge and entrepreneurship

In this chapter we shall discuss the concept and characteristics of entrepreneurship. This concept is fundamental to the Austrian school and is the pivot of Austrian economic analysis. Hence we must examine the essence of entrepreneurship and the economic role played by the knowledge of entrepreneurs when they act in the market. Only in this way can one comprehend the coordinating tendency of dynamic market processes, as well as the historical development of Austrian economic thought, the school we shall analyse in detail in the chapters that follow.

2.1 THE DEFINITION OF ENTREPRENEURSHIP

In a broad or general sense, entrepreneurship actually coincides with human action according to Austrians. In this respect it could be said that any person who acts to modify the present and achieve their objectives in the future exercises entrepreneurship. Although at first glance this definition may appear to be too broad and to disagree with current linguistic uses, let us bear in mind that it fully agrees with the original etymological meaning of the word “enterprise” (*empresa* in Spanish). Indeed both the Spanish word *empresa* and the French and English word *entrepreneur* derive etymologically from the Latin verb *inprehendo-endi-ensum*, which means “to discover, to see, to perceive, to realize, to capture”; and the Latin term *inprehensa* clearly implies action and means “to take, to seize”. In short, *empresa* is synonymous with action. In France, the word *entrepreneur* has long conveyed this idea – since the High Middle Ages, in fact, when it was designated to those in charge of performing important and generally war related deeds or to those entrusted with executing the large cathedral building projects. The *Diccionario* of the *Real Academia Española* (the Royal Academy of the Spanish Language) gives one meaning of *empresa* as “arduous and difficult *action* which is valiantly undertaken.” *Empresa* also came into use during the Middle Ages to refer to the insignias certain orders of knighthood bore to indicate their pledge, under oath, to carry out a certain important action. The conception of an enterprise as an action is necessarily and inexorably linked to an enterprising attitude, which consists precisely of a continual eagerness to seek out, discover, create or identify new

ends and means (all of which is in keeping with the above-mentioned etymological meaning of *in prehendō*).

Entrepreneurship, in a strict sense, consists basically of discovering and perceiving (*prehendō*) opportunities to achieve an end, or acquiring a gain or profit, and acting accordingly to take advantage of these opportunities which arise in the environment. Kirzner maintains that the exercise of entrepreneurship entails a special alertness; that is, a constant vigilance, which permits a person to discover and grasp what goes on around them (Kirzner 1973, 65, 69). Perhaps Kirzner uses the English word “alertness” because entrepreneurship originates from French and in English does not immediately imply the idea of *prehendō* that it does in the continental romance languages. In any case, the Spanish adjective *perspicaz* (perceptive, shrewd) is quite appropriate to entrepreneurship, since, as the *Diccionario* of the *Real Academia Española* informs us, it applies to “vision or a gaze which is far-sighted and very sharp.” In addition the word “speculator” derives etymologically from the Latin word *specula*, which denoted certain towers from which lookouts could view from a distance all who approached. Hence these ideas fit in perfectly with the activity that the entrepreneurs engage in when they decide which actions they will carry out, estimate the future effect of those actions and undertake them. Though *el estar alerta* may also be an acceptable indication of entrepreneurship, since it involves the notion of attention or vigilance, it appears somewhat less fitting than *perspicaz*, perhaps because the former clearly suggests a rather more static approach.

2.2 INFORMATION, KNOWLEDGE AND ENTREPRENEURSHIP

In order to fully comprehend the nature of entrepreneurship as Austrians approach it, one must first understand how entrepreneurship modifies or changes the information or knowledge the actor possesses. The creation, perception or recognition of new ends and means implies a modification of the actor’s knowledge, in the sense that he or she discovers information not possessed before. Moreover this discovery modifies the entire map or context of information or knowledge that the acting subject possesses. We must ask the following fundamental question: What are the characteristics of the information or knowledge which is relevant to the exercise of entrepreneurship? We shall now study in detail the six basic features of entrepreneurial knowledge from the Austrian perspective:

1. It is subjective and practical, rather than scientific knowledge.
2. It is exclusive knowledge.

3. It is dispersed throughout the minds of all men and women.
4. It is mainly tacit knowledge and therefore inarticulable.
5. It is knowledge created *ex nihilo*, from nothing, precisely through the exercise of entrepreneurship.
6. It is knowledge which can be transmitted, for the most part unconsciously, via extremely complex social processes, which Austrian authors view as the very object of research in economics.

2.3 SUBJECTIVE AND PRACTICAL RATHER THAN SCIENTIFIC KNOWLEDGE

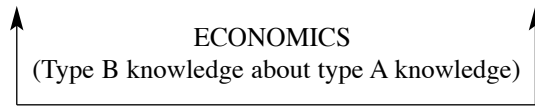
The knowledge we are analysing, that most crucial to the exercise of human action, is above all subjective and practical, not scientific. Practical knowledge is any knowledge that cannot be represented in a formal manner, and that is instead progressively acquired by the subject through practice, that is, through human action itself in its different contexts. As Hayek maintains, it is knowledge that is vital in all sorts of particular circumstances or subjective coordinates of time and place (Hayek 1972, 51, 91). In short, we are referring to knowledge in the form of concrete human appraisals, information regarding both the ends the actor pursues and those ends he or she believes other actors pursue. This knowledge also consists of practical information on the means that the actor believes are available to enable him or her to attain their ends, especially information about all of the conditions, whether personal or otherwise, which the actor feels may be of importance within the context of any concrete action.

We should also point out that credit goes to Michael Oakeshott for drawing the distinction between “practical knowledge” and “scientific knowledge” (Oakeshott 1991, 12, 15). Oakeshott’s distinction parallels the one that Hayek notes between “dispersed knowledge” and “centralized knowledge”, the one Michael Polanyi emphasizes between “tacit knowledge” and “articulate knowledge” (Polanyi 1959, 24–5), and the one that Mises makes between knowledge about “unique events” and knowledge about the behavior of an entire “class of phenomena” (Mises 1996, 110–18). Table 2.1 summarizes the distinct approaches of these four authors to the two different basic types of knowledge.

The relationship between the two sorts of knowledge is complex. All scientific knowledge (type B) rests on a foundation of tacit, inarticulable knowledge (type A). Moreover scientific and technical advances (type B) promptly result in new, more productive and powerful practical knowledge (type A). Likewise economic science amounts to an accumulation of type B (scientific) knowl-

Table 2.1 Two different types of knowledge

Authors	Type A	Type B
Oakeshott	Practical (traditional)	Scientific (or technical)
Hayek	Dispersed	Centralized
Polanyi	Tacit	Articulate
Mises	Of “unique events”	Of “classes”



edge concerning the processes of creation and transmission of practical knowledge (type A). Now it is clear why Hayek maintains that the main risk in economics as a science lies in the danger that, as economics consists of theorizing about type A knowledge, people could come to believe that those who practice it (“economic scientists” or “social engineers”) are somehow capable of accessing the specific content of the type A practical knowledge that human beings constantly create and use on an entrepreneurial level. People could even go so far as to completely disregard the specific content of practical knowledge, as has been so rightly criticized by Oakeshott, for whom the most dangerous, exaggerated and erroneous version of rationalism would consist of “the assertion that what I have called practical knowledge is not knowledge at all, the assertion that, properly speaking, there is no knowledge which is not technical knowledge” (Oakeshott 1991, 15).

2.4 EXCLUSIVE, DISPERSED KNOWLEDGE

Practical knowledge is exclusive and dispersed. This means that each actor possesses only a few “atoms” or “bits” of all of the information generated and transmitted in society, and that, paradoxically, only he or she possesses these bits; in other words, only he or she accesses and interprets them consciously. Hence each man or woman who acts and exercises entrepreneurship does so in a strictly personal and unrepeatable manner, since they begin by striving to achieve certain ends or objectives that correspond to a vision of the world and a body of knowledge concerning it, both of which only they possess in all of their richness and diverse nuances, and which no other human being can possess in identical form. Therefore, the knowledge we are referring to is not

“given” and accessible to everyone via some material means of storing information (such as newspapers, journals, books, statistics, computers and so on). On the contrary, the knowledge crucial to human action is purely entrepreneurial, practical and strictly exclusive, and it is only “found” diffused throughout the minds of each and every one of the men and women who act entrepreneurially and comprise and advance society.

2.5 TACIT, INARTICULABLE KNOWLEDGE

Practical knowledge is mainly tacit, inarticulable knowledge. This means that the actor knows how to perform certain actions (know how), but cannot identify the elements or parts of what is being done, nor whether they are true or false (know that). For example, when someone learns to play golf, they do not learn a set of objective, scientific rules which allow them to make the necessary movements through the application of a series of formulas from mathematical physics. Instead the learning process consists of acquiring a number of practical habits of conduct. We could also cite, following Polanyi, the example of a person who is learning to ride a bicycle and attempts to maintain their balance by moving the handlebars to the side toward which they begin to fall, creating in this way a centrifugal force which tends to keep the bicycle upright; yet almost no cyclist is aware of or familiar with the physical principles behind this ability. On the contrary, what the cyclist actually uses is a “sense of balance”, which in some way informs them how to behave at each moment to keep from falling. Polanyi goes so far as to assert that tacit knowledge is in fact the dominant principle of all knowledge (Polanyi 1959, 24–5). Even the most highly formalized and scientific knowledge invariably follows from an intuition or an act of creation, which are simply manifestations of tacit knowledge. Moreover the new knowledge we can acquire through formulas, books, charts, maps and so on is important mainly because it helps us to reorganize our entire framework of practical, entrepreneurial information from different and increasingly rich and valuable perspectives, which in turn opens up new possibilities for the exercise of creative intuition. Therefore the impossibility of articulating practical knowledge manifests itself not only “statically”, in the sense that any apparently articulated statement contains information only insofar as it is interpreted through a combination of prior, inarticulable beliefs and knowledge, but also “dynamically”, since the mental process used in any attempt at formalized articulation is itself essentially tacit, inarticulable knowledge.

Another type of knowledge that cannot be articulated and that plays an essential role in the functioning of society is composed of the set of habits, traditions, institutions, and juridical and moral rules that comprise the law that

make society possible, and that human beings learn to follow, though we cannot articulate in detail nor theorize about the precise functions that these rules and institutions perform in the various situations and social processes in which they are involved. The same can be said about language and also, for instance, about financial and cost accounting, which entrepreneurs use to perform economic calculations as a guide for their actions, and which consists simply of a body of knowledge or a set of practical techniques that, in the context of a specific market economy, provides entrepreneurs with common guidelines for reaching their goals, even though the vast majority of entrepreneurs are unable to formulate a scientific theory of accounting, let alone explain how it helps in the complicated processes of coordination which make economic and social life possible. Hence we may conclude that entrepreneurship, as Austrian theorists view it, (the innate capacity for discovering and perceiving profit opportunities and consciously acting to seize them) amounts to knowledge that is basically tacit and inarticulable.

2.6 THE ESSENTIALLY CREATIVE NATURE OF ENTREPRENEURSHIP

The exercise of entrepreneurship does not require any means. That is to say, entrepreneurship does not entail any costs and is therefore fundamentally creative. This creative aspect of entrepreneurship is embodied in its production of a type of profit which, in a sense, arises out of nothing, and which we shall therefore refer to as pure entrepreneurial profit. To derive entrepreneurial profit one needs no prior means, but only to exercise entrepreneurship well.

It is particularly important to emphasize that any act of entrepreneurship brings about three extraordinarily significant effects. First, entrepreneurship creates new information. Second, this information is transmitted throughout the market. Third, the entrepreneurial act teaches each of the economic agents involved to tune their behavior to the needs of the others. These consequences of entrepreneurship, as the authors of the Austrian school have analytically formulated them, are so important that they are worth studying closely one by one.

2.7 THE CREATION OF INFORMATION

Each entrepreneurial act entails the *ex nihilo* creation of new information or knowledge. This creation takes place in the mind of the person who initially exercises entrepreneurship. Indeed when a person we shall call “C” realizes that a profit opportunity exists, new information is created in his mind.

Furthermore once “C” takes action and contacts, for instance, “A” and “B”, and buys cheaply from “B” a resource that “B” has too much of and then sells it at a higher price to “A”, who needs it urgently, new information is also created in the minds of “A” and “B”. “A” realizes that the resource she lacked and needed so desperately to accomplish her end is available elsewhere in the market in greater quantities than she had thought, and that therefore she can now readily undertake the action she had not initiated before due to the absence of this resource. For his part, “B” realizes that the resource he so abundantly possesses yet did not value is keenly desired by other people, and that therefore he should save and protect it, since he can sell it at a good price.

2.8 THE TRANSMISSION OF INFORMATION

The entrepreneurial creation of information implies its transmission in the market. Indeed to transmit something to someone is to cause that person to generate in their own mind part of the information which other people have created or discovered beforehand.

Strictly speaking, though the above example includes the transmission to “B” of the idea that his resource is important and that he should not waste it, and to “A” of the idea that she can go ahead in the pursuit of the goal she had set herself yet failed to work toward due to the lack of this resource, more has been communicated. In fact the respective market prices, which constitute a highly powerful system of transmission, since they convey a large amount of information at a very low cost, communicate in successive waves to the entire market or society the message that the resource in question should be saved and husbanded, since there is a demand for it, and at the same time that all those who, owing to a belief that this resource does not exist, are refraining from undertaking certain actions can obtain the resource and go ahead with their corresponding plans of action. As is logical, the crucial information is always subjective and does not exist beyond the people who are capable of interpreting or discovering it, so it is always human beings who create, perceive and transmit information. The erroneous notion that information is objective stems from the fact that part of the subjective information which is created via entrepreneurship is expressed “objectively” in signs (prices, institutions, rules, “firms” and so on) which can be discovered and subjectively interpreted by many within the context of their particular actions, thus facilitating the creation of new, subjective information that is increasingly rich and complex. Nevertheless, despite appearances, the transmission of social information is basically tacit and subjective; that is, the information is not expressly articulated and it is conveyed in a highly abridged manner. (In fact only the minimum amount of information necessary for coordinating the social process

is subjectively transmitted and received.) This enables people to make the best possible use of the human mind's limited capacity to constantly create, discover and impart new entrepreneurial information.

2.9 THE LEARNING EFFECT: COORDINATION AND ADJUSTMENT

Finally, we must draw attention to the way in which social agents learn to act in tune with one other. For example, "B", as a result of the entrepreneurial action originally undertaken by "C", stops squandering the resource available to him and conserves it instead, acting in his own interest. As "A" can then count on employing this resource, she is able to achieve her end, and she embarks on the action she had refrained from performing before. Hence both learn to act in a coordinated manner; that is, to discipline themselves and modify their behavior in terms of the needs of the other. Moreover they learn in the best conceivable manner without realizing they are learning and *motu proprio*; in other words, voluntarily and within the context of a plan in which each pursues their particular ends and interests. This alone is the core of the simple, effective and marvelous process which makes life in society possible. Finally, we must observe that the exercise of entrepreneurship by "C" not only permits a coordinated action previously absent between "A" and "B", but also allows both to make an economic calculation within the context of their respective actions, using data or information which was unavailable to them before and which makes them much more likely to successfully reach their own objectives. In short, the information generated in the entrepreneurial process is precisely what makes possible economic calculation, understood as any value judgment regarding different alternatives or courses of action. In other words, without the free exercise of entrepreneurship within the context of a market economy the information necessary for each actor to properly calculate or estimate the value of each alternative course of action is not created. In brief, without entrepreneurship economic calculation is impossible. Not only is this one of the most significant conclusions that emerge from Austrian economic analysis, but it also lies at the heart of the theorem of the impossibility of socialist economic calculation, as Mises and Hayek discovered it, a topic we shall return to in later chapters.

The above observations constitute both the most important and the most fundamental teachings of social science, and they allow us to conclude that entrepreneurship is undoubtedly the quintessential social function, given that it makes life in society possible by adjusting and coordinating the behavior of its individual members. Without entrepreneurship even the existence of society is inconceivable.

2.10 THE ESSENTIAL PRINCIPLE

From the theoretical perspective of the Austrian school, what is truly important is not who specifically exercises entrepreneurship (though in practice this is precisely the most important question), but that a situation exists in which there are no institutional or legal restrictions on the free exercise of entrepreneurship, and hence each person is free to use their entrepreneurial abilities as well as possible to create new information and take advantage of the exclusive, practical information they have discovered in any particular set of circumstances. Therefore it is no mere coincidence that, politically speaking, most Austrian theorists are libertarian philosophers who are deeply committed to defending an uncontrolled market economy.

It does not fall to the economist, but rather to the psychologist, to study in greater depth the origin of the innate strength which motivates people to act in an entrepreneurial manner in all areas. At this point we shall merely highlight the following essential principle: people tend to discover the information which interests them and, hence, if they are free to accomplish their ends and promote their interests, both of these will act as incentives to motivate them in the exercise of entrepreneurship and will permit them to continually perceive and discover the practical information which is vital to the achievement of their objectives. The opposite is also true. If, for whatever reason, the scope for the exercise of entrepreneurship is narrowed or eliminated in a certain area of social life (via legal, institutional or traditional restrictions, or through interventionary measures implemented by the state in the economy), then humans will not even consider the possibility of accomplishing ends in that prohibited or limited area, and therefore, since the ends will not be achievable, they will not act as incentives, and the actor will not perceive nor discover the practical information crucial to the achievement of them. Furthermore, under such circumstances, not even the people affected will be aware of the tremendous value and large number of goals which cease to be realizable as a result of these institutional restrictions (interventionism or socialism).

Finally, let us bear in mind that each actor possesses some bits of practical information which, as we have seen, they tend to discover and use to accomplish an end. Despite its social implications only the actor has this information; that is, only he or she possesses and interprets it consciously. It is clear that we are not referring to the information published in journals, books and newspapers, nor that stored on computers, expressed as statistics, and so on. The only information or knowledge which is vital to society is that which someone is aware of, though in most cases only tacitly, at any particular point in history. Therefore each time a person acts and exercises entrepreneurship they do so in a characteristic, personal and unrepeatable manner, a manner which arises from their attempt to gain certain objectives or pursue a specific vision of the

world, all of which act as incentives and which, in their particular form and circumstances, only they possess. The above enables each human being to obtain certain knowledge or information, based entirely on their own ends and concrete circumstances, which no other person can experience in an identical form.

Thus the key importance of not disregarding anyone's entrepreneurship. Even the humblest people, those of the lowest social status or most lacking in formal knowledge, will exclusively possess at least small bits or pieces of knowledge and information which can be of decisive value in the course of social events. From this standpoint, it is obvious that our concept of entrepreneurship is of an essentially humanistic nature, a concept which makes economics, as it is understood and advanced by members of the Austrian school, the quintessential humanistic science.

2.11 COMPETITION AND ENTREPRENEURSHIP

The word "competition" derives etymologically from the Latin term *cum peti-tio* (the concurrence of multiple requests for the same thing, which must be allotted to an owner), which comprises two parts: *cum* (with) and *petere* (to request, attack, seek). *Merriam-Webster's Collegiate Dictionary* (11th edn) defines competition as "a contest between rivals." Thus competition consists of a dynamic process of rivalry and not the so-called "model of perfect competition", in which multiple offerers do the same thing and all sell at the same price; that is, a situation in which, paradoxically, no one competes (Huerta de Soto 1994, 56–8).

By its very nature and definition entrepreneurship is always competitive. This means that once an actor discovers a certain profit opportunity and acts to take advantage of it, the opportunity tends to disappear, and no other actor can then perceive and seize it. Likewise if an actor only partially discovers an opportunity for profit or, having discovered it completely, takes only partial advantage of it, then a portion of that opportunity will remain latent for other actors to discover and grasp. Therefore the social process is markedly competitive in the sense that different actors compete with each other, consciously and unconsciously, to be the first to perceive and embrace profit opportunities.

Every entrepreneurial act uncovers, coordinates and eliminates social maladjustments, and the fundamentally competitive nature of entrepreneurship makes it impossible for any actor to perceive and eliminate maladjustments anew once they have been discovered and coordinated. One might mistakenly think that the social process driven by entrepreneurship could lose momentum and come to a stop or disappear once the force of entrepreneurship had revealed and exhausted all of the existing possibilities of social adjustment. However the

entrepreneurial process of social coordination never stops nor is exhausted. This is because the essential coordinating act amounts to the creation and transmission of new information which necessarily modifies among all of the entrepreneurs involved the general perception of ends and means. This change in turn gives rise to the appearance of an unlimited number of new maladjustments, which spark new opportunities for entrepreneurial profit, and this dynamic process spreads, never comes to a halt and results in the constant advancement of civilization. In other words, entrepreneurship not only makes life in society possible by coordinating the maladjusted behavior of its members, but it also fosters the development of civilization by continually prompting the creation of new objectives and knowledge which spread in consecutive waves throughout all of society. Furthermore entrepreneurship performs the very important function of enabling this development to be as adjusted and harmonious as humanly possible under each set of historical circumstances, because the maladjustments which are constantly created as civilization evolves and new entrepreneurial information emerges tend in turn to be discovered and eliminated by the entrepreneurial force of human action itself. That is, entrepreneurship is the force which unites society and permits its harmonious advancement, since it also tends to coordinate the maladjustments this process of advancement inevitably brings forth.

Therefore the entrepreneurial process gives rise to a sort of continuous social “Big Bang” which permits the boundless growth of knowledge. As we have seen, Austrian theorists offer, as an alternative to the neoclassical model of general or partial equilibrium, a paradigm based on the “general dynamic process” or “social Big Bang”, which expands constantly and tends toward coordination. Moreover it has even been calculated that the limit to the expansion of knowledge on earth is 10^{64} bits (Barrow and Tipler 1986, 658–77), and thus it would be possible to multiply by more than 100 billion the physical limits to growth which have been considered up to now. The same authors have mathematically demonstrated that a human civilization based in space could expand its knowledge, wealth and population without limit. Both base their calculations on the main contributions of the Austrian school in general and Hayek in particular. Tipler concludes:

Much nonsense has been written on the physical limits to economic growth by physicists who are ignorant of economics. A correct analysis of the physical limits to growth is possible only *if one appreciates Hayek's insight that what the economic system produces is not material things, but immaterial knowledge.* (Tipler 1988, 4–5); my italic.

2.12 CONCLUSION: THE AUSTRIAN CONCEPT OF SOCIETY

We shall conclude by defining society as a process (that is, a dynamic structure) which is: spontaneous and thus not consciously designed by anyone; highly complex, since it comprises millions and millions of people with an infinite range of constantly changing goals, tastes, valuations and practical knowledge; and composed of human interactions (which are basically exchange dealings that frequently yield monetary prices and are always carried out according to certain rules, habits or standards of conduct). All such human interactions are motivated and driven by the force of entrepreneurship, which continually creates, discovers and transmits information or knowledge, as it adjusts and coordinates different people's contradictory plans through competition and enables them all to live and coexist in an increasingly rich and complex environment.

Economic science should center precisely on the study of this social process as defined above. Austrian economists feel that the essential purpose of economics is to analyse how the spontaneous social order enables us to take advantage of a huge volume of practical information which is not available anywhere in a consolidated form, but rather is dispersed or diffused throughout the minds of millions of individuals. The object of economics is to study this dynamic process by which information is discovered and transmitted, a process which entrepreneurship constantly drives and which tends to adjust and coordinate people's plans, and thereby makes life in society possible. This and this alone is the essential economic problem and thus we must be particularly critical of the study of the equilibrium model, which engages those of the dominant, neoclassical paradigm. Hayek deems such a focus devoid of scientific interest, since it is premised on the assumption that all information is "given" and that therefore the essential economic problem has already been resolved (Hayek 1972, 51, 91).

3. Carl Menger and the forerunners of the Austrian school

3.1 INTRODUCTION

It is generally agreed that the 1871 publication of *Principles of Economics* (Menger 1981) by Carl Menger (1840–1921) gave birth to the Austrian school of economics. Nevertheless this author’s chief virtue lay in his ability to adopt and encourage a tradition of thought which originated in continental European Catholicism and the precursors of which date back to the dawn of Greek philosophy and, even more clearly, to the long-established legal, philosophical and political thought of classical Rome.

Indeed in classical Rome it was discovered that law is essentially based on custom, and that juridical institutions (like linguistic and economic ones) emerge as a result of a long evolutionary process and incorporate a huge volume of information and knowledge, an amount which far exceeds the mental capacity of any ruler, however wise and good. Cicero (*De re publica* 2.1–2; my italic), expressing Cato’s view, writes:

The reason our political system was superior to those of all other countries was that the political systems of other countries had been created by introducing laws and institutions according to the personal judgment of particular individuals, like Minos in Crete and Lycurgus in Sparta . . . In contrast, our Roman republic is not the personal creation of one man, but of many. It has not been founded during the lifetime of any specific individual, but over a number of centuries and generations. *For there has never been in the world a man intelligent enough to foresee everything, and even if we could concentrate all brainpower into the head of one man, it would be impossible for him to take everything into account at the same time, without having accumulated the experience which practice provides over the course of a long period in history.*

As we shall see, the core of this fundamental idea would provide the basis for Ludwig von Mises’s argument on the theoretical impossibility of socialist planning. During the Middle Ages the notion was preserved and reinforced through Christian humanism and the Thomist philosophy of natural law, which is conceived as a body of ethical principles which transcends the power of any earthly government. Pierre de Jeàn Olivi, Saint Bernardine of Siena and Sant’

Antonino of Florence, among others, theorize about the leading role which human entrepreneurial and creative ability plays as the driving force behind the market economy and civilization (Rothbard 1995a, 97–133). However this line of thought was most ably picked up, fostered and perfected by the great Scholastic theorists of the Spanish Golden Age, who should undoubtedly be regarded as the chief precursors of the Austrian school of economics.

3.2 THE SCHOLASTICS OF THE SPANISH GOLDEN AGE AS FORERUNNERS OF THE AUSTRIAN SCHOOL

According to Friedrich A. Hayek, the theoretical principles of a market economy, like the basic elements of economic liberalism, were not designed, as is generally believed, by Scottish Calvinists and Protestants, but instead sprang from the teachings of Dominicans and Jesuits who belonged to the School of Salamanca during the Spanish Golden Age (Hayek 1978b, 21, 80, 178–9). Hayek went so far as to cite two Spanish Scholastics, Luis de Molina and Juan de Lugo, in the speech he delivered upon receiving the Nobel Prize in Economics in 1974 (Hayek 1989). In fact in the 1950s the Italian professor Bruno Leoni began to convince Hayek of the Catholic, Spanish origin of Austrian economic analysis. Leoni persuaded Hayek that the roots of the dynamic, subjectivist conception of economics lay in the Continent, and that, therefore, they should be sought in Mediterranean Europe and in the Greek, Roman and Thomist tradition, rather than in the tradition of the eighteenth-century Scottish philosophers (Leoni 1991, 88). Moreover fortunately for Hayek, one of his sharpest pupils, Marjorie Grice-Hutchinson, specialized during this period in Latin and Spanish literature and completed, under Hayek's supervision, a research paper on the contributions of the Spanish Scholastics in the sphere of economics, a work which over time has become a minor classic (Grice-Hutchinson 1952, 1978, 1993).

Who were these intellectual forerunners of the modern Austrian school of economics? Most were Dominican and Jesuit professors of moral doctrine and theology at universities which, like that of Salamanca and Coimbra, constituted the principal centers of thought during the Spanish Golden Age (Chafuen 1986). Now let us examine and synthesize their main contributions to what would later become the basic elements of Austrian economic analysis.

Perhaps we should begin by mentioning Diego de Covarrubias y Leyva. Covarrubias (1512–77), the son of a famous architect, became the bishop of the city of Segovia (where he is buried in the cathedral) and was minister to King Philip II for several years. In 1555 Covarrubias expressed better than anyone before him the essence of the subjective theory of value, the pivot of

the entire structure of Austrian economic analysis, when he stated: “The value of an article does not depend on its objective nature but on the subjective estimate of men, even when this estimate is foolish.” To illustrate his point, he added: “In the Indies wheat is more expensive than in Spain, because there men value it more, even though the objective nature of wheat is the same in both places” (Covarrubias 1604, 131). Covarrubias also produced a study of the historical evolution of the maravedi’s decrease in purchasing power, and he foresaw many of the theoretical conclusions that Martín de Azpilcueta and Juan de Mariana, among others, would later present concerning the quantity theory of money. Covarrubias’s study incorporates many statistics regarding price movements in the century preceding the one in which he lived, and it was published in Latin as *Veterum collatio numismatum*. This work is highly significant, not only because the Italians Davanzati and Galiani praised it in the centuries that followed, but also, and especially, because it is one of the books Carl Menger cites in his *Principles of Economics* (Menger 1981, 317).

The subjectivist tradition Covarrubias established was continued by another remarkable Scholastic, Luis Saravia de la Calle, who was the first to shed light on the true relationship between prices and costs in the market. Saravia de la Calle asserted that in any case, costs tend to follow prices and not vice versa. Thus he was before his time in exposing the errors of the objective theory of value, which the theorists of the English classical school would later develop, and which would provide the foundation for the exploitation theory of Karl Marx and his socialist successors. In his work, *Instrucción de mercaderes* (Instruction to Merchants), published in Spanish in Medina del Campo around the year 1544, Saravia de la Calle writes:

Those who gauge the just price of an article by the labor, costs, and risks borne by the person who deals in or produces the merchandise are seriously mistaken; for the just price springs from the abundance or lack of goods, merchants, and money, and not from costs, labor, and risks. (Saravia de la Calle 1949, 53)

Moreover the entire book centers around the function of the entrepreneur (whom Saravia de la Calle refers to as a “merchant”), in keeping with the previously-mentioned Scholastic tradition of focusing on the stimulating role that the entrepreneur plays, a tradition that dates back to Pierre de Jeàn Olivi, Sant’ Antonino of Florence and, especially, Saint Bernardine of Siena (Rothbard 1995a).

Another noteworthy contribution of the Spanish Scholastics is their introduction of the dynamic concept of competition (*concurrentium* in Latin), understood as the entrepreneurial process of rivalry which drives the market and furthers the development of society. This idea would lie at the heart of Austrian market theory, and it contrasts sharply with the neoclassical equilibrium models of perfect competition, monopolistic competition and monopoly.

The concept also led the Scholastics to conclude that the prices of the equilibrium model (“mathematical prices”, in their terminology), which socialist neoclassical theorists have sought to use as justification for interventionism and market planning, could never be known. Thus Raymond de Roover writes: “Molina even introduces the concept of competition by stating that concurrence or rivalry among buyers will enhance prices.” This dynamic view of competition bears no resemblance to the static model of “perfect competition”, which in the twentieth century “market socialism theorists” have naively believed could be simulated in a system without private property (de Roover 1955, 169). Nevertheless it was Jerónimo Castillo de Bovadilla who most clearly explained this dynamic conception of free competition between entrepreneurs in his book, *Política para corregidores*, published in Salamanca in 1585, in which he indicates that the most positive aspect of competition, its essence, consists of the attempt to emulate the competitor (Popescu 1987, 141–59). In addition, Castillo de Bovadilla formulates the following economic law, which constitutes the basis for every Austrian economist’s defense of the market: “prices of products will decrease as a result of the abundance, mutual emulation, and concurrence of sellers” (Castillo de Bovadilla 1585 [1978], 2: ch. 4, 49).

As for the impossibility of authorities or analysts coming to know equilibrium prices and the other data that they need to intervene in the market, or to construct their models, the contributions of the Spanish Jesuit cardinals Juan de Lugo and Juan de Salas stand out. Juan de Lugo (1583–1660) wondered what the equilibrium price might be, and as early as 1643, he concluded that it depends on so many specific circumstances that only God can know it (“*pretium iustum mathematicum licet soli Deo notum*”) (Lugo 1642, 2: 312). For his part, in 1617, Juan de Salas considered the chances of a ruler coming to possess the specific information that is dynamically created, discovered and handled in the market, and he asserted that “*quas exacte comprehendere et ponderare Dei est non hominum.*” In other words, it is God alone, and not man, who can properly understand and ponder the information and knowledge economic agents handle in the market process, and who can take into account all of the particular circumstances of time and place (Salas 1617, 4: 6, 9). As we shall see, the work of both Juan de Lugo and Juan de Salas foreshadowed, over three centuries earlier, the finest scientific contributions of the leading Austrian thinkers (especially Mises and Hayek).

Another essential element of what would later become Austrian economic analysis is the principle of time preference, according to which, all other things being equal, present goods are always valued more highly than future goods. This doctrine was rediscovered in 1556 by Martín de Azpilcueta (the famous Doctor Navarro), who in turn took it from one of the brightest disciples of Saint Thomas Aquinas, Gilles de Lessines, who as early as 1285, stated:

Future goods are not valued so highly as the same goods available at an immediate moment of time, nor do they allow their owners to achieve the same utility. For this reason, it must be considered that they have a more reduced value in accordance with justice. (Dempsey 1943, 214)

The Scholastics also analysed the distorting effects of inflation, understood as any state policy of growth in the money supply. In this area the foremost work is that of Father Juan de Mariana, entitled *De monetae mutatione*, which the author later translated into Spanish under the title *Tratado y discurso sobre la moneda de vellón que al presente se labra en Castilla y de algunos desórdenes y abusos* (Mariana 1987). In this book, which first appeared in 1605, Mariana criticizes a policy the authorities of his era employed, that of deliberately reducing the assay value of old copper coins. Though Mariana does not use the term “inflation”, which was then unknown, he explains that this phenomenon produces an increase in prices and the widespread disorganization of the real economy. Furthermore Mariana criticizes the policy of establishing ceiling prices to counter the effects of inflation, and he considers this policy not only incapable of producing positive results, but also extremely harmful to the production process. Mariana’s contribution was an improvement on the exclusively macroeconomic, and thus much more simplistic, analysis Martín de Azpilcueta had carried out in 1556, and the one Copernicus had offered before that in his book *Monetae cudendae ratio*. These two men were the first to present the typical, crudely simplified and mechanistic version of the quantity theory of money so prevalent today (Azpilcueta 1965, 74–5).

The Spanish Scholastics also contributed significantly to banking theory (Huerta de Soto 1996). For example, there is the perfectly clear criticism Doctor Saravia de la Calle directed toward the exercise of fractional-reserve banking, in the sense that the self-interested use, via the granting of loans to third parties, of money placed with bankers in demand deposits is illegitimate and constitutes a grave sin. This doctrine coincides fully with the one classical authors of Roman law originally established, a doctrine which follows naturally from the very essence, cause and legal nature of the monetary irregular-deposit contract (Saravia de la Calle 1949, 180–1, 195–7). Martín de Azpilcueta and Tomás de Mercado also carried out a rigorous and very demanding analysis of banking activity, and while their contribution does not reach the critical level of Saravia de la Calle, it includes an impeccable study of the requirements which, in terms of justice, must be met in the monetary bank-deposit contract. All of the above authors implicitly demand that banks operate with a 100 per cent reserve, and this proposal would become a pivot of the Austrian analysis regarding the theory of credit and economic cycles (Huerta de Soto 2006). Less rigorous, and thus more understanding of fractional-reserve banking, is the analysis of Luis de Molina and Juan de Lugo,

though Dempsey believes that if these authors had been acquainted with the details and theoretical implications of fractional-reserve banking, as Mises, Hayek and the other Austrian theorists later revealed them, and with the process of credit expansion and fiduciary inflation which results from the practice, then even Molina, Lesio and Lugo would have considered it a vast and illegitimate process of institutional usury (Dempsey 1943, 225–8).

Nevertheless it is worth mentioning that Luis de Molina was the first theorist to point out that deposits and bank money in general, which he refers to with the Latin term *chirographis pecuniarum*, form part of the money supply, just as cash does. In fact in 1597 Molina expressed the fundamental idea, long before Pennington did in 1826, that the total volume of monetary transactions conducted in a market could not be paid for with the amount of hard money which changes hands there, if it were not for the money banks generate by noting down their deposits and the issuance of checks against these by depositors. Hence, as a result of banks' financial activity, a new quantity of money is created from nothing in the form of deposits, and this money is used in transactions (Molina 1991, 147).

Finally, Father Juan de Mariana wrote another book entitled *Discurso sobre las enfermedades de la compañía*, which was published posthumously in 1625. In this book Mariana plunges into a true Austrian-style analysis concerning the impossibility, due to a lack of information, that a government could organize civil society based on coercive commands. Indeed it is impossible for the state to obtain the information it needs to give a coordinating quality to its commands, and therefore its intervention tends to cause disorder and chaos. Thus, with reference to government, Mariana states: "It is a grave mistake for the blind to wish to lead the sighted." He adds that the authorities "do not know the people, nor the events, at least in terms of all of their circumstances, upon which success depends. Inevitably they will commit many serious errors, and people will be troubled as a result and will scorn such a blind government." Mariana concludes that "power and command are mad" and when "there are too many laws, as they cannot all be followed, or even known, respect is lost for all of them" (Mariana 1768, 151–5, 216).

In short, the Scholastics of the Spanish Golden Age were able to articulate what would later become the key theoretical principles of the Austrian school of economics, specifically: first, the subjective theory of value (Diego de Covarrubias y Leyva); second, the correct relationship between prices and costs (Luis Saravia de la Calle); third, the dynamic nature of the market and the impossibility of realizing the equilibrium model (Juan de Lugo and Juan de Salas); fourth, the dynamic concept of competition understood as a process of rivalry between sellers (Castillo de Bovadilla and Luis de Molina); fifth, the principle of time preference (rediscovered by Martín de Azpilcueta); sixth, the profoundly distorting effect inflation exerts on the real economy (Juan de

Mariana, Diego de Covarrubias and Martín de Azpilcueta); seventh, the critical analysis of fractional-reserve banking (Luis Saravia de la Calla and Martín de Azpilcueta); eighth, the recognition that bank deposits form part of the money supply (Luis de Molina and Juan de Lugo); ninth, the impossibility of organizing society via coercive commands, since the information necessary to give such commands a coordinating quality is lacking (Juan de Mariana); and tenth, the libertarian tradition that all unjustified intervention in the market constitutes a violation of natural law (Juan de Mariana).

Hence there are well-founded reasons to conclude that though the dynamic, subjectivist conception of the market was taken up again and given a definitive boost by Menger in 1871, it originated in Spain. It is there, namely in the School of Salamanca, that we find the intellectual roots of the Austrian economic tradition. Like the modern Austrian school, and in stark contrast to the neoclassical paradigm, the School of Salamanca is above all characterized by the great realism and rigor of its analytical premises.

3.3 THE DECLINE OF THE SCHOLASTIC TRADITION AND THE INFLUENCE OF ADAM SMITH

To understand the influence that the Spanish Scholastics exerted on the subsequent development of the Austrian school of economics, we must especially remember that in the sixteenth century the Emperor and King of Spain, Charles V, sent his brother, Ferdinand I, to be King of Austria. Etymologically, “Austria” means “eastern part of the empire”, an empire which at that time encompassed practically all of continental Europe, with the only notable exception of France, which remained isolated and surrounded by Spanish forces. Therefore it is easy to understand how the Spanish Scholastics came to intellectually influence the Austrian school, a situation which was not a mere coincidence or caprice of history, but which arose from the intimate historical, political and cultural relations which developed between Spain and Austria beginning in the sixteenth century (Béreguer 1993, 133–335). These relations would be maintained for several centuries, and Italy also played a vital role, as a cultural bridge across which the intellectual exchange between the far points of the empire (Spain and Austria) flowed. Thus there are strong arguments behind the thesis that, at least early on, the Austrian school embodied a Spanish tradition.

In fact Carl Menger’s chief virtue was to rediscover and encourage this continental, Spanish, Catholic tradition which had fallen into decline and had been practically forgotten due to the triumph of the Protestant Reformation and the Black Legend against everything Spanish, and especially the negative influence which the contributions of Adam Smith and his classical school

followers exerted on the history of economic thought. Indeed, as Murray N. Rothbard indicates, Adam Smith abandoned former contributions centered around the subjective theory of value, entrepreneurship and a desire to explain the prices which emerge in the real market, and replaced them all with the labor theory of value, which Marx would later follow to its natural conclusion when he used it as a basis for his entire socialist exploitation theory. Moreover Adam Smith focused on explaining the “natural”, long-term equilibrium price, a model of equilibrium in which entrepreneurship is conspicuously absent and all necessary information is assumed to be currently available (and thus neoclassical equilibrium theorists would later use the model to criticize supposed “market failures” and justify socialism and state intervention in the economy and civil society). In addition, Adam Smith flooded economic science with Calvinism, for example by supporting usury prohibition and distinguishing between “productive” and “unproductive” occupations. Finally, Adam Smith broke with the radical laissez-faire outlook of his continental (Spanish, French and Italian) iusnaturalist predecessors and introduced into the history of ideas a lukewarm “liberalism” which was so riddled with exceptions and clarifications that even many of today’s “social democratic” theorists could accept it (Rothbard 1995a, 433–74).

Hence, from the Austrian perspective, the ideas of the English classical school had a harmful effect on economics, and this effect grew more pronounced with Adam Smith’s successors, particularly Jeremy Bentham, who infected economics with the narrowest utilitarianism and thus promoted the development of an entire pseudoscientific analysis of costs and benefits (which he believed could be known) and the emergence of a tradition of “social engineers” who strive to shape society at whim using the coercive power of the state. In England this tendency culminated in John Stuart Mill’s apostasy from laissez-faire and his many concessions to socialism. In France the triumph of Cartesian constructivist rationalism explains why interventionists from the *École Polytechnique* and the scientific socialism of Saint-Simon and Comte prevailed (Hayek 1952, 105–88).

Fortunately, despite the overwhelming intellectual imperialism which the theorists of the English classical school brought to bear on the development of economics, the Catholic continental tradition fostered by the Scholastics of the Spanish Golden Age was never completely forgotten. Furthermore this doctrinal trend influenced two notable economists: one Irish, Cantillon, and the other French, Turgot. These two can largely be considered as the true founders of economic science. In fact, around the year 1730, Cantillon wrote his *Essay on the Nature of Trade in General*, which Jevons views as the first systematic economic treatise. In this book Cantillon highlights the figure of the entrepreneur as the driving force behind the market process, and he explains that an increase in the quantity of money does not affect the general price level all at

once, but instead always hits the real economy in stages, gradually, by a process which inevitably affects and distorts the relative prices that emerge in the market. This is the famous Cantillon effect, which Hume later copied, and which Mises and Hayek would pick up in their analyses of the theory of capital and economic cycles (Cantillon 1959).

Long before Adam Smith, the Marquis d'Argenson (in 1751) and especially Turgot had already accurately described the dispersed nature of the knowledge which social institutions, understood as spontaneous orders, incorporate. The analysis of spontaneous orders would later become one of the essential elements of Hayek's research program. As early as 1759, Turgot concluded in his *Éloge de Gournay*:

It is not necessary to prove that each individual alone can determine, with knowledge of the basic facts involved, the most advantageous use of his lands and effort. Only he possesses the particular knowledge without which even the wisest man would be in the dark. He learns from his repeated attempts, from his successes and from his losses, and in this way, he gradually acquires a special sense for business which is much more ingenious than the theoretical knowledge an indifferent observer can acquire, since it is motivated by necessity.

Following Father Juan de Mariana, Turgot also refers to

the utter impossibility of directing, via rigid rules and continuous supervision, the multitude of transactions which, if only due to their abundance, cannot be fully known, and which furthermore depend constantly on a vast number of ever-changing circumstances that cannot be controlled, much less foreseen. (Turgot 1844, 275, 288)

Even in Spain, during the long decline of the eighteenth and nineteenth centuries, the Scholastic tradition did not disappear altogether, despite the huge inferiority complex so typical of the era with respect to the Anglo-Saxon intellectual world. The survival of this tradition is evidenced by the fact that another Spanish Catholic writer was able to solve the paradox of value and to clearly formulate the law of marginal utility 27 years before Carl Menger published his *Principles of Economics*. This writer was the Catalan Jaime Balmes (1810–48), who during his short life became the leading Thomist philosopher in the Spain of his day. In 1844 he published an article entitled “True idea of value or thoughts on the origin, nature, and variety of prices”, in which he not only resolved the paradox of value, but he also clearly set out the law of marginal utility. Balmes asks: “Why is a precious stone worth more than a piece of bread, some comfortable clothes, or perhaps even a healthy and pleasant home?” He answers:

It is not difficult to explain. Since the value of an article is determined by its utility or capacity to satisfy our needs, the more necessary it is for satisfying them, the

more valuable it will be. *We must also bear in mind that if the number of means increases, then the need for any one of them in particular decreases; for if we can choose from among many, no particular means is indispensable.* Hence, there is a necessary connection, a sort of proportion, between the increase or decrease in value, and the scarcity or abundance of something. A piece of bread is worth little, but this is explained by its necessary relationship to the satisfaction of our needs; for there is an abundance of bread. However, if the quantity diminishes, the value will rapidly go up and will reach any level, a phenomenon which can be observed in times of shortages, and which is especially obvious with respect to all types of goods in a town long under siege during a war. (Balmes 1949, 615–24; my italic).

With his contribution, Balmes brought the continental tradition full circle and paved the way for the work of Carl Menger and his Austrian disciples who, a few decades later, would complete, perfect and uphold that tradition.

3.4 MENGER AND THE SUBJECTIVIST PERSPECTIVE OF THE AUSTRIAN SCHOOL: THE CONCEPTION OF ACTION AS A SET OF SUBJECTIVE STAGES, THE SUBJECTIVE THEORY OF VALUE AND THE LAW OF MARGINAL UTILITY

Very early on, the young Menger realized that the classical theory of price determination, as Adam Smith and his Anglo-Saxon followers had formulated it, left much to be desired. Menger's personal observations of the functioning of the stock market (during one period he was a stock market correspondent for the *Wiener Zeitung*), along with his own research, led him to write at 31 years of age, in, according to Hayek, "a state of morbid excitement" (Hayek 1992, 69), the book which would officially give birth to the Austrian school of economics. In this book the author strove to establish the new foundations upon which he believed it was necessary to rebuild all economic science. These principles essentially included the development of an economic science which would always rest on "man", viewed as a creative actor and the protagonist of all social processes and events (subjectivism), as well as, for the first time in the history of economic thought, the formulation, based on subjectivism, of an entire formal theory on the spontaneous emergence and evolution of all social (economic, legal and linguistic) institutions, understood as established behavior patterns. All of these ideas are incorporated in the book, *Principles of Economics*, which Menger published in 1871, and which would become one of the most influential works in the history of economic thought.

Menger believes it is essential that we abandon the sterile "objectivism" of the English classical school, and its obsession with the supposed existence of

objective, outside entities (social classes, aggregates, material factors of production and so on). He asserts that economic scientists should always adopt the subjective perspective of the acting human being, and that this perspective should exert a decisive influence on the way in which all economic theories are formulated. Hayek, in reference to this new subjectivist conception Menger proposes, even writes: “It is probably no exaggeration to say that every important advance in economic theory during the last hundred years was a further step in the consistent application of subjectivism.” Hayek adds that this application of subjectivism

. . . is a development which has probably been carried out most consistently by Ludwig von Mises, and I believe that most peculiarities of his views which at first strike many readers as strange and unacceptable trace to the fact that in the consistent development of the subjectivist approach he has for a long time moved ahead of his contemporaries. (Hayek 1952a, 31, 209–10)

Perhaps one of the most typical and original manifestations of this new subjectivist trend Menger proposes has been his “theory of economic goods of different orders”. For Menger “first-order economic goods” are consumer goods, that is, those which subjectively and directly satisfy human needs and, thus, in the specific, subjective context of each action, constitute the ultimate end the actor seeks to achieve. To attain these ends consumer goods, or first-order economic goods, one must first pass through a series of intermediate stages, which Menger terms “higher-order economic goods” (second, third, fourth and so on), such that the higher the order of each stage, the further that stage is from the final consumer good. In Menger’s words:

When we have the complementary goods of some particular higher order at our command, we must transform them first into goods of the next lower order, and then *by stages* into goods of successively still lower orders until they have been fashioned into goods of first order, which alone can be utilized directly for the satisfaction of our needs. (Menger 1981, 67; my italics).

This seminal idea of Menger’s is simply the logical conclusion of his subjectivist conception, in the sense that each human being tries to achieve an end to which he or she attaches a certain subjective value, and with a view to that end, and motivated by its subjective value, conceive and launch into a plan of action comprised of a series of stages deemed necessary for the accomplishment of the end. Moreover these stages acquire a subjective utility, depending on the value of the goal the actor expects to reach through the use of higher-order economic goods. In other words, the subjective utility of the means or higher-order economic goods will ultimately be determined by the subjective value of the end or final consumer good which those means enable one to attain. Hence for the first time in economics, and through Menger’s

efforts, theory focuses on the subjective viewpoint of the actor and revolves around an action process comprised of a number of intermediate stages, which the actor initiates, employs and tries to complete, a process which culminates in the achievement of the end or final consumer good (first-order economic good) they seek.

In acting each person attempts to reach certain aims they have discovered are important to them for some reason. The word “value” refers to the actor’s subjective appraisal of his or her aim, and such appraisals vary in mental intensity. The “means” is anything the actor subjectively believes suitable for helping them to achieve their end. “Utility” refers to the actor’s subjective assessment of the means, depending on the value of the aim the actor believes that means will enable them to accomplish. In this sense value and utility are two sides of the same coin, since the subjective value the actor attaches to their goal is projected onto the means they deem useful for achieving it, precisely via the concept of utility.

Menger’s most significant and original contribution to economic science was his subjectivist conception of all human action processes and not, as has been believed up to this point, his discovery of the law of marginal utility, which occurred independently of, but in parallel with, that of Jevons and Walras. The subjective theory of value and the law of marginal utility are merely obvious corollaries of the subjective conception of the action process, a perspective we owe entirely to Menger and have presented above. In fact, throughout a series of stages, the human actor assesses the means in terms of the end he or she believes they will enable them to accomplish, and this assessment is not exhaustive in nature, but varies with the different interchangeable units of means which are relevant within the context of any specific action. Therefore the actor will tend to value each of the interchangeable units of means in terms of the place the last of them occupies on their value scale, for if the actor should lose or gain a unit of means, the corresponding utility lost or gained, respectively, would be determined by the position occupied on the individual value scale by the end which might be lost or gained as a result of that last unit. Hence, from the Austrian viewpoint, the law of marginal utility has nothing to do with the physiological satisfaction of needs, nor with psychology, but instead is a strictly praxeological law (to use Mises’s terminology), that is, it falls within the very logic of all human, entrepreneurial and creative action.

Thus it is essential that we distinguish between the theory of marginal utility as Menger naturally developed it and the laws of marginal utility which Jevons and Walras simultaneously formulated. Indeed Jevons and Walras expressed marginal utility as a mere addition to a mathematical model of equilibrium (partial in the case of Jevons and general in that of Walras) in which the human action process is conspicuously absent, and the incorporation or

exclusion of the law of marginal utility changes nothing. In contrast, for Menger, the theory of marginal utility is an ontological necessity or an essential consequence of his own conception of human action as a dynamic process (Jaffé 1976, 511–24).

Moreover, it is not surprising that the principal founder of the neoclassical Chicago school, Frank H. Knight, maintained that Menger's theory of first-order and higher-order economic goods was one of his less important contributions (Knight 1950). With this assertion Knight actually reveals the theoretical inadequacies of the neoclassical paradigm of equilibrium and, more precisely, those of his own Chicago School, for which the production process is objective and instantaneous, time plays no role other than a purely parametric one, and the creativity and uncertainty typical of any entrepreneurial act are eradicated by the Ricardian equilibrium that is their focal point of research.

3.5 MENGER AND THE ECONOMIC THEORY OF SOCIAL INSTITUTIONS

Menger's *Principles of Economics* was a very advanced book for its time: in it Menger not only introduced the substantial role played in the real economy by the concept of time, ignorance, entrepreneurial knowledge, error as inseparable from human action, complementary goods which are gradually combined in the market process, and the continual disequilibriums and changes which characterize any real market; he also included in the book a novel theory about the origin and evolution of social institutions, a theory Hayek would later develop further and carry to its logical conclusion.

Indeed Menger's second most important fundamental contribution was his theoretical explanation of the spontaneous, evolutionary emergence of social institutions, based precisely on the subjective conception of human action and interaction. Thus it is by no quirk or coincidence that Menger dedicated his *Principles of Economics* to one of the most distinguished German historicists, Wilhelm Roscher. For in the doctrinal controversy between supporters of an evolutionary, historical and spontaneous conception of institutions (a position represented by Savigny in the field of law and Montesquieu, Hume and Burke in the field of philosophy and political science) and supporters of the narrowly rationalist, Cartesian conception (represented by Thibaut in the field of law and Bentham and the English utilitarians in the field of economics), Menger believed that, with his contribution, he had provided the former with the definitive theoretical backing they needed.

Menger's subjectivist conception, based on the human actor, explains,

through the idea of an evolutionary process in which countless people act, each one equipped with his own small, exclusive store of subjective knowledge, practical experience, desires, feelings and so on, the spontaneous, evolutionary emergence of a series of behavior patterns (institutions) which in the spheres of law, economics and language make life in society possible. Menger discovered that institutions emerge as a result of a social process which is comprised of a multiplicity of human actions and led by a number of specific, flesh-and-blood men and women who, in their own particular historical circumstances of time and place, discover ahead of the rest that they achieve their ends more easily when they adopt certain behavior patterns. In this way they initiate a decentralized, trial-and-error process in which the behaviors that best coordinate social maladjustments tend to prevail and, through this unconscious process of learning and imitation, the lead taken by the most creative and successful human beings in their actions spreads and is followed by the rest of society's members. Though Menger develops his theory by applying it to a concrete economic institution, the emergence and evolution of money (Menger 1994), he mentions that the same essential theoretical framework can, without great difficulty, be applied to legal institutions as well as to the emergence and evolution of language. Menger himself impeccably frames the new question around which he seeks to formulate his entire new scientific research program in economics: "How is it possible that the institutions which are most significant to and best serve the common good have emerged without the intervention of a deliberate common will to create them?" (Menger 1883, 163–5, 1985). The answer is paradoxical, for those institutions which are most vital to the life of "man" in society (linguistic, economic, legal and moral institutions) are "unintended consequences of individual actions" (or in Menger's terminology, *Unbeabsichtigte Resultate*) (Menger 1883, 182). "Man" could not have deliberately created these institutions himself, since he lacks the necessary intellectual capacity to take in the huge volume of dispersed, dynamic information they incorporate. Instead they have gradually emerged in a spontaneous, evolutionary manner from the social process of human interaction, and Menger and the rest of the Austrians believe that this very field should constitute the main focus of economic research.

3.6 THE *METHODENSTREIT* OR THE CONTROVERSY OVER METHOD

Menger must have suffered great frustration when the professors of the German historical school not only failed to understand his contribution, but also considered it a dangerous challenge to historicism. In fact, instead of realizing that

Menger's contribution offered the theoretical backing which the evolutionary conception of social processes required, they considered its theoretical and abstract analytical nature incompatible with the narrow historicism they advocated. In this way the first and perhaps the most famous controversy involving the Austrians, the *Methodenstreit*, arose. It would occupy Menger's intellectual energies for several decades. The historicists of the German school headed by Schmoller were victims of hyperrealism (like the American institutionalists of the school of Thorstein Veblen were later), as they denied the existence of a universally valid economic theory and defended the thesis that the only valid knowledge was that which could be derived from empirical observation and from the collection of data in each historical case. To counter this view Menger wrote his second important book, *Investigations into the Method of the Social Sciences with Special Reference to Economics* (Menger 1883, 198), in which he drew on the writings of Aristotle to assert that knowledge of social reality requires two equally important disciplines which are complementary but radically and epistemologically different. There is theory, which can be conceived as the "form" (in the Aristotelian sense) that captures the essence of economic phenomena. This theoretical form is discovered by introspection; that is, through the researcher's inner reflection, which in turn is made possible by the fact that in economics (like no other science) the researcher enjoys the privilege of having the same nature as those observed, a situation which provides them with extremely valuable first-hand knowledge. In addition theory is constructed in a logical-deductive manner, based on clear, axiomatic knowledge. In contrast to theory, there is history, which can be conceived as the "matter" (in the Aristotelian sense) which materializes in the empirical facts that pertain to each historical event. Menger regards both disciplines, theory and history, form and matter, as equally necessary for knowledge of reality, but he emphatically denies that theory can ever be derived from history. Instead the relationship between the two is of the opposite nature in the sense that history can only be interpreted, classified and comprehended in light of a pre-existing economic theory. Thus, based on a methodological perspective which J.B. Say had already largely intuited, Menger established the foundations of what would later become the "official" methodology of the Austrian school of economics.

We should point out that the term "historicism" has at least three different meanings. The first, which is identified with the historical school of law (Savigny, Burke) and opposed to Cartesian rationalism, is the one that the Austrian school defends in its theoretical analysis concerning the emergence of institutions. The second meaning is associated with the nineteenth-century German professors of the historical school of economics and with the twentieth-century American institutionalists, who deny the possibility of a universally valid abstract economic theory, like that Menger defended and the other

Austrian economists have developed after him. The third type of historicism provides the basis for the methodological positivism of the neoclassical school, which seeks to rely on empirical observation (in other words, ultimately, on history) to prove or disprove theories, an approach Hayek considers merely one more manifestation of the Cartesian rationalism the Austrians so often criticize (Cubeddu 1993, 29–30).

It is curious to note that Menger and his followers, in their defense of theory against the German historicists, had temporary allies in the theorists of the neoclassical equilibrium paradigm, including Walras and Jevons, among the mathematical marginalists, and the neoclassicals Alfred Marshall in England and John Bates Clark in the USA. Even when the Austrian supporters of the dynamic, subjectivist tradition of the analysis of market processes were aware of the profound differences between their approach and that of these theorists of (general or partial) equilibrium, they often felt that the goal of defeating the historicists and defending the correct scientific status of economic theory justified their temporary alliance with the equilibrium theorists. The high cost of this strategy would not become evident until several decades later when, in the 1930s (“the years of high theory,” to use Shackle’s happy expression) the triumph of the advocates of theory over the historicists was interpreted by most economists as the triumph of mathematically formalized equilibrium theory, and not the theory of dynamic social processes, which from the beginning, Menger and his followers had striven to develop and encourage.

At any rate, contrary to the most standard, textbook accounts, which generally portray the *Methodenstreit*, or controversy over method, as a fruitless loss of effort, we believe that it was the occasion for the conceptual refinement and clarification of the inevitable methodological differences between the sciences of human action and those of the natural world. Consequently, the great confusion that remains in this area today is undoubtedly due to economists’ failure to pay sufficient attention to the significant contributions Menger made during this controversy (Huerta de Soto 1982).

4. Böhm-Bawerk and capital theory

4.1 INTRODUCTION

Eugen von Böhm-Bawerk (1851–1914), Carl Menger’s most brilliant disciple, made the next most important theoretical advance in the Austrian school, after Menger’s. Böhm-Bawerk was professor of political economy, first at Innsbruck and later at Vienna, and was also a government minister of the Austro-Hungarian empire several times. He not only contributed to perfecting and spreading the subjective theory that Menger originally developed, but he also significantly expanded its application when he extended it to capital and interest theory. Böhm-Bawerk produced an extraordinary work entitled *Capital and Interest* (1884–1902), which, despite its title, is a complete economic treatise. In it Böhm-Bawerk formulates the core of the Austrian theory of capital around the subjective, dynamic theory of prices. (Fortunately, the most vital parts of this treatise have already been published in Spanish, and thus Spanish students can fill in the traditional gap in the study programs of university economics departments, in which the analysis of capital theory, though key to understanding the market process, is conspicuously absent.)

In addition to developing capital theory, Böhm-Bawerk leveled devastating criticism against all pre-existing theories on the emergence of interest, and his critical analysis was particularly on target with respect to the Marxist theory of exploitation, and theories which depict interest as rooted in the marginal productivity of capital. Moreover Böhm-Bawerk put forward a whole new theory on the emergence of interest, a theory which rests upon the subjective reality of time preference. As we have already seen, Thomist Lessines first defined this principle, and Martín de Azpilcueta rediscovered it in Lessines’s writings at the end of the sixteenth century. Though Böhm-Bawerk’s contribution is not absolutely perfect in terms of explaining interest, and in the end, almost without realizing it, he partially fell for the theory of the marginal productivity of capital, which he had so brilliantly criticized in the first volume of his work, to Böhm-Bawerk goes the credit for laying the essential foundations of a theory of capital and interest which would later be refined and carried to its logical theoretical conclusion by authors like Frank A. Fetter (Fetter 1977) and Ludwig von Mises (Mises 1996, 483–90). Let us now

consider the fundamental principles of capital theory as Böhm-Bawerk initially developed it and as his main disciples later perfected it.

4.2 HUMAN ACTION AS A SERIES OF SUBJECTIVE STAGES

We may begin by defining human action as any deliberate behavior or conduct (Mises 1996, 11–29). As we have already seen, a person acts to attain certain ends they deem important, and to accomplish an end, employ a series of means considered adequate for that purpose. Value and utility refer to the actor's psychical appraisal of the ends and means. Means must be scarce by definition: if the actor did not regard them as such in light of his or her objectives, they would not even take them into account before acting. Ends and means are not "given" but instead spring from the fundamental entrepreneurial activity of human beings, activity which, as we saw in Chapter 2, consists precisely of creating, discovering or simply realizing which ends and means are vital for the actor in each set of circumstances encountered in life. Once the actor believes that they have discovered which ends are worth pursuing, they form an idea of the means available to assist them. They then incorporate them, almost always tacitly, into a plan of action which is embarked upon through an act of will.

Therefore the plan is a mental picture, conjured up by the actor, of the different future stages, elements and circumstances their action may involve. For all human action takes place in time, and we are not referring here to the deterministic or Newtonian sense of the word (that is, merely physical or analogical), but to the subjective sense; that is, the actor's subjective perception of time within the context of their action (O'Driscoll and Rizzo 1996, 52–70). Hence time is an economic category inseparable from the concept of human action. It is impossible to conceive of an action which does not take place in time, one that does not take time. Moreover it is precisely as the actor acts and concludes the different stages in their action process that they perceive the passage of time. Human action, which is always directed toward the attainment of a goal or the removal of unease, invariably takes time in the sense that it requires the realization and completion of a series of successive stages. Therefore what separates the actor from the achievement of their goal is the period of time required by the series of successive stages which comprise their action process.

The following tendency always exists regarding the actor's subjective view of the future: as the time period required by an action increases (that is, as the number and complexity of the successive stages which constitute the action

increase), the result or aim of the action becomes more valuable to the actor. It is quite easy to grasp the economic principle that human action processes tend to achieve aims of greater value the longer the processes last. Indeed, if this were not the case, that is, if the actor did not attach greater value to the results of longer actions, they would never undertake them and would opt for shorter actions instead. An actor is separated from their goal precisely by a certain length of time (that is, by the time necessary to complete the set of stages in their action process). Thus, other things being equal, it is plain that human beings will always try to accomplish their goals as soon as possible, and they will only be willing to postpone the attainment of their ends when they subjectively believe that by doing so they will achieve more valuable ones.

We are now ready to discuss the logical category of time preference, which establishes that, other things being equal, the actor prefers to satisfy their needs or reach their objectives as soon as possible. In other words, when the actor considers two goals of equal subjective value to them, they will always prefer the one closer to them in time. In a nutshell, “present goods” are always preferable to “future goods”, other things being equal. This law of time preference is just another way of expressing the essential principle that every actor, in the course of their action, strives to achieve the aim of the action as soon as possible. Hence time preference is not a psychological or physiological category, but instead it forms an integral part of the logical structure of all action, a structure present in the mind of each human being. The tendency law described above and the law of time preference are simply two different ways of expressing the same reality. According to the former, actors undertake more time-consuming actions because they expect to thus achieve more valuable ends; according to the latter, other things being equal, actors always prefer the goods nearest to them in time.

4.3 CAPITAL AND CAPITAL GOODS

The term “capital goods” denotes what the actor subjectively regards as the intermediate stages of each action process. To put it another way, all intermediate stages which an actor subjectively views as such, and which embody any production process they employ, are capital goods. Therefore capital goods should always be placed in a teleological context, in which the essential defining elements are the aim pursued and the actor’s subjective perspective on the stages necessary to fulfill it (Kirzner 1996, 13–122).

Hence capital goods are the “higher-order economic goods” Carl Menger theorized about, or in other words, the factors of production which materialize at each intermediate stage in any particular action process. Moreover capital

goods arise as the accumulation of three essential elements: natural resources, labor and time, all of which are combined throughout an entrepreneurial action process conceived and initiated by human beings.

The *sine qua non* for producing capital goods is saving or the relinquishment of immediate consumption. Indeed in an action process the actor will only be able to reach successive and increasingly time-consuming intermediate stages if they have first sacrificed the chance to undertake actions which would produce more immediate results. In other words, they must give up the achievement of ends which would satisfy human needs sooner and which would thus be temporally more immediate (consumption). To illustrate this important concept we shall use the example Böhm-Bawerk gives to explain the process of saving and investment in capital goods, in this case the process employed by an individual actor in an isolated situation, Robinson Crusoe on his island (Böhm-Bawerk 1959d, 102–18).

Let us suppose that Robinson Crusoe has just arrived on his island and spends his time picking berries from bushes by hand, his only means of subsistence. Each day he devotes all of his efforts to gathering berries, and he picks enough to survive and can even eat a few extra daily. After several weeks on this diet Robinson Crusoe makes the entrepreneurial discovery that with a wooden stick several meters long, he could reach higher and further, strike the bushes with force and gather many more berries in far less time. The only problem is that he estimates it could take him five whole days to find a suitable tree from which to take the stick and then prepare it by removing its branches, leaves and imperfections. During this time he would be compelled to interrupt his berry picking. If he wishes to act on his idea and produce the stick, he will have to somewhat reduce his consumption of berries for a number of days and store the remainder in a basket until he has enough to survive for five days, the predicted duration of the wooden stick's production process. After planning his action Robinson Crusoe decides to undertake it, and therefore he must first save a portion of the berries he picks by hand each day, thus reducing his consumption by that amount. This clearly represents an inevitable sacrifice, which he nevertheless deems well worth his effort in relation to the goal he longs to achieve. So he decides to reduce his consumption (in other words, to save) for ten days, let us say, while storing his leftover berries in a basket until he has accumulated an amount that he estimates will be sufficient to sustain him while he produces the stick.

With this example Böhm-Bawerk shows that each process of investment in capital goods requires prior saving; that is, a decrease in consumption, which must fall below its potential level. Once Robinson Crusoe has saved enough berries, he spends five days searching for a branch from which to make his wooden stick, separating it from the tree and perfecting it. What does he eat during the five days it takes him to prepare the stick, a production process

which forces him to interrupt his daily harvest of berries? He simply consumes the berries he accumulated in the basket over the preceding ten-day period, during which time he saved the necessary portion from his “hand produced” berries and experienced some hunger. In this way, if Robinson Crusoe’s calculations were correct, at the end of five days he will have the stick (a capital good), which represents an intermediate stage removed in time (by five days of saving) from the processes of immediate berry production (by hand) which up to that point had occupied him.

We should understand that Robinson Crusoe must attempt to coordinate as well as possible his present behavior with his foreseeable future behavior. More specifically, he must avoid initiating action processes which are excessively long in relation to his savings: it would be tragic for him to run out of berries (that is, to consume all he has saved) halfway through the process of producing a capital good and without reaching his goal. He must also refrain from saving too much with respect to his future investment needs, since by doing so he would only unnecessarily sacrifice his immediate consumption. Robinson Crusoe’s subjective assessment of his time preference is precisely what enables him to adequately coordinate or adjust his present behavior in relation to his anticipated future needs and behavior. On the one hand, the fact that his time preference is not absolute makes it possible for him to forfeit some of his present consumption over a period of several days with the hope of thus being able to produce the stick. On the other hand, the fact that he does have a time preference explains why he only devotes his efforts to creating a capital good which he can produce in a limited period of time and which requires sacrificing (saving) for a limited number of days. At any rate, it is important to understand that the real saved resources (initially embodied by the berries in the basket) are precisely the ones which enable Robinson Crusoe to survive during the time period he spends producing the capital good and during which he ceases to gather berries directly. Gradually, some capital goods (the saved berries) are replaced by others (the wooden stick), as Robinson Crusoe combines his labor with natural resources through an entrepreneurial process which takes time and which Robinson Crusoe is able to complete by relying on the consumer goods he initially saved.

In a modern economy, in which many economic agents simultaneously perform different functions, the capitalists are those economic agents whose function is precisely to save; that is, to consume less than they create or produce and to make available to workers the consumer goods that they need to live for the duration of the production process in which they participate. (Robinson Crusoe also behaves like a capitalist when he saves berries that later enable him to survive while he produces his wooden stick.) Thus, when the capitalists save, they free up resources (consumer goods) which can be

used to sustain the workers who direct their energies to productive stages removed from final consumption, that is, the production of capital goods.

Unlike the Robinson Crusoe example, the structure of production in the modern economy is extremely complex, and it extends over a tremendously lengthy period of time. It incorporates a multitude of stages, all of which are interrelated and divide into numerous secondary processes that humans employ in the countless action projects they constantly launch.

For instance, the productive structure involved in the process of manufacturing a car consists of hundreds or even thousands of stages which require a very prolonged period of time (even several years) from the moment the company conceives the design of the vehicle (the stage furthest from final consumption), orders the corresponding materials from its suppliers, runs these materials through the different assembly lines, orders the different parts for the engine and all accessories and so on, until it arrives at the stages closest to consumption, such as transport and distribution to dealers, the development of advertising campaigns, and the presentation and sale of the car to the public (Skousen 1990).

It is clear that, just as the difference between the “rich” Robinson Crusoe with the stick and the “poor” Robinson Crusoe without it lay in the capital good the former had obtained through prior saving, the essential difference between rich societies and poor societies does not stem from any greater effort that the former devote to work, nor even from any greater technological knowledge that the former hold. Instead it arises mainly from the fact that rich nations possess a more extensive network of capital goods wisely invested from an entrepreneurial standpoint. These goods consist of machines, tools, computers, software, buildings, semi-manufactured goods and so on, and they exist due to prior saving by the nation’s citizens. Furthermore capital goods in the extremely complex network which constitutes the real productive structure of a modern economy are not perpetual, but are always temporary in the sense that they are physically used up or consumed during the production process, or they become obsolete. This means that if the economic agent wishes to maintain their stock of capital goods intact, they must deal with the depreciation or wear that they undergo, and if the agent wishes to further increase the number of stages, lengthen the processes and make them more productive, they will have to accumulate even more than the minimum savings required to counteract the strict amortization rate, the accounting term for the depreciation of capital goods.

Also, as a general rule, one we should bear in mind with regard to the Austrian theory of economic cycles, capital goods are difficult to convert, and the closer they are to the final stage of consumption, the more difficult is their convertibility. Therefore, if circumstances change, if the actor changes their mind or realizes that they have committed an error, the capital goods that they

have produced up to that point may become utterly useless or they may be useful only after a costly conversion.

We are now ready to consider the concept of capital, which from an economic standpoint differs from the concept of “capital goods”. In fact, we will define “capital” as the market value of capital goods, a value estimated by the individual actors who buy and sell capital goods in a free market. Thus we see that capital is simply an abstract concept or instrument of economic calculation. In other words, it is a subjective valuation or judgment on the market value that entrepreneurs believe capital goods will have, and on the basis of which they continually buy and sell in an attempt to make entrepreneurial profits with each transaction. If it were not for market prices and the subjective estimation of the capital value of the goods that compose the intermediate stages in production processes, in a modern society it would be impossible to estimate or calculate whether or not the final value of the goods to be produced using capital goods offsets the cost involved in production processes, neither would it be possible to direct in a coordinated manner the efforts of the people who participate in different action processes.

Hence, in a socialist economy in which neither free markets nor market prices exist, it is perhaps feasible to speak of capital goods, but not of capital. The absence of a free market and the coercive intervention of the state in the economy, which embody the essence of socialism, to a greater or lesser extent prevent the exercise of entrepreneurship in the area of capital goods and, as a result, they tend to cause systematic, intertemporal maladjustments. As we shall see later, the Austrian theorem of the impossibility of socialist economic calculation pivots on this very idea. For without free entrepreneurship, nor free markets for capital goods and money, it is impossible to make the necessary economic calculation regarding the horizontal and vertical extension of the different stages in the production process, and widespread dis-coordinated behavior which disrupts society and precludes its harmonious development ensues. In entrepreneurial processes of intertemporal coordination a leading role is played by an important market price: the price of present goods in relation to future goods, more commonly known as the interest rate, which governs the relationship between consumption, saving and investment in modern societies, and which we shall closely examine in the next section.

4.4 THE INTEREST RATE

As we have seen, other things being equal, humans always place present goods higher than future goods on their scales of value. However the relative psychological intensity of this difference in subjective valuation varies substantially from one person to another, and it can even vary greatly throughout the life of one

person, depending on their own particular circumstances. This disparity in the psychical intensity of subjective valuations of present goods in relation to future goods, a disparity reflected on each human actor's value scale, means that in a market which comprises many economic agents, each of whom have their own distinct and variable time preference, multiple opportunities arise for mutually beneficial exchanges.

Hence people with a low time preference will be willing to give up present goods in exchange for future goods valued only slightly higher, and they will perform exchanges in which they will hand over their present goods to people with a higher time preference, that is, people who value the present more intensely than they do. The very creativity and alertness inherent in entrepreneurship give rise to a process that tends to establish a market price for present goods with respect to future goods. From the viewpoint of the Austrian school, the interest rate is the market price of present goods in terms of future goods.

Therefore the interest rate is the price established in a market in which the suppliers or sellers of present goods are precisely the savers; that is, all those relatively more willing to relinquish immediate consumption in exchange for goods of greater value in the future. The demanders or buyers of present goods are all those who consume immediate goods and services (be they workers or owners of natural resources, capital goods or any combination of these). Indeed the market of present and future goods where the interest rate is determined consists of society's entire productive structure. Here savers or capitalists give up immediate consumption and supply present goods to owners of the ordinary factors of production (workers and owners of natural resources) and to owners of capital goods, in exchange for the full ownership of consumer (and capital) goods of a supposedly higher value once the production of these goods has reached completion in the future. If we eliminate the positive (or negative) effect of pure entrepreneurial profits (or losses), this difference in value tends to coincide with the interest rate.

As Austrian economists emphasize, and it is important to understand, the "loan market", in which one may obtain a loan by agreeing to pay the corresponding interest rate, constitutes only a relatively insignificant part of the general market in which present goods are exchanged for future goods and which encompasses the entire productive structure of society. Here owners of the original means of production (labor and natural resources) and of capital goods act as demanders of present goods, and savers act as suppliers of them. Therefore the short-, medium- and long-term loan market is simply a subset of that much broader market in which present goods are exchanged for future goods and with respect to which it plays a mere secondary and dependent role, despite the fact that the loan market is the most visible and obvious to the general public.

In the outside world the only directly observable figures are what we could

call the gross interest rate or market rate of interest (which coincides with the interest rate in the credit market) and the gross accounting profits generated by each productive activity at each stage. The first of these figures consists of the interest rate as we have defined it (also sometimes called the originary or natural rate of interest), plus the risk premium corresponding to the operation in question, plus or minus a premium for expected inflation or deflation; that is, for the expected decrease or increase in the purchasing power of the monetary unit used in exchanges of present goods for future goods and in calculations regarding such transactions.

The second figure directly observable in the market represents the gross accounting profits derived from the specific productive activity carried out at each stage of the production process. These profits tend to match the gross interest rate (or market rate of interest) as we have defined it, plus or minus pure entrepreneurial profits or losses. As entrepreneurial profits and losses tend to disappear in all markets due to competition between entrepreneurs, the accounting profits of each productive activity by time period tend to match the gross market interest rate. Hence it is possible for a company to report accounting profits when it is actually suffering entrepreneurial losses, if accounting profits fail to reach the amount necessary to exceed the implicit gross market interest rate component that applies to the resources capitalists invest during the financial year.

In a modern economy present and future behaviors are reconciled through entrepreneurial activity in the market where present goods are exchanged for future goods and where the interest rate, the market price of one type of good in terms of the other, is established. Thus the more plentiful the savings, that is, the larger the quantity of present goods sold or supplied, other things being equal, the lower their price in terms of future goods; and consequently, the lower the market rate of interest. This indicates to entrepreneurs that more present goods are available to enable them to increase the length and complexity of the stages in their production processes, thereby making these stages more productive. In contrast, the fewer the savings, that is, other things being equal, the less willing economic agents are to give up immediate consumption of present goods, the higher the market rate of interest. Hence a high market rate of interest shows that savings are relatively scarce, an unmistakable sign that entrepreneurs must heed in order to avoid unduly lengthening the different stages in the production process and generating, as a result, discoordination or maladjustments which pose grave danger to the healthy, harmonious and sustained development of society. In short, the interest rate conveys to entrepreneurs which new productive stages or investment projects they can and should embark on and which they should not, in order to keep coordinated, as far as humanly possible, the behavior of savers, consumers and investors, and to prevent the different productive stages from remaining unnecessarily short or becoming too long.

The interest rate as a market price or social rate of time preference plays a key role in coordinating the behavior of consumers, savers and producers in all modern economies. The Austrian theory on economic crises, as Mises and Hayek developed it, rests precisely on the theoretical analysis of the effects that monetary manipulation of the interest rate causes in terms of dis-coordinating the behavior of economic agents and thus severely distorting society's productive structure and rendering inescapable its painful readjustment or reconversion via an economic recession.

4.5 BÖHM-BAWERK VERSUS MARSHALL

In spite of the aforementioned, temporary alliance between Austrian and neoclassical theorists during the debate over method, or *Methodenstreit*, an additional series of fascinating, parallel debates, in which Böhm-Bawerk took part, occurred throughout the final years of the nineteenth century and the first years of the twentieth century.

The first of these controversies involved Böhm-Bawerk and Marshall. Böhm-Bawerk reproached Marshall for blocking, in the English-speaking world, the clear reception of the subjectivist revolution that Menger had started and, specifically, for attempting to rehabilitate Ricardo's old objectivism, at least on the supply side, in using supply and demand functions to explain price determination. Indeed Marshall used the metaphor of the famous scissors with two blades (supply and demand) that jointly set (equilibrium) prices in the market. While Marshall accepted that demand is basically determined by subjective considerations of utility, he believed that the supply side was mainly determined by "objective" considerations involving the historical (that is, "given" and known) cost of production.

Böhm-Bawerk reacted strongly against Marshall's doctrine and responded that the English economist was ultimately overlooking the fact that cost is also a subjective value (that is, a subjective appraisal of the ends one gives up upon acting), and that monetary costs are simply market prices of factors of production, prices which are also ultimately determined by valuations of utility regarding all of the alternative consumer goods which could be produced with them. Thus it was unquestionable that not just one, but both blades of Alfred Marshall's famous scissors hinged on subjective considerations of utility (Böhm-Bawerk 1959c, vol. 3, 97–115; 1962a, 303–70).

4.6 BÖHM-BAWERK VERSUS MARX

Also significant is the devastating criticism that Böhm-Bawerk leveled against

the Marxist theory of exploitation or surplus value, criticism which appears in Volume 1 of *Capital and Interest* (Böhm-Bawerk 1959a).

Böhm-Bawerk raises the following arguments against the Marxist position. First, not all economic goods are the product of labor. Natural resources are scarce and useful for achieving human ends, and thus they constitute economic goods, however they incorporate no labor. Moreover two goods that incorporate an identical amount of labor can clearly have very different market values if the periods of time necessary to produce them differ.

Second, the value of goods is subjective, since, as we have already explained, value is merely an estimate a person makes when they act and project upon the means an assessment of their importance to the accomplishment of a certain end. Therefore goods which incorporate a large quantity of labor can be worth very little, or even nothing in the market, if the actor later realizes they are useless for the achievement of any goal.

Third, labor value theorists are guilty of an insoluble contradiction and the error of circular reasoning: the idea that labor determines the value of economic goods, and that the value of labor is in turn determined by the value of the economic goods necessary to reproduce it and maintain the productive capacity of the worker is an example of circular reasoning; the ultimate determinant of value is never specified.

Fourth, it is plain to Böhm-Bawerk that the defenders of the theory of exploitation are totally oblivious to the law of time preference, and thus the logical concept that, other things being equal, present goods are always worth more than future goods. This error leads them to expect workers to receive more than they actually produce, since defenders of this theory argue that at the time the workers do their job, they should be paid in cash for the entire value of a good which will be completely produced only at the end of a period of varying length. Therefore there are only two options: workers can either decide to wait until the conclusion of the production process and obtain total ownership of the end product (as with cooperatives), or they can work as employees, in which case they will receive advance payment of the present value of the end product (the final value discounted at the interest rate). However to expect workers to receive now the entire value of a product which will only be finished at a distant point in the future is clearly unjust, since it would require that workers be paid a value far greater than that which they have actually produced.

In addition, Böhm-Bawerk wrote an article devoted to exposing the logical inconsistencies and contradictions which had entrapped Marx when he tried, in Volume 3 of *Capital*, to resolve the errors and conflicts in his theory of exploitation as he had initially developed it in Volume 1 of the same work (Böhm-Bawerk 1962b, 201–302; 1898 [1949]).

4.7 BÖHM-BAWERK VERSUS JOHN BATES CLARK AND HIS MYTHICAL CONCEPT OF CAPITAL

In general the neoclassical school has followed a tradition which predated the subjectivist revolution and involves a productive system in which the different factors of production give rise, in a homogeneous and horizontal manner, to consumer goods and services. No thought whatsoever is given to the immersion of these factors in time and space throughout a temporal structure of productive stages, an aspect Austrian theorists typically do take into account. The above static framework provided the structure for the work of John Bates Clark (1847–1938), who carried it to its logical conclusion. Clark was Professor of Economics at Columbia University in New York, and his strong anti-subjectivist reaction in the area of capital and interest theory continues even today to serve as the foundation for the entire neoclassical-monetarist edifice.

Indeed Clark considers production and consumption to be simultaneous. In his view production processes are not comprised of stages, nor is there a need to wait any length of time before obtaining the results of production processes. Clark regards capital as a perpetual or permanent fund which “automatically” generates profits in the form of interest. According to Clark, the larger this social fund of capital, the lower the interest. The phenomenon of time preference in no way influences interest in his model (Clark 1893, 302–15; 1895, 257–78; 1907). Moreover, as we shall see in the chapter devoted to Hayek, it is Clark’s view which Knight, Stigler, Friedman and the rest of the Chicago School subscribe to wholeheartedly.

It is evident that Clark’s concept of the production process consists merely of a transposition of Walras’s notion of general equilibrium to the field of capital theory. As we know, Walras developed an economic model of general equilibrium which he expressed in terms of a system of simultaneous equations intended to explain how the market prices of different goods and services are determined. From the Austrian perspective, the main flaw in Walras’s model is that it involves the interaction, within a system of simultaneous equations, of magnitudes (variables and parameters) which are not simultaneous, but which occur sequentially in time as the actions of the agents participating in the economic system drive the production process forward. In short, Walras’s model of general equilibrium is a strictly static model which relates magnitudes that are heterogeneous from a temporal standpoint: the model fails to account for the passage of time, and instead describes the interaction of supposedly concurrent variables and parameters which never arise simultaneously in real life.

Logically, it is impossible to explain real economic processes using an

economic model which omits the aspect of time and in which the study of the sequential initiation of market processes is conspicuously absent. It is surprising that a theory such as the one Clark defends, has nevertheless become the most widely accepted in economics up to the present day and appears in most introductory textbooks. Indeed nearly all of these books begin with an explanation of the “circular flow of income” model, which describes the interdependence of production, consumption and exchanges between the different economic agents (households, companies and so on). Such explanations completely exclude the role of time in the development of economic events. In other words, this model rests on the assumption that all actions occur at once, a false and groundless “simplification” which not only prevents the solution of the real, vital economic issues, but also constitutes an almost insurmountable obstacle to their discovery and analysis by economics scholars.

Böhm-Bawerk reacted immediately against the objectivist stance of Clark and his school. For instance, Böhm-Bawerk describes Clark’s concept of capital as “mystical” and “mythological”, pointing out that production processes never depend upon a mysterious, homogeneous fund, but instead invariably rely on the joint operation of specific capital goods which entrepreneurs must always first conceive, produce, select and combine within an economic process that takes time. Furthermore, according to Böhm-Bawerk, Clark views capital as a sort of “value jelly”, or fictitious notion. With remarkable foresight, Böhm-Bawerk warned that acceptance of such an idea was bound to lead to grave errors in the future development of economic theory. Indeed Böhm-Bawerk predicted with great prescience that if Clark’s circular, static model were to prevail, the long-discredited doctrines of underconsumption would inevitably revive, and when Keynes and his school appeared, Böhm-Bawerk was proven right (Böhm-Bawerk 1895, 113–31).

Böhm-Bawerk also considers theories which, like Clark’s, base interest on the marginal productivity of capital to be untenable. In fact, according to Böhm-Bawerk, theorists who claim that interest is determined by the marginal productivity of capital are unable to explain, among other points, why competition among the different entrepreneurs does not tend to cause the present value of capital goods in the market to match that of their expected output, thus eliminating any value differential between costs and output throughout the production period. As Böhm-Bawerk correctly indicates, the theories based on productivity are merely a remnant of the objectivist conception of value, according to which value is determined by the historical cost incurred in the production processes of different goods and services. However prices determine costs, not vice versa, and knowledge of this fact reaches at least as far back as Luis Saravia de la Calle. Economic agents incur costs because they believe that the value they will be able to obtain from the consumer goods they produce will exceed these costs. The same principle applies to each capital

good's marginal productivity, which is ultimately determined by the future value of the consumer goods and services the capital good helps to produce. By a discount process this value yields the present market value of the capital good (which is completely unrelated to its cost of production).

Thus the origin and existence of interest must be independent of capital goods, and must rest, as we have already stated, on human beings' subjective time preference. It is easy to comprehend why theorists of the Clark-Knight School have made the mistake of considering the interest rate to be determined by the marginal productivity of capital. We need only observe that interest and the marginal productivity of capital become equal in the presence of the following: first, an environment of perfect equilibrium in which no changes occur; second, a concept of capital as a mythical fund which replicates itself and involves no need for specific entrepreneurial decision-making with respect to its depreciation; and third, a notion of production as an instantaneous "process" which hence takes no time. In the presence of these three conditions, which are as absurd as they are removed from reality, the rent of a capital good is always equal to the interest rate. In light of this fact, it is perfectly understandable that theorists imbued with a synchronous, instantaneous conception of capital have been deceived by the mathematical equality of income and interest in a hypothetical situation such as this, and that from there they have jumped to the theoretically inadmissible conclusion that productivity determines the interest rate, and not vice versa, as Austrians precisely assert. Members of the Austrian school hold that varying marginal productivity (that is, the value of the future flow of returns) determines only the market price of each capital good, a price which will tend to equal the present, discounted (at the interest rate) value of this flow of expected returns. At the same time an increase (or decrease) in the interest rate (determined by time preference) will give rise to a decrease (or increase) in the present value (market price) of each capital good (regardless of its historical cost of production) via the corresponding process of discounting (at the interest rate) the expected future flow of returns, and precisely until this amount coincides with the interest rate (and the necessary depreciation rate) (Böhm-Bawerk 1959b, 78–122).

So, in contrast with the hyperrealism of the historicists, Böhm-Bawerk now condemns the hyporealism, or rather the total lack of realism, in Clark and his acolytes' static conceptualization of capital. Every production process takes time and, before the end is achieved, it is necessary to go through a number of stages which take the form of a highly heterogeneous and variable set of capital goods. In no case do these goods automatically replicate themselves, but instead they are gradually created as a result of concrete entrepreneurial actions and a series of decisions, the absence of which would even lead to the consumption and disappearance of existing capital goods.

Furthermore, as we have already indicated, Böhm-Bawerk maintains that the price of capital goods is not determined by their historical cost of production, but instead by the estimate, discounted at the interest rate, of the value of their future productivity, and thus it is productivity which invariably tends to follow interest (determined by time preference), and not vice versa.

Neoclassical economists believe that capital supply and demand jointly determine the interest rate in equilibrium, that subjective considerations of time preference determine supply, but that entrepreneurs determine demand based on the marginal productivity of capital (that is, based on predominantly objective considerations). This approach parallels the one that Marshall developed to explain price determination in the market, and that Böhm-Bawerk and the Austrian school reject and emphasize that when entrepreneurs demand funds, they act as mere intermediaries for workers and owners of factors of production, who are the final demanders of present goods in the form of wages and rents, and in exchange they transfer to entrepreneurs the ownership of future goods of greater value (which will only become available when the process of production concludes).

Consequently, from the perspective of Austrian economists, both sides – the supply of capital goods and the demand for them – depend on subjective considerations of time preference. This line of argument, in the area of interest rate determination, echoes the one that Böhm-Bawerk employed with Marshall when he criticized Marshall for his desire to preserve, at least on one side of the process of price determination, the old objectivist, Ricardian conception characteristic of the classical school of economics.

4.8 WIESER AND THE SUBJECTIVE CONCEPT OF OPPORTUNITY COST

Another often quoted Austrian theorist is Friedrich von Wieser (1851–1926), who was Böhm-Bawerk’s brother-in-law and also a university professor, first in Prague and later in Vienna. Wieser deserves credit for some significant contributions, especially the development of Menger’s subjectivist conception of cost, understood as the subjective value that the actor attaches to those ends he or she sacrifices upon acting (subjective concept of opportunity cost). Also notable is Wieser’s coinage of the term *grenznutzen* or “marginal utility” (from *grenz*, that is, boundary and *nutzen*, that is utility). Nevertheless the latest research has revealed that Wieser was actually more influenced by the Lausanne school than by the Austrian school itself. In fact Mises went so far as to write that Wieser

was not a creative thinker and in general was more harmful than useful. He never really understood the gist of the idea of subjectivism in the Austrian School of

thought, which limitation caused him to make many unfortunate mistakes. His imputation theory is untenable. His ideas on value calculation justify the conclusion that he could not be called a member of the Austrian School, but rather was a member of the Lausanne School (Leon Walras et al. and the idea of economic equilibrium). (Mises 1978, 38)

4.9 THE TRIUMPH OF THE EQUILIBRIUM MODEL AND OF POSITIVIST FORMALISM

Up until the 1930s economists used the equilibrium model as a sort of auxiliary intellectual tool which was intended to facilitate, by contrast, the development of theory on real market processes. However, during the 1930s, most economists ceased to view equilibrium as a mere auxiliary tool and gradually came to regard it as the sole important object of research. During this period neoclassical economists transformed equilibrium into the focal point of research and economists lost interest, in general, in studying dynamic market processes. As a result members of the Austrian school became progressively isolated in their research program, and they were often unaware themselves of the marked change that was taking place within the dominant school of economic thought. In fact Hicks has stated that the Austrians were not actually a peculiar sect outside mainstream economics, but that prior to these years they were the mainstream, while the others (the early neoclassicals who focused on equilibrium) were the ones outside the dominant school (Hicks 1973, 12).

It is true that for a number of years the tension between these two concepts of equilibrium, as an auxiliary tool or as the focal point of research, remained latent. Pareto provides us with some evidence of this. In 1906 he acknowledged the purely auxiliary nature of equilibrium when he stated in reference to solving the system of equations which describes equilibrium:

As a practical matter, that is beyond the power of algebraic analysis . . . In that case the roles would be changed; and it would no longer be mathematics which would come to the aid of political economy, but political economy which would come to the aid of mathematics. In other words, if all these equations were actually known, the only means of solving them would be to observe the actual solution which the market gives. (Pareto 1971, 171)

Nevertheless, in the same work, when commenting on the notion of indifference curves, an idea Edgeworth had introduced earlier, Pareto concludes that as far as the determination of economic equilibrium is concerned, the real market process and even “the individual can disappear, provided that he leaves us this photograph of his tastes” (Pareto 1971, 120).

The above tension (or rather, contradiction) between realism and the equilibrium model is illustrated even more dramatically when we consider all of Pareto's works. Pareto was not only a general equilibrium theorist, but was also a notable sociologist, who even inspired an entire school of sociological thought within the discipline of Italian public finance.

The evolution of economic thought described above was heavily influenced by the triumph of the panphysicalism and methodological monism inspired by Schlick, Mach and other positivists in the "Vienna Circle", who clamored to apply the method used in physics, with its constant functional relationships and its laboratory experiments, to all the sciences, including economics. This methodological goal, which Walras had openly embraced upon reading the treatise written by the physicist Poinsoot, was also unconditionally and wholeheartedly pursued by Schumpeter beginning in 1908, when his book, *The Nature and Essence of Theoretical Economics*, appeared (Schumpeter 1908).

Wieser, who at least in the sphere of methodology continued to defend the Austrian stance, wrote a profoundly critical review of Schumpeter's panphysicalism (Wieser 1911). Specifically, Wieser criticized Schumpeter for succumbing to methodological instrumentalism (which Milton Friedman and the positivists of the School of Chicago would later adopt), as well as for his attempt to apply to economics the foreign method characteristic of physics and mechanics (an error Hayek would later christen "scientism"). The case of Leon Walras illustrates this error particularly well. He became guilty of it after reading, almost in one sitting, the treatise by Louis Poinsoot, the physicist, in which this author describes the different, interconnected parts of physical systems kept in equilibrium by the action of opposing forces. Walras reports that he read Poinsoot's book over a period of several days and decided to adopt it as a model for his research program. From that point on, Walras's objective was to do for economics what Poinsoot had done for the world of physics and mechanics (Mirowski 1991).

It is not surprising that this line of research appeared extremely faulty to theorists of the Austrian school, who were concerned with constructing a theory on real, dynamic market processes, which are never in equilibrium. In addition Wieser blames the panphysicalists for failing to acknowledge that the laws of theoretical economics must necessarily be genetic-causal in nature, and not functional, since it is by introspection that the origins of phenomena are discovered, and functional relationships, as we have already indicated, are simultaneous, do not allow for time and entrepreneurial creativity and relate heterogeneous quantities from a temporal standpoint.

However it was not until Mises and Hayek made their contributions that Austrian theorists became fully aware of the methodological gulf separating them from their neoclassical equilibrium colleagues. They gained this aware-

ness as a result of two other important debates involving the Austrians: the debate over the impossibility of socialism, and the controversy between Hayek and Keynes. In the following chapters we shall study in detail the main contributions of Mises and Hayek, as well as the key importance of these debates to the subsequent development of the Austrian paradigm.

5. Ludwig von Mises and the dynamic conception of the market

5.1 INTRODUCTION

Ludwig von Mises was more successful than any other member of the Austrian school at distilling the essence of the paradigm Menger introduced and applying it to new fields within economics, fields which would give a definitive boost to the Austrian school in the twentieth century. In fact, according to Mises: “What distinguishes the Austrian School and will lend it everlasting fame is its doctrine of economic action, in contrast to one of economic equilibrium or nonaction” (Mises 1978, 36). Mises did a better job than anyone else of applying this dynamic conception of the market to new areas where the analytical Austrian view had not yet been applied and, in doing so, he furthered its development within the theory of money, credit and economic cycles, built a sophisticated theory of entrepreneurship as the coordinating, driving force in the market, and refined the school’s methodological foundations and the dynamic theory as an alternative to conceptions based on equilibrium. All of these contributions proved extremely stimulating and fruitful, intellectually speaking. So Mises gave the Austrian school a definitive theoretical push, based on which his disciples, led by Hayek, would bring about the strong Austrian resurgence that began in the last decades of the twentieth century.

5.2 A BRIEF BIOGRAPHICAL SKETCH

Ludwig Edler von Mises was born on 29 September 1881 in the city of Lemberg, which at the time belonged to the Austro-Hungarian empire. Today Mises’s birthplace is called Lviv and forms part of the independent republic of Ukraine. Ludwig’s father received his education from Zurich Polytechnic and became an important engineer who specialized in railroad construction. Ludwig was the eldest of three brothers, one of whom died as a child and the other, Richard, with whom Ludwig had only a distant personal relationship throughout his life, eventually became a prominent mathematician and logical positivist.

Mises himself reported that he became an economist upon reading Carl Menger's *Principles of Economics* during the 1903 Christmas season (Mises 1978, 33). Mises earned his doctor of law degree on 20 February 1906 and attended Eugen von Böhm-Bawerk's economics seminar at the University of Vienna until 1914. Mises soon distinguished himself as the most brilliant participant in this seminar, together with J.A. Schumpeter, whom Mises always viewed as a particularly confused and frivolous theorist who constantly sought to impress and had fallen into the trap of neoclassical scientism and abandoned the illustrious Austrian tradition.

In 1906 Mises embarked on his teaching career. He taught economics for six years at the Viennese Commercial Academy for Girls, and then, beginning in 1913, he taught for 20 years as a professor at the University of Vienna. In 1934 Mises was appointed Professor of International Economic Relations at the Graduate Institute of International Studies in Geneva, Switzerland. Fleeing Hitler, at the start of the Second World War Mises moved to the USA and became an American citizen and a professor at New York University, where he taught until his retirement in 1969.

Between 1920 and 1934 Mises organized, directed and held a famous economics seminar (*Privatseminar*) in his official office at the Vienna Chamber of Commerce, where he was chief of the finance department and general secretary, and where his involvement gave Mises a strong influence over the economic policy of his country. This seminar, which was held on Friday evenings, was attended not only by students who were preparing their doctoral theses under Mises's guidance, but also, via invitation, by highly prestigious economists from all over the world. The seminar meetings were attended regularly by Friedrich A. Hayek, Fritz Machlup, Gottfried von Haberler, Oskar Morgenstern, Paul L.M. Rosenstein-Rodan, Felix Kaufmann, Alfred Schutz, Richard von Strigl, Karl Menger (the mathematician son of Carl Menger, founder of the Austrian school) and Erich Voegelin, among the German-speaking participants. From the UK and the USA, Lionel Robbins, Hugh Gaitskell, Ragnar Nurske and Albert G. Hart attended, among others. Later, in the USA, Mises again offered his seminar at New York University, where it was held on Thursday evenings from the autumn of 1948 to the spring of 1969. Among the many participants during this second period, the then future professors Murray N. Rothbard and Israel M. Kirzner stand out.

Ludwig von Mises was awarded an honorary doctorate by New York University and, at the request of F.A. Hayek, by the University of Freiburg in Breisgau, Germany. In addition, in 1962, he received the Austrian medal of honor for science and the arts, and in 1969 he was named a Distinguished Fellow of the American Economic Association. Von Mises passed away in New York on 10 October 1973, just one year before his brightest disciple, F.A. Hayek, received the Nobel Prize in Economics for his contributions to

economic science. At the time of his death Mises had published 22 books and hundreds of articles and monographs on economic topics, writings which Bettina Bien Greaves and Robert McGee have cataloged and commented on in two thick volumes (Bien Greaves and McGee 1993, Bien Greaves 1995).

Mises had the good fortune to lead a very long academic life, which extended over nearly seven decades of the twentieth century, and to be recognized during his life as an economist of universal fame (Rothbard 1973). As early as 1944 Henry C. Simons referred to him as the greatest living professor of economics. Even Milton Friedman, a positivist economist of the Chicago School, whom no one would suspect of sympathizing with Mises's theoretical views, described him, shortly after his death in 1973, as one of the greatest economists of all time (Mises 1995, 1). Maurice Allais, another winner of the Nobel Prize in Economics, has written that Mises was "a man of extraordinary intelligence, whose contributions to economic science have all been first-rate" (Allais 1989, 307). Finally, Robbins, in his intellectual autobiography, states of Mises: "But I fail to comprehend how anyone not blinded by political prejudice can read his main contributions, . . . and the magisterial general treatise, *Human Action*, without experiencing at once a sense of rare quality and an intellectual stimulus of a high order . . ." (Robbins 1971, 108).

5.3 THE THEORY OF MONEY, CREDIT AND ECONOMIC CYCLES

From the start of his academic life, when he began attending Böhm-Bawerk's seminar, Mises recognized the need to extend the application of the subjectivist conception of economics, which Menger had taken up, to the area of money and credit, as well as to analyse the effects which monetary and credit manipulation exert on the structure of capital goods, as Böhm-Bawerk had studied it. Thus, in 1912, at 31 years of age, Mises published the first edition of his book, *The Theory of Money and Credit* (Mises 1980), which soon became the standard treatise on monetary theory in all of continental Europe.

This first seminal contribution by Mises, in the monetary sphere, was a big step forward, and it advanced subjectivism and the dynamic Austrian conception by applying them to the field of money and basing the value of money on the theory of marginal utility. In fact Mises was the first to solve the apparently insoluble problem of circular reasoning which up to that point was thought to plague the application of the theory of marginal utility to money. Indeed the price or purchasing power of money is determined by its supply and demand; the demand for money, in turn, derives from human beings, based not on the direct utility of money, but precisely on its purchasing power. Mises solved this apparent case of circular reasoning with his regression theorem (Mises

1996). According to this theorem, the demand for money is determined not by money's purchasing power today (which would be circular reasoning, as described above), but instead by the knowledge the actor forms, based on their experience of its purchasing power yesterday. The purchasing power yesterday, in turn, was determined by the demand for money which rested on the knowledge actors formed concerning its purchasing power the day before yesterday. This process leads back to the point in history when demand first arose for a certain good (gold or silver) as a medium of exchange. Therefore we see that the regression theorem is simply a retrospective application of Menger's theory on the evolutionary emergence of the monetary unit.

As mentioned above, *The Theory of Money and Credit* soon became the standard work in the monetary field, and as such it was used at all prestigious universities in continental Europe. We speak of "continental Europe" since the work was not translated into English until well into the 1930s, and therefore it unfortunately exerted little influence within the Anglo-Saxon world. For example, Keynes himself admitted:

I should have made more references to the work of these writers [Mises and Hayek] if their books, which have only come into my hands as these pages are being passed through the press, had appeared when my own thought was at an earlier stage of development, and if my knowledge of the German language was not so poor (in German I can only clearly understand what I know already! – so that new ideas are apt to be veiled from me by difficulties of language). (Keynes 1971, 178)

Mises's book also included, though in incipient form, his second important contribution: the development of a brilliant theory of economic cycles, which with time became universally known as the "Austrian theory of the business cycle". In fact, when he applied the monetary theories of the currency school to Böhm-Bawerk's subjectivist theories of capital and interest, which we have already discussed, Mises made the following realization: when the fractional-reserve banking system managed by a central bank gives rise to the expansionary creation of loans and deposits unbacked by effective saving (fiduciary media), this creation not only provokes cyclical, uncontrolled growth in the money supply, but also, as loans are created *ex nihilo* at artificially reduced interest rates, it inevitably causes an artificial, unsustainable "lengthening" of production processes, which thus tend to become excessively capital intensive.

According to Mises, the amplification of any inflationary process via credit expansion will sooner or later spontaneously and inexorably reverse and provoke a crisis or economic recession in which the investment errors committed will be revealed and massive unemployment will emerge along with the need to liquidate and reallocate all of the resources wrongly invested. To eliminate recurrent economic cycles Mises proposes the establishment of

a banking system with a 100 per cent reserve requirement for demand deposits and concludes his book with the following assertion:

Now it is obvious that the only way of eliminating human influence on the credit system is to suppress all further issue of fiduciary media. The basic conception of Peel's Act ought to be restated and more completely implemented than it was in the England of his time by including the issue of credit in the form of bank balances within the legislative prohibition . . . It would be a mistake to assume that the modern organization of exchange is bound to continue to exist. It carries within itself the germ of its own destruction; the development of the fiduciary medium must necessarily lead to its breakdown. (Mises 1980, 446–8)

The development by Mises of the theory of the cycle made it possible for the first time to integrate the “micro” and “macro” aspects of economic theory, which until then had been kept separate, since it was thought impossible to apply the theory of marginal utility to money, and therefore all monetary theory was built on aggregate concepts like the general price level. Moreover Mises provided the analytical tools capable of explaining the recurrent phenomena of boom and recession which have affected controlled markets from the very beginning of the modern fractional-reserve banking system, including the serious episodes of stagflation during the 1970s and the recent financial and economic crisis in the world markets (Huerta de Soto 2006, 479–503). Thus it is not surprising that Mises was the driving force behind the creation of the Austrian Institute for Business Cycle Research, of which he appointed F.A. Hayek the first manager, nor that the Institute alone was able to foresee the arrival of the Great Depression of 1929, as the inexorable result of the monetary and credit excesses of the “roaring twenties”, which followed the First World War (Skousen 1993, 247–84). Furthermore we must stress that Mises and his disciples refined their theory of the cycle in parallel with their analysis on the impossibility of socialism, which we shall discuss in the next section. Indeed the Austrian theory of crises can be viewed as simply the application of the broader theory to a specific case, that of the dis-coordinating effects of government intervention in the fiscal, credit and monetary fields, intervention which always systematically dis-coordinates (both intra- and intertemporally) the real productive structure of the economy.

5.4 THE THEOREM OF THE IMPOSSIBILITY OF SOCIALISM

Mises's third vital contribution was his theory on the impossibility of socialism.

Mises maintained that from the standpoint of Austrian subjectivism, this

impossibility was obvious, and neoclassical authors' failure to notice it followed primarily from the erroneous methodological approach they employed in their research, and specifically, from the fact that they built models of states of equilibrium and assumed all of the information necessary to achieve it was available:

The illusion that a rational order of economic management is possible in a society based on public ownership of the means of production owed its origin to the value theory of the classical economists and its tenacity to the failure of many modern economists to think through consistently to its ultimate conclusions the fundamental theorem of the subjectivist theory . . . In truth it was the errors of these schools that made the socialist ideas thrive. (Mises 1996, 2006).

According to Mises, the source of all volition, valuations and knowledge lies in the creative capacity of the human actor, and hence any system based on the exercise of violent coercion against free human action, as is the case with socialism, and to a lesser extent, with interventionism, will prevent the emergence, within the minds of individual actors, of the information necessary to coordinate society. Mises realized that economic calculation, understood as any judgment of value concerning the results of the different alternative courses of action which open up to the actor, requires the availability of first-hand information and becomes impossible in a system which, like socialism, rests on coercion and thwarts, to a greater or lesser extent, the voluntary exchange (in which individual valuations are manifested, discovered and created) and free use of money, understood as a voluntary and commonly accepted medium of exchange.

The concept and analysis of economic calculation, and its importance in the sphere of economic theory, make up one of the most essential aspects of Misesian thought. Perhaps Mises's greatest merit in this area consists of having outlined, in theoretical terms, the connection between the subjective, internal realm of individual valuations (ordinal) and the external realm of market price estimates in the form of monetary units (the cardinal realm of economic calculation). The "bridge" between the two becomes possible whenever the different subjective valuations of the parties prompt an interpersonal exchange which is embodied in a monetary market price or historical ratio of exchange in monetary units, a price with a certain, quantitative, real nature, and one that the entrepreneurs can later refer to as valuable information to help them predict the future course of events and make decisions (economic calculation). Therefore it is clear that if free human action is prevented by force, voluntary interpersonal exchanges will not occur, and the result will be the destruction of the bridge or connection that they represent between the subjective, internal realm of direct valuations and the creation of information (ordinal), and the external realm of prices (cardinal). The destruction of this

connection will render economic calculation totally impossible (Rothbard 1991, 64–5).

Hence Mises concludes that in the absence of market freedom, free market prices and/or money, no “rational” economic calculation is possible, where “rational” calculation is understood to be that performed with the necessary (non-arbitrary) information available.

Mises systematized his fundamental ideas on socialism and included them in his remarkable critical treatise on this social system, the first edition of which appeared in German in 1922, followed by the English, French and, finally, Spanish translations. The work is entitled *Socialism: An Economic and Sociological Analysis* (Mises 1981).

Mises’s *Socialism* also acquired immense popularity in Europe and, among other effects, it had that of moving theorists of the stature of F.A. Hayek, initially a Fabian socialist, Wilhelm Röpke and Lionel Robbins to change their minds after reading it and convert to classical liberalism. Moreover this work sparked off the third important debate (after the *Methodenstreit* and the controversy over the concept of capital) in which Austrian theorists participated: the debate about the impossibility of socialist economic calculation. This is one of the most momentous debates in the history of economic thought; it extended over several decades and has exerted a strong impact in terms of delineating and refining the different distinguishing features of the Austrian school of economics. Furthermore today it is widely recognized, even by former socialist theorists, that the Austrians won the debate on the impossibility of socialism. Thus, for example, Robert L. Heilbroner has come to assert: “Mises was right . . . Socialism has been a great tragedy this century” (Heilbroner 1990, 1110–11). Also, Oskar Lange’s disciples, Brus and Laski, have concluded that Lange and the socialist theorists “never succeeded in confronting the Austrian challenge” (Brus and Laski 1985, 60; Huerta de Soto 1992).

It is important that we close this section by stressing that Mises’s argument on the impossibility of socialism is a theoretical argument concerning the intellectual error involved in any socialist idea, since it is impossible to organize society via coercive commands, given that the supervisory agency cannot possibly obtain the information necessary to do so. Thus Mises’s argument is a theoretical argument regarding the practical impossibility of socialism. We might even say that it is the quintessential theoretical argument, since theory is simply an abstract, formal and qualitative analysis of reality, one that nevertheless must never lose its connection with reality, but instead must be as relevant as possible to real-world events and processes. Therefore it is totally incorrect to view Mises’s analysis as referring to the impossibility of socialism from the standpoint of the formal model of equilibrium or “pure logic of choice”, as many prominent neoclassical authors incapable of distinguishing between “theory” and equilibrium analysis mistakenly believed. In fact, as

early as 1920, Mises himself took great care to expressly deny that his theorem was applicable to the equilibrium model. As this model, in its very formulation, assumes that all necessary information must be available, it portrays the fundamental economic problem socialism poses as solved *ab initio* by definition and, thus, neoclassical theorists fail to notice the problem. Quite the reverse is true, according to Mises, who identifies the root of the problem in the fact that when the supervisory agency issues an edict or command in favor of or against a certain economic project, it lacks the information necessary to ascertain whether it has acted correctly or not, and therefore it cannot make any economic calculation or estimate. If we assume that the supervisory agency has at its disposal all the necessary information and that furthermore no changes occur, then obviously no economic calculation problem arises, since it is assumed from the beginning that no such problem exists. Thus Mises writes:

The static state can dispense with economic calculation. For here the same events in economic life are ever recurring; and if we assume that the first disposition of the static socialist economy follows on the basis of the final state of the competitive economy, we might at all events conceive of a socialist production system which is rationally controlled from an economic point of view. But this is only conceptually possible. For the moment, we leave aside the fact that a static state is impossible in real life, as our economic data are forever changing, so that the static nature of economic activity is only a theoretical assumption corresponding to no real state of affairs. (Mises 1935, 109)

Mises's argument, then, is a theoretical argument on the logical impossibility of socialism, yet it rests on the theory and logic of human action and the real social, dynamic and spontaneous processes it sets in motion, and not on a theory or logic of mechanical action performed in a context of perfect equilibrium by "omniscient" beings who are as inhuman as they are removed from reality. As Mises explains even more clearly in his book about socialism:

That is to say, 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. There is no need for an apparatus of calculation. To use a popular but not altogether satisfactory terminology we can say that the problem of economic calculation is of economic dynamics: it is no problem of economic statics. (Mises 1981, 120–21)

This statement of Mises's fits in perfectly with all the main characteristic features of the Austrian tradition, as begun by Menger, developed later by Böhm-Bawerk, and fostered in its third generation by Mises himself. Hence, because no economic calculation is required in a state of equilibrium, it is not surprising that the only theorists who managed to discover the theorem of the impossibility of socialist economic calculation were the adherents of a school

which, like the Austrian, from the beginning centered its scientific research program on the theoretical analysis of the real dynamic processes that work in the market, and not on the development of partial or general mechanistic models of equilibrium.

Therefore, to all of those neoclassical theorists who, like members of the Chicago School, confuse theory with the static analysis of equilibrium models, socialism does not appear to pose any theoretical problem, to the extent these theorists assume in their models that all the necessary information is already available. For instance, we could again mention the founder of the Chicago School, Frank H. Knight, who actually asserted: “Socialism is a political problem, to be discussed in terms of social and political psychology, and economic theory has relatively little to say about it” (Knight 1938, 267–8). The same error was committed by neoclassical socialist economists, like Oskar Lange and his followers (Lippincot, Dickinson, Durbin, Taylor, Lerner), when they argued that economic equilibrium analysis proved Mises wrong, since Walras’s system of simultaneous equations showed that a given solution existed to the problem of economic coordination Mises had raised. None of these equilibrium theorists grasped the essence of Mises and Hayek’s challenge, nor did they realize that their failure to adopt the dynamic Austrian perspective completely blinded them to the theoretical problems Mises and Hayek had discovered. Perhaps no other area of economic science offers a clearer example of the devastating effects which neoclassical positivist methodology has had in terms of preventing theorists of great worth from perceiving the problems of true importance which arise in the real economic world.

5.5 THE THEORY OF ENTREPRENEURSHIP

The view of human beings as the inevitable protagonists of all social processes lies at the heart of Mises’s fourth essential contribution to the field of economic science. Indeed Mises realized that economics, which had initially emerged around a historical ideal type à la Max Weber, the *homo economicus*, becomes, through the lens of Menger’s subjectivist conception, an entire general theory of human action and interaction (praxeology, in Mises’s terminology). The essential characteristics and implications of human action and interaction are closely examined and constitute the basic object of research in Mises’s all-encompassing economic treatise, which he entitled precisely *Human Action* (Mises 1996). Mises believes that all action has an entrepreneurial, speculative component, and he develops a theory of entrepreneurship, understood as the capacity of human beings to create and recognize the subjective opportunities for profit which arise in their environment and to act accordingly to seize them.

Thus Mises expressly states that the essential element of entrepreneurship is the human capacity for creativity: “Only the human mind that directs action and production is creative” (Mises 1996, 141). In addition, he strongly criticizes the popular fallacies which depict entrepreneurial profit as an outcome of the simple assumption of risks, when risk generates nothing more than an ordinary cost of the production process, a cost which bears no relation to entrepreneurial profit (Mises 1996, 809–91). Mises also discusses the fundamentally mistaken idea that entrepreneurship is a managerial factor of production which can be bought and sold in the market as a result of a maximizing decision. On the contrary, Mises asserts:

In order to succeed in business a man does not need a degree from a school of business administration. These schools train the subalterns for routine jobs. They certainly do not train entrepreneurs. An entrepreneur cannot be trained. A man becomes an entrepreneur in seizing an opportunity and filling the gap. (Mises 1996, 314)

The Misesian theory of entrepreneurship has been extensively developed in recent years by one of Mises’s most brilliant students, Israel M. Kirzner, Professor of Economics at New York University, a man whose contributions we shall comment on in Chapter 7.

The entrepreneurial capacity of human beings not only explains their constant pursuit and creation of new information regarding ends and means, but is also the key to understanding the tendency toward coordination which continuously and spontaneously arises in the market in the absence of coercive intervention. It is entrepreneurship’s capacity for coordination which, as we explained in Chapters 1 and 2, permits the development of a logical corpus of economic theory, one without the errors of the scientific (mathematical and statistical) analysis, which rests on assumptions of constancy and derives from the foreign world of physics and the rest of the natural sciences, of which it is a poor copy (Mirowski 1991).

5.6 METHOD IN ECONOMICS: THEORY AND HISTORY

The last and fifth essential contribution is that Mises is the Austrian theorist who has dealt with the issue of method in economics in the most systematic, integrated manner. Mises maintains that the social sciences or, rather, the sciences of human action, comprise two main branches: praxeology (the general theory of human action, the most developed branch of which is economics) and history. The province of praxeology is the application of the conceptual category of “human action”, for which it is merely necessary to deduce praxeological theorems from the essence of human action. Hence

economic theory is constructed in an aprioristic, deductive manner, based on the concept and category of action. A few fundamental axioms inherent in the concept of action serve as the starting point. The most important of them all is the very category of action, in the sense that people choose their ends by trial and error, and they seek means suitable for achieving them, all according to their own value scales. Another axiom informs us that because means are scarce, they will first be devoted to the accomplishment of the most highly valued ends, and only afterward to the satisfaction of others which are less urgently desired (the “law of diminishing marginal utility”). Yet another tells us that between two goods of identical characteristics, which are available at different points in time, the actor will always prefer the goods available sooner (the “law of time preference”). Other essential elements of the concept of human action include the following: action always takes place in time; time is scarce; and people act with the purpose of moving from one state to another which affords them greater satisfaction.

Upon the foundations of logical-deductive reasoning, and starting from these axioms, Mises builds economic theory, centers it on the problems which occur in real life, and introduces where appropriate in the corresponding chain of logical-deductive arguments those facts from experience which are relevant. Thus facts from experience, which are known and interpreted in light of the theory of human action, are later reused within its framework as “assumptions” for building theorems that more faithfully reflect real life.

Hence, from the perspective of Mises, experience serves only to direct the curiosity of the researcher toward certain problems. It tells us what we should research, but it does not reveal the methodological path that we should follow in search of our knowledge. At any rate, according to Mises, two points should be very clear: first, that no real phenomenon can be known unless reality has first been interpreted in view of the concepts and theorems of human action; and second, that thought alone, and never experience, can direct research toward those hypothetical types of human actions and problems which, without ever having occurred in the past, can conceivably be viewed as potentially crucial in the future.

The other branch of the sciences of human action is history. History is simply the systematic gathering and study of the facts of experience concerning human action. Therefore it deals with the specific content of human action in the past.

So to practice their discipline, the historians must first have at their disposal a body of theory which enables them to interpret reality. Moreover the historian needs a special judgment of relevance to determine which factors most heavily influenced the past events they study (*verstehen* or understanding), and this judgment of relevance makes their discipline a true art.

These value judgments of understanding are also those that the actor uses

whenever they must make a prediction about the evolution of their environment which affects the concrete actions in which they are involved. Nevertheless Mises maintains that in economics one cannot make “scientific” predictions; that is, predictions similar to those of the natural sciences. On the contrary, the laws of our discipline are purely logical-deductive and, as it were, they allow only “qualitative” predictions. These have nothing in common with the ones scientists make in the fields of physics and engineering and, certainly, it is impossible to formulate precise predictions concerning concrete future events. It is true that “man”, in his daily life, is constantly forced to plan his action and to act in light of certain beliefs regarding the unfolding of future events. To make these “predictions”, “man” employs the tool of his theoretical knowledge, interprets the facts of immediate reality in light of it (always relying on his understanding, that is, his knowledge of the particular circumstances of the case in which he is involved), and “predicts” the course of events which could affect his action.

Therefore, “man” faces very great uncertainty with respect to future events; he can only minimize it (yet never dispel it completely) if he has considerable knowledge of theory and a wealth of experience concerning the value judgments and motivations which prompt people to perform certain actions and to behave in certain ways. Thus it is a fact of experience that some people are better prepared than others to entrepreneurially plan their future action. Specifically an entrepreneur is anyone who acts in view of what they believe will be the future course of events. In this sense, according to Mises, we are all entrepreneurs, since every day all people must undertake actions while considering what they believe will happen in the future. Hence, as all people are equipped with an innate entrepreneurial ability, it falls to them to make predictions about the unfolding of concrete events, and to use their theoretical knowledge and experience for the task. However the economic scientist as such can never make any specific prediction, that is, one of a particular quantitative, geographical and temporal nature. If the economist insists on making such predictions, they clearly and immediately abandon the scientific field of economics for the human, entrepreneurial field of prediction. According to Mises, to expect economics to provide scientific predictions on a par with those offered by the natural sciences betrays a gross ignorance of the world in which we live and of human nature in general, as well as an erroneous methodological conception of economic science in particular (Mises 1996).

5.7 CONCLUSION

Ludwig von Mises is considered to be the most important Austrian economist of the twentieth century (Hülsmann 2007). Furthermore he was able to

complete the most momentous all-encompassing, systematic economic treatise written within the Austrian school, a work in which he explains in detail all of the significant contributions that he made in the field of economic science throughout his life. The work is entitled *Human Action: A Treatise on Economics*, and Mises wrote the first German edition while a professor in Geneva before the start of the Second World War. The first English edition appeared on 14 September 1949; that is, well over 50 years ago. Since then the 1000-page work, which covers all the fundamental aspects of economic science from the viewpoint of the subjectivist, dynamic Austrian conception, has been translated into nine different languages, including English, German, Italian, French, Spanish, Portuguese, Czech, Japanese, Russian and Chinese. In addition it is one of the most widely cited treatises in our discipline, principally in monographs and specialized articles on economic topics in general, and on the methodology of economics and the economic analysis of socialism in particular. It can be estimated that to date, over 150 000 copies of this true masterpiece of economic science have been printed. Anyone interested in acquiring a deeper knowledge of the Austrian school of economics should begin by reading it (Huerta de Soto 1995, l–lvii; Salerno 1999).

6. F.A. Hayek and the spontaneous order of the market

6.1 BIOGRAPHICAL INTRODUCTION

F.A. Hayek was one of the leading intellectual figures of the twentieth century. A multidisciplinary philosopher, great classical liberal thinker and 1974 Nobel Prize winner in Economics, Hayek produced a very extensive collection of works, which now exert a strong influence in the most varied spheres, not only in economics, but philosophy and politics as well. In fact it has recently been asserted that in the history of economic, political and social thought, the upcoming years could undoubtedly be described as the “Hayek era”.

Hayek was born on 8 May 1899 into a family of academics and senior public officials, a family in which the intellectual, university life was highly valued. Nevertheless the young Hayek was not a brilliant student: a lively, disorganized intellectual curiosity kept him from concentrating diligently on his different subjects. As Hayek himself confessed, if he took notes, he could not understand what he was listening to, and because he was unable to commit to memory the explanations of his professors, he was obliged to reproduce, *ex novo* and with great effort, any arguments he wished to present. As he indicates in his article “Two types of mind” (Hayek 1978c, 50–6), Hayek always attributed his fruitful intellectual ability precisely to the apparently disorganized and intuitive mental process that characterized him, a process that contrasted sharply with the minds of other Austrian theorists who, like Böhm-Bawerk and Mises himself, had an absolute command of their subject and could present it orally and in writing with great rigor and clarity.

After the First World War, when Hayek returned from the front (where he contracted malaria and learned some Italian), he entered the University of Vienna, which at the time was a hotbed of intellectual trends and discussions that was unrivalled the world over. (A rigorous analysis of the reasons behind this phenomenon in postwar Vienna has yet to appear.) For a while Hayek wondered if he should study psychology and, indeed, some years later he published a book on psychology entitled *The Sensory Order*, a very important work where he laid the foundations of his approach to epistemology (Hayek 1952b). Nonetheless Hayek eventually decided on legal and social sciences, and he specialized in economics under the tutelage of Friedrich von Wieser,

who, as we have already mentioned, was perhaps the most confused and eclectic member of the second generation of the Austrian school of economics.

According to his own acknowledgement, Hayek's political views during these years did not differ significantly from those of his fellow students: he was a "Fabian" socialist who, following in the footsteps of his teacher, Wieser, believed that the benign intervention of the state could improve the social order. It was not until he read *Socialism*, the critical analysis Mises published in 1922, that Hayek abandoned the socialist ideals he had embraced in his youth. At that point a recommendation from Wieser enabled Hayek to begin his close collaboration with Mises in the professional sphere, first at the War Reparations Office, which Mises himself directed, and then as manager of the Austrian Institute for Business Cycle Research, which Mises had founded. In addition, in the academic sphere, Hayek became one of the most assiduous and productive participants in the seminar on economic theory which Mises held every two weeks in his office at the Vienna Chamber of Commerce, where he was general secretary.

We must emphasize that Hayek is indebted to Mises for the starting point of nearly all his work in economic theory.

It was thanks to Mises that Hayek abandoned much of Wieser's unhealthy influence and returned to the fundamentals of the Austrian conception of economics, which Menger had established, Böhm-Bawerk had enriched, and Mises himself had set out to support and defend from the follies of positivist theorists, like Schumpeter, and those more given to the equilibrium model, like Wieser. The relationship between Mises the teacher and Hayek the disciple was, nevertheless, curious to a certain extent. There was great admiration and respect, but the two also drifted apart at times, depending on the circumstances. It should be noted that Hayek showed a certain tendency to highlight his intellectual independence from a teacher whose theories, as Hayek himself recognized, were invariably supported in the long run by the very evolution of the real world.

In 1931 another disciple of Mises, Lionel Robbins, offered Hayek a professorship at the London School of Economics, a post he held until 1949. Thus Hayek became the leading exponent, in the English language, of the contributions of the Austrian school of economics. Hayek was always known to extend the utmost academic courtesy to all of his opponents, whom he never accused of bad faith, only of intellectual error. This was true, for example, of his debates with socialist theorists, with Keynes, and with Knight and the Chicago School, all of whom he opposed not only on issues of methodology (Hayek even stated that after Keynes's *General Theory*, the most dangerous book for economics was *Essays in Positive Economics* by Milton Friedman), but also on the theory of money, capital and cycles (Hayek 1994, 145). Hayek never uttered a word of complaint or reproach, not even when attacked furiously and

unjustly by Keynes, nor when vetoed by members of the economics department at the University of Chicago, whose arrogance prevented them from accepting a “theorist of the Austrian school” into their ranks. (Fortunately Hayek was accepted in the end – without an official salary, since a private foundation took care of paying him – into the Committee of Social Thought at this university, where he wrote his monumental work, *The Constitution of Liberty* (Hayek 1990a).

Hayek was rather unlucky in his private life. In 1949 he destroyed his family when he decided to divorce his wife and marry an impossible love from his youth: a cousin of his who, through a misunderstanding, had married another man. Hayek bumped into her on a visit to his Viennese family following the Second World War, by which time she had become a widow. Hayek and his family paid a huge price for his decision. His English friends, led by Robbins, abandoned him, and the sorrow of the divorce appears to have cost his first wife her life (though this is a taboo subject about which Hayek and those closest to him never wished to speak). At any rate, he was not reconciled with Robbins until many years later, on the occasion of Hayek’s son Laurence’s wedding, and Hayek was obliged to spend the 1950s and part of the 1960s in “exile” in the USA. Moreover, during these years, Hayek began to suffer from serious health problems: first, metabolic problems which left him extraordinarily weak and thin; then, increasing loss of hearing which made him a somewhat distant intellectual on a personal level; and, finally, severe and recurrent bouts of depression which left him prostrate and intellectually unproductive for long periods of time. In fact in the prologue to *Law, Legislation, and Liberty*, Hayek states that at times he even thought these ailments would prevent him from finishing the book (Hayek 1981, 11). It is unknown to what extent Hayek’s harsh personal experiences reinforced his conviction of the vital importance of moral behavior patterns in preserving human life on an individual and social level. However the strong emphasis Hayek places on this topic in his works gives one the impression that this aspect of his thought was developed by someone who knew very well, from first-hand experience, what he was talking about.

All of the above health problems (physical and mental) disappeared almost miraculously when Hayek received the Nobel Prize in Economics in 1974, the year following the death of his teacher, Ludwig von Mises. At that point, Hayek felt himself coming out of his academic isolation, and he began a period of relentless activity during which he traveled all over the world presenting his ideas and managed to complete several more books. (The last of them, *The Fatal Conceit: The Errors of Socialism*, appeared when Hayek was almost 90 years old.) In fact it can be asserted that the awarding of the Nobel Prize to Hayek in 1974 triggered the remarkable resurgence of the modern Austrian school of economics, a revival now taking place all over the world.

Hayek always wished to avoid involvement in politics. Furthermore he considered the role of the intellectual, who must make scientific truth their chief goal in life, to be incompatible with the role of the politician, who is always obliged to yield to the dictates of public opinion to secure votes (Hayek 1991, 45). Hence Hayek believed that in the long term, efforts directed toward convincing intellectuals (thus his great success in founding the classical liberal Mont Pèlerin Society) or influencing public opinion would be much more productive. (Hayek dissuaded Anthony Fisher from entering politics and convinced him that it would be much more useful to create the Institute of Economic Affairs, and later the Atlas Research Foundation, to spread classical liberal ideas throughout the world.) So without the strategic initiatives that Hayek took, it would have been impossible to conceive of the change in public opinion and in the intellectual sphere which led to the fall of the Berlin Wall and to the free market/conservative revolution that took place in the USA under Ronald Reagan and in the UK under Margaret Thatcher, a revolution which has exerted, and continues to exert, such a powerful influence on a worldwide scale.

Finally, it is perhaps fitting to close with a comment on Hayek's approach to religion. Christened Catholic, he abandoned religious practice at a young age and became an agnostic. Nonetheless, as the years passed, he gained an increasing understanding of, in general, the key role religion plays in structuring observance of the customs which form the basis of society and, in particular, the importance of the theologians of the Spanish Golden Age as forerunners of modern economic and social science. Moreover, in 1993, the Catholic thinker Michael Novak surprised the intellectual world when he made public the extensive personal conversation which took place between Pope John Paul II and Hayek before the latter passed away in 1992, so unmistakable signs indicate the marked influence Hayek's thought had on the encyclical letter, *Centesimus Annus*, particularly Chapters 31 and 32, which are full of significant Hayekian contributions (Novak 1993a, 1993b). We will never know if Hayek, the professed agnostic, in the final moments of his life was able to take the necessary steps to comprehend and accept that supreme "anthropomorphic" being which far surpassed his powers of understanding. However what we do know for sure is that Hayek comprehended better than anyone the risks of deifying human reason and the key role religion plays in avoiding them, to the point that, as Hayek writes in the final sentence of his final book, "on that question may rest the survival of our civilization" (Hayek 1990b, 140).

6.2 RESEARCH ON ECONOMIC CYCLES: INTERTEMPORAL DISCOORDINATION

Hayek devoted the early decades of his academic work to the study of cycles. He followed Mises's theoretical lead, yet he made a number of his own very important contributions and, in fact, the Swedish Academy cited mainly the contributions Hayek made in the area of cycle theory during the 1930s as the reason he was awarded the Nobel Prize in 1974.

We should stress that when Hayek arrived in England in 1931, his analytical tools were far superior to those of his English colleagues in general, and to those of Keynes in particular. To begin with, Hayek had mastered Böhm-Bawerk's capital theory and understood perfectly why the supposed "paradox of thrift" was theoretically meaningless. Indeed, according to Böhm-Bawerk's theory, any increase in saving reduces consumption and thus tends to drive down the relative price of consumer goods. What Hayek termed the "Ricardo Effect" follows and consists of a rise in the demand for investment goods, which results from the increase in real wages, which in turn is caused, *ceteris paribus*, by any decrease in the price of consumer goods provoked by saving. This decrease in the price of consumer goods also leads to a relative increase in the entrepreneurial profits in the stages furthest from consumption, where products tend to rise in value in an environment of falling interest rates caused by the greater abundance of saving. The combined result of all of these factors is a lengthening of the productive structure, which becomes more capital intensive, due to the financing which the larger quantity of real saved resources makes possible (Hayek 1995, 74–121). The problem arises, according to Hayek, when monetary manipulation, in the form of credit expansion which the banking system brings about without the backing of prior saving, makes available to entrepreneurs new financial resources, which they devote to real investment as if society's saving had increased, when in fact this may not be the case. The outcome is a lengthening of investment processes, a consequence of the artificial drop in the interest rate, which cannot be maintained over the long term. Therefore Hayek concentrates on the variations which monetary growth induces in relative prices (specifically, in prices of the capital goods of different stages and prices of consumer goods). The quantity theory of money, which focuses solely on the effects that monetary variations exert on the general price level, tends to ignore and obscure the above phenomenon.

Moreover Hayek realized that during the 1920s the American Federal Reserve had deliberately initiated a policy of vigorous credit expansion aimed at neutralizing the "deflationary" effects of the substantial rise in productivity during those years. Thus, even though the prices of consumer goods and

services did not climb significantly during this period, considerable monetary growth took place, and a large financial bubble formed. Sooner or later this bubble would have to burst and expose the grave investment errors committed. In fact Hayek states that in an environment of falling prices created by a general rise in productivity, policies of monetary stabilization are bound to cause severe intertemporal discoordination between the decisions of investors and consumers, discoordination which sooner or later must reverse in the form of an economic recession. Hayek expresses these ideas in his article on “Intertemporal price equilibrium and movements in the value of money”, published in 1928 (Hayek 1984, 71–118). The application of Hayek’s analysis to the existing circumstances enabled him to predict the Great Depression, which began in October 1929, and which Hayek always viewed as the result of the process of artificial credit expansion which the Federal Reserve had adopted on a massive scale during the preceding decade (Huerta de Soto 2006, 424–31).

Later, in 1931, Hayek published what would perhaps be his most important and well-known book in the area of cycle theory, *Prices and Production* (Hayek 1967). In this brief, crucial work, Hayek explains, in precise analytical detail, how credit expansion unbacked by a prior increase in voluntary saving distorts the productive structure, thus artificially making it too capital-intensive and requiring that the errors committed be revealed in the shape of a recession.

Indeed, for Hayek, monetary changes are never neutral and always exert a very harmful influence on the structure of relative prices. When new money is created in the form of credit, it always enters the economy at a specific point. Initially, money is spent on certain capital goods and productive services and, only afterward, slowly, do the effects spread throughout the rest of the productive structure. This means that some prices (those of the capital goods furthest from the final stage of consumption) will be affected before others (the prices of goods closest to consumption), and in this way the allocation of resources will change throughout the productive structure. In fact the arrival of new fiduciary media created by the banking system means that some entrepreneurs who would have sustained losses make a profit, and many workers who would not have found work in certain sectors easily find a job in them.

The new money generally reaches the market following an artificial reduction in interest rates (below their “natural” level), as part of a policy of clear credit expansion and easy money. The relative drop in the discount rate and the easing of credit terms logically tend to increase investment spending in relation to consumer spending, thus distorting the indicators which guide entrepreneurs, especially the relative rate of return on capital invested in each of the stages or phases which, according to Austrians and as we know, comprise the productive structure.

As a consequence of the lower interest rates, investments appear profitable which before were not. The relative rise in investment expenditure, in turn, drives up the price of the productive factors, and hence entrepreneurs tend to adopt more capital-intensive production methods, and the demand for natural resources increases. At the same time there is a decline in the relative profits of the consumer goods industries, where costs gradually climb, yet prices do not. Thus begins a diversion of productive factors from the industries closest to consumption to the most capital-intensive sectors. This diversion must continue for a fairly prolonged period of time if the new, more capital-intensive productive structure recently embarked on is ever to come to fruition. Hayek stresses that when the utility of a machine depends on the production of other capital goods which are necessary for its use, then the machine becomes useless if, due to a lack of resources, these complementary goods are never produced.

Nevertheless, sooner or later, the new money the banking system has injected into the economic system starts to reach the pockets of factor owners, and this resulting increase in their monetary income begins to push up the demand for consumer goods. There is no reason to believe that consumers will have appreciably modified the proportion in which, from the beginning, they have distributed their monetary income between present and future goods. Therefore, barring the hypothetical case in which economic agents save all the new money the banking system has created (a practically impossible event), there tends to be a widespread rise in the relative price of consumer goods, which follows naturally from the arrival of new, liquid monetary units to the consumer goods sector, where demand mounts as a result; and from the fact that the supply of consumer goods logically tends to fall temporarily, not only because resources are temporarily withdrawn from the sectors closest to consumption, but also because many resources are devoted to investments which will only begin to bear fruit at the end of a lengthy period of time.

The increase in relative prices in the consumer goods sector provokes some effects which are the exact reverse of those that credit expansion initially causes and we have described above: profits begin to grow in the industries closest to consumption and diminish, in relative terms, in investment sectors. The capital goods that entrepreneurs began to produce with a very capitalistic productive structure in mind must be adapted if possible to a structure which is less so (and which, hence, is more labor intensive, as is logical if we consider that a rise in the prices of consumer goods always entails a fall in real wages). Thus begins a generalized transfer of productive factors from investment to consumption, and heavy losses are incurred in the most capitalistic sectors (construction, shipyards, high-technology industries, computers, communications and so on), which are only profitable at low interest rates, and which it now becomes clear were unduly expanded. In short, the arrival of an

economic recession becomes inevitable due to a lack of real resources sufficient to complete overly ambitious changes in the productive structure. These changes were undertaken in error, owing to the excessively easy financing which resulted from the artificial credit expansion the banking system initiated. The recession manifests itself outwardly in an excess of production in the investment sectors and a relative shortage of production in those sectors closest to consumption.

Hayek emphasizes that recessions are basically crises triggered by a relative excess of demand for consumer goods or, rather, a shortage of saving, that is, saving insufficient to complete the more capital-intensive investments launched in error. The situation which arises from credit expansion resembles that of the imaginary inhabitants of a desert island who, having undertaken the construction of an enormous machine capable of meeting all of their needs, exhaust their savings and capital before finishing it and have no choice but to abandon their project and devote all of their energy to the daily search for food, without the aid of any useful capital.

Therefore the existence of “idle capacity” in many productive processes during the recession (but especially in those furthest from consumption, such as the construction, capital goods, telecommunications or computer industries) in no way proves, according to Hayek, that an excess of capital exists or that consumption is insufficient. On the contrary, it is a sign that we cannot use all of the existing fixed capital, because the current demand for consumer goods is so urgent that we cannot allow ourselves the luxury of producing the circulating capital necessary to employ and take advantage of this idle capacity.

Hence Hayek carries Böhm-Bawerk’s capital theory and Mises’s analysis of cycles to their logical conclusion when he describes how monetary interventionism occasions widespread intertemporal discoordination between the decisions of economic agents (investors and consumers) and explains that a recession is simply the stage of healthy economic readjustment. Hayek explains that this stage cannot be avoided, but that it can be facilitated by refraining from any subsequent credit expansion or artificial encouragement of consumption and permitting market forces to gradually establish a new productive structure more in keeping with the true desires of the economic agents who participate in it (Huerta de Soto 2006, 265–341).

The above is Hayek’s analysis on the theory of economic cycles, which he later completed in his work, *Profits, Interest, and Investment*, in which he assumes that unemployed factors of production exist (Hayek 1939). Hayek carried out and perfected this whole analysis bit by bit, in parallel with his debates with Keynes and the theorists of the Chicago School on the theory of money, capital and cycles. We shall consider these controversies in the next section.

6.3 DEBATES WITH KEYNES AND THE CHICAGO SCHOOL

It is not surprising that from the beginning Hayek opposed the theorists of the neoclassical tradition who, due to their lack of a proper capital theory and to their inability to apply the theory of marginal utility to money, insisted on approaching the problems of the moment from an exclusively macroeconomic perspective.

Hayek voiced his radical objection to the quantity theory of money, held by neoclassical economists in general and by the Chicago School in particular:

[my] chief objection against [monetarist] theory is that, as what is called a “macrotheory”, it pays attention only to the effects of changes in the quantity of money on the general price level and not to the effects on the structure of relative prices. In consequence, it tends to disregard what seems to me the most harmful effects of inflation: the misdirection of resources it causes and the unemployment which ultimately results from it (Hayek 1978d, 215).

In addition, Hayek revived the debate that Böhm-Bawerk and Clark had engaged in on the concept of capital. In his work, *The Pure Theory of Capital* (Hayek 1976b) and his article on “The mythology of capital” (Hayek 1936, 199–228), Hayek criticizes the founder of the Chicago School, Frank Knight, for insisting on favoring the mythical conception of capital as a homogeneous fund which replicates itself, and for thus overlooking the structure of stages which constitutes the production process and eliminating the role of the entrepreneur in continually furthering the creation, coordination and maintenance of these stages, or in deciding not to do so. According to Hayek, Knight’s approach is very dangerous, since his obsession with equilibrium ultimately leads him to defend the unsound theories of underconsumption and, indirectly, the Keynesian prescriptions for artificially boosting effective demand, without considering the severe distorting effects of such action on the microeconomic structure of social production.

Nevertheless the most significant debate was the one that Hayek and Keynes took part in throughout the 1930s, which has recently been published in its entirety (Hayek 1995). Hayek launched his criticism in two lengthy reviews of Keynes’s book, *A Treatise on Money*, which appeared in England when Hayek had just arrived, at the start of the 1930s. Keynes responded with a furious attack on Hayek’s *Prices and Production*, and thus began a controversy between the two in which some of the most important aspects of the theory of money and cycles were defined. Today, now that the Keynesian ship has run aground, we should pick up this debate where Keynes and Hayek left off at the end of the 1930s. Specifically, Hayek criticized Keynes for his

macroeconomic approach and his lack of a proper capital theory, one which depicts the productive structure as a set of stages, as Böhm-Bawerk had described it. Hayek also faults Keynes with swallowing the blatant myth of underconsumption and, in particular, with failing to comprehend that it is entirely possible to make money by producing a certain good even when the demand for it declines, provided one invests in lowering production costs by acquiring more capital goods, and hence generating a more capital-intensive productive structure. In this structure, in the stages furthest from consumption, employment is provided to the factors of production which are freed in the stages closest to consumption upon any rise in saving.

Moreover Hayek views the Keynesian remedy for the Great Depression as nothing more than a temporary solution with adverse consequences. Indeed any artificial rise in aggregate demand will severely distort the productive structure and can only generate unstable employment. Furthermore, as it will become clear in the long term that labor has been devoted to unprofitable activities, even greater unemployment will result. According to Hayek, the fiscal and monetary manipulation that Keynesians and monetarists prescribe causes serious distortions in the intertemporal coordination of the market. Therefore Hayek is in favor of rigid monetary standards and against monetary nationalism and flexible exchange rates, which both Keynes and the Chicago School theorists so strongly supported. In another remarkable book, entitled *Monetary Nationalism and International Stability* (Hayek 1971), Hayek shows how flexible exchange rates provoke and foster grave real distortions in the productive structure, which lead inevitably to recessions that would not have occurred had fixed exchange rates been used. Hayek maintains that flexible exchange rates hinder the market in its coordinating role and generate unnecessary monetary distortions in the real process of resource allocation.

To illustrate the sharp differences in paradigm between Hayek's Austrian approach and the macroeconomic approach of Keynesians and monetarists, we highlight these differences in Table 6.1.

6.4 THE DEBATE WITH THE SOCIALISTS AND CRITICISM OF SOCIAL ENGINEERING

Beginning with his 1935 publication of a collection of essays on the logical impossibility of socialism, entitled *Collectivist Economic Planning* (Hayek 1975), Hayek assiduously and loyally participated alongside Mises in the debate on the impossibility of socialist economic calculation, with a series of essays and papers which, fortunately, have just been published all together (Hayek 1997). Hayek's fundamental idea, which inspired the title of the last

Table 6.1 Two contrasting approaches to economics

The Austrian School	The Neoclassical School (monetarists and Keynesians)
1. Time plays an essential role.	1. The influence of time is ignored.
2. “Capital” is viewed as a <i>heterogeneous</i> set of capital goods which receive constant wear and must be <i>replaced</i> .	2. Capital is viewed as a <i>homogeneous</i> fund which <i>reproduces</i> on its own.
3. The production process is <i>dynamic</i> and is <i>divided</i> into <i>multiple, vertical</i> stages.	3. There is a notion of a <i>one-dimensional, horizontal</i> productive structure in <i>equilibrium</i> (circular flow of income).
4. Money affects the process by modifying the structure of <i>relative</i> prices.	4. Money affects the <i>general</i> price level. Changes in relative prices are not considered.
5. Macroeconomic phenomena are explained in <i>microeconomic</i> terms (variations in relative prices).	5. <i>Macroeconomic aggregates</i> prevent the analysis of underlying microeconomic realities.
6. Austrians hold a theory on the institutional causes of economic crises which explains their <i>recurrent</i> nature.	6. A true theory of cycles is lacking. Crises have <i>exogenous</i> causes (psychological and/or errors in monetary policy).
7. Austrians hold an elaborate <i>capital theory</i> .	7. A theory of capital is lacking.
8. <i>Saving</i> plays a decisive role. It causes a <i>longitudinal</i> change in the productive structure and determines the sort of technology to be used.	8. Saving is <i>not</i> important. Capital is produced <i>laterally</i> (more of the same), and the <i>production function</i> is fixed and is determined by the state of technology.
9. There is an <i>inverse</i> relationship between the demand for capital goods and the demand for consumer goods. All investment requires saving and thus a temporary drop in consumption.	9. The demand for capital goods is <i>directly</i> related to the demand for consumer goods.

Table 6.1 (continued)

The Austrian School	The Neoclassical School (monetarists and Keynesians)
10. It is assumed that production costs are <i>subjective</i> and not predetermined.	10. Production costs are <i>objective</i> , real, and predetermined.
11. Market prices tend to determine production costs, not vice versa.	11. Historical costs of production tend to determine market prices.
12. The interest rate is a market price determined by subjective valuations of time preference. The interest rate is used to arrive at the present value toward which the market price of each capital good tends. To obtain the present value of a capital good, its expected future flow of returns is discounted by the interest rate. Fractional-reserve banking and central banks' manipulation of the interest rate give rise to recurrent cycles of boom (artificial) and recession.	12. The interest rate tends to be determined by the marginal productivity or efficiency of capital, understood as the internal rate of discount at which the expected flow of returns is equal to the historical cost of producing the capital goods (which is considered predetermined and invariable). The interest rate is believed to be a predominantly monetary phenomenon in the short term.

book he wrote, *The Fatal Conceit* (Hayek 1990b), is that socialism constitutes a fatal error of intellectual pride or scientific arrogance. In his writings Hayek uses the term “socialism” in a very broad sense, which encompasses not only so-called “real socialism” (that is, the system based on public ownership of the means of production), but in general, any systematic attempt, via coercive “social engineering” measures, to partially or totally design or organize any sphere of the network of human interactions which make up the market and society. Hayek holds that socialism, in this broad sense of the term, is an intellectual error, since it is logically impossible for someone with a wish to organize or intervene in society to generate or obtain the information or knowledge that would allow them to fulfill their voluntaristic desire to “improve” the social order. In fact, according to Hayek, society is not a system which is “rationally organized” by a human mind or group of minds but, on the contrary, it is a spontaneous order, that is, a dynamic process which is

constantly evolving and emerges from the continuous interaction between millions of human beings, but which has not been, nor ever can be, consciously or deliberately designed by any person.

The essence of the social process, as Hayek understands it, lies in the (as we saw in Chapter 2) strictly personal, subjective, practical and dispersed information or knowledge which every person, in their particular circumstances of time and place, gradually discovers and generates with each one of the human actions they undertake in order to achieve their particular ends and objectives, actions which are embodied in the stages of that fascinating journey that is every human life. For people to be able to entrepreneurially discover and transmit the huge volume of practical information or knowledge which the advancement and preservation of today's civilization require, it must be possible for them to freely conceive ends and discover the means necessary to accomplish them, without any sort of hindrance, especially systematic or institutional coercion or force. Thus the sense in which Hayek views socialism, regardless of its type or degree, as an intellectual error is obvious. On the one hand, a person who seeks to "improve" or organize a certain sphere of social life using institutional coercion will lack the enormous volume of practical, dispersed information that is spread throughout the minds of the thousands of individuals who must suffer their orders. (This lack will be due to the person's capacity for comprehension, as well as to the volume and especially the tacit, inarticulate and dynamic nature of the type of practical knowledge that is vital to life in society.) On the other hand, the systematic use of coercion and violence, which are the essence of socialism, will prevent people from freely pursuing their ends and, hence, will also prevent these ends from acting as an incentive for people to discover and generate the practical information necessary for the advancement and coordination of society.

Hayek maintains that the very reasons socialism is an intellectual error and a logical impossibility also account for the fact that the institutions which are most important to life in society (moral, legal, linguistic and economic institutions) could not have been deliberately created by anyone and are the result of a long evolutionary process in which millions and millions of human beings from successive generations have each made a tiny contribution of experiences, desires, longings, knowledge and so on, and have thus given rise to a number of repetitive behavioral norms (institutions) which emerge from the process of social interaction while at the same time making this process possible. These repetitive behavioral norms or material rules of conduct constitute an intermediate realm between biological instinct, which affects us all, and the explicit sphere of human reason. It is an intermediate realm, because while such norms undoubtedly arise from human action, they incorporate such a large volume of information, experiences and knowledge that they far exceed

the capacity of any one human's mind or reason, which thus is incapable of creating, conceiving or designing this sort of institution *ex novo*.

The rules of conduct which permit the emergence of civilization appear in an evolutionary process, during which those social groups that first develop the framework of norms and behaviors characteristic of peaceful, voluntary trade (the framework of rules and institutions which comprise property law) gradually absorb and prevail over other human groups that are comparatively more backward, due to their more primitive or tribal structure. Hence, as Hayek indicates, socialists are gravely mistaken in believing that the emotions and attitudes typical of small, primitive groups (based on the principles of solidarity, altruism and loyalty) can be sufficient to maintain the extensive order of social cooperation which constitutes modern society. Indeed the principles of solidarity and altruism can be applied in primitive groups, precisely because in this type of group the needs and characteristics of each member are intimately known. However to try to extrapolate the principles of solidarity and altruism, which are typical of a tribal group, to the extensive order of social cooperation, in which millions of individuals interact and cooperate, individuals who do not know each other nor ever will, would only bring about the disappearance of civilization, the physical elimination of most of the human race, and a return to a tribal, subsistence economy.

Hayek's new contribution consisted chiefly of having shown that Ludwig von Mises's original idea concerning the impossibility of socialist economic calculation is merely a specific application of the more general principle of the logical impossibility of social engineering, or "constructivist" or "Cartesian" rationalism. As this type of rationalism rests on the illusion that human reason is far more powerful than is actually the case, it reflects the fatal "scientistic" conceit that involves envisioning no limits to the future applications of technique or social engineering. Hayek uses the term "scientism" to refer to the unjustified application to the social sciences of the method typical of physics and the natural sciences and, during the 1940s and early 1950s, he wrote a number of articles which later, in 1952, appeared in book form under the title, *The Counter-Revolution of Science* (Hayek 1952a). In this book Hayek carries out a devastating critical analysis of the positivist rationalism rooted in Comte and Saint-Simon, as well as of the narrow, Benthamite utilitarianism which presupposes an environment in which information about the benefits and costs of every action is known and permits the making of maximizing decisions. Unfortunately, this period also saw the publication of Milton Friedman's work, *Essays in Positive Economics* (Friedman 1953), which achieved great popularity and gave fresh impetus to the use of positivist methodology in our science. Although Hayek's book largely anticipated, answered and criticized the most salient points presented in Friedman's almost contemporary book, Hayek himself later came to state:

You know, one of the things I often have publicly said is that one of the things I most regret is not having returned to a criticism of Keynes's treatise [*The General Theory*], but it is as much true of not having criticized Milton's *Essays in Positive Economics*, which in a way is quite as dangerous a book. (Hayek 1994, 145)

The above comment may surprise those who identify Hayek with the classical liberalism of the Chicago School without perceiving the very profound methodological differences between members of this school and Austrian theorists. Elsewhere, Hayek himself offered further clarification of these methodological differences with Friedman and the neoclassicals. He stated:

Friedman is an arch-positivist who believes nothing must enter scientific argument except what is empirically proven. My argument is that we know so much detail about economics, our task is to put our knowledge in order. We hardly need any new information. Our great difficulty is digesting what we already know. We don't get much wiser by statistical information except by gaining information about the specific situation at the moment. But theoretically I don't think statistical studies get us anywhere . . . Milton's monetarism and Keynesianism have more in common with each other than I have with either . . . The Chicago School thinks essentially in "macroeconomic" terms. They try to analyze in terms of aggregates and averages, total quantity of money, total price level, total employment, all these statistical magnitudes . . . Take Friedman's "quantity theory". I wrote forty years ago that I have strong objections against the quantity theory because it is a very crude approach that leaves out a great many things. I regret that a man of the sophistication of Milton Friedman does not use it as a first approach but believes it is the whole thing. So it is really on methodological issues, ultimately, that we differ. (Hayek 1993, 129–30)

Finally, we should remember that Hayek's critical analysis of equilibrium economics began with two seminal articles published in the 1930s and 1940s, entitled "Economics and knowledge" in 1937 and "The use of knowledge in society" in 1945 (Hayek 1948). In these papers Hayek articulates the conclusion he reached in his debate with the socialist neoclassical theorists, that is, that they were unable to fathom the impossibility of socialism because the models of general equilibrium they depended on assumed that all the necessary information about the variables and parameters of the simultaneous equations which comprised equilibrium was already "given". Hayek reveals that, contrary to this assumption of economic equilibrium theory, in real life such information is never given, but instead entrepreneurs discover and create it step by step through a dynamic process which should be economists' object of study. Thus Hayek naturally abandons the neoclassical concept of perfect competition and proposes, following in the Austrian tradition (of scholastic origin), a dynamic model of competition understood as a process of information discovery. He expresses this idea in two important papers: "The meaning of competition" in 1946 and "Competition as a discovery procedure" in 1968 (Hayek 1948, 57–106; 1978a, 179–90; 1981).

6.5 LAW, LEGISLATION AND LIBERTY

The year 1949, in which Hayek left the London School of Economics and moved to the University of Chicago, marked a substantial change in his research program. Indeed Hayek began at that time to devote himself principally to the study of the legal and institutional factors conducive to a free society, and hence he shifted his main focus away from economic theory. Hayek lost interest in the direction that theoretical discussion took in the 1950s and 1960s regarding the macroeconomic concepts which grew out of the “Keynesian revolution”, and he decided to wait until the storm of scientism passed and meanwhile to proceed with research that Carl Menger had initiated, concerning the emergence and evolution of institutions. Hayek’s efforts over the three decades that followed yielded two works of prime importance: *The Constitution of Liberty* (Hayek 1990a) and the trilogy *Law, Legislation, and Liberty* (Hayek 1973, 1978b, 1981).

It would be impossible to present here all of Hayek’s contributions to the field of legal and political theory; however, distinguished commentators on Hayek’s work have already performed the task. We can only point out the existence of an obvious, logical relationship and unity between the contributions Hayek made in the area of economic theory and those he made in the area of legal and political theory. In fact, in Hayek’s view, as socialism rests on a systematic, institutionalized assault on human action, an assault committed via a series of coercive orders or commands, it entails the disappearance of the traditional concept of *law*, understood as a set of rules which are both general (equally applicable to everyone) and abstract (since they merely establish a broad framework for individual action, without predicting any concrete result of the social process). In this way, material laws are replaced by spurious “law”, which consists of a conglomeration of administrative orders, regulations and commands which specify exactly how each human being is to behave. So to the extent that economic interventionism spreads and develops, traditional laws cease to act as standards for individual behavior, and the role of these laws is taken over by the coercive orders or commands which emanate from the governing body (whether democratically elected or not) and which Hayek calls “legislation”, as opposed to the general concept of “law”. The law thus loses its scope of practical implementation and becomes confined to those areas, be they regulated or not, which do not effectively fall under the direct influence of the interventionist regime.

Moreover a highly significant secondary consequence ensues: as actors are deprived of the reference point material law provides, they gradually modify their personalities and lose the custom of adapting to abstract, general norms. As a result, they assimilate and adhere to traditional rules of conduct less and less. Furthermore, since the evasion of commands is in many instances actu-

ally a question of survival, and in others it reflects the success of the corrupt entrepreneurship socialism tends to provoke, most people come to see a disregard for the rules as an admirable expression of human ingenuity (to be sought and promoted), rather than a violation of a system of norms the infringement of which jeopardizes life in society. In short, socialism encourages people to break the law, empties it of its content and corrupts it, thus completely discrediting the law on a social level and causing citizens to lose all respect for it.

According to Hayek, this prostitution of the concept of law is invariably accompanied by a parallel prostitution of the concept and application of justice. Justice, in the traditional sense, consists of the equal application to all people of the abstract, material rules of behavior which comprise private law and criminal law. Hence it is no coincidence that justice has been depicted blindfolded, since justice must above all be “blind”, in that it must not “show partiality to the poor or favoritism to the great” (Lev. 19:15, New International Version) in its application of the law. Because socialism systematically corrupts the traditional concept of law, it also alters this traditional conception of justice. Indeed in the socialist system “justice” consists chiefly of arbitrary assessments made by the governing body or individual judges, based on their more or less emotional impression of the concrete “final result” of the particular social process which they believe they perceive at a given moment and which they boldly attempt to organize from above via coercive commands. Therefore it is no longer human behaviors which are judged, but rather the perceived “result” of them within a spurious context of “justice”, to which the adjective “social” is added to make it more attractive to those who suffer it. From the opposite perspective of traditional law, there is nothing more unjust than the concept of social justice, because it rests on a view, impression or assessment of the “results” of social processes, regardless of the particular behavior of each individual actor from the standpoint of traditional law rules.

Hayek asserts that in traditional law judges fulfill a merely intellectual function; they must not allow themselves to be influenced by their emotional inclinations nor by their personal estimations of the consequences a judgment will have for each party. If, as occurs in socialist systems, the objective application of the law is prevented and the issuing of legal rulings based on more or less subjective and emotional impressions is permitted, all legal certainty disappears and actors soon become aware that any claim may obtain judicial protection if only a favorable impression can be left on a judge. This creates a major incentive to litigate, which, together with the chaotic situation that arises from a tangled web of coercive and increasingly flawed and contradictory commands, overburdens judges to such an extent that their job becomes more and more unbearable and inefficient. This progressive breakdown ends only with the virtual disappearance of traditional justice and of judges as well, who become mere bureaucrats, subordinate to the political authorities and

responsible for monitoring compliance with their coercive commands. Table 6.2 systematically outlines the key differences between the spontaneous process based on entrepreneurship and free human interaction, and the organizational system built on commands and institutional coercion. The table focuses on the contrasting effects which, according to Hayek, these two approaches have on the concepts and application of law and justice.

Table 6.2 Two different approaches on Liberty, Law and Justice

Spontaneous Social Process based on entrepreneurship (unassaulted social interaction)	Socialism (systematic institutional aggression against entrepreneurship and human action)
<ol style="list-style-type: none"> 1. Social coordination occurs spontaneously due to entrepreneurship, which constantly discovers and eliminates social maladjustments that emerge as profit opportunities (<i>spontaneous order</i>). 2. The protagonist of the process is “man”, who acts and exercises creative entrepreneurship. 3. The links of social interaction are <i>contractual</i>, and the parties involved exchange goods and services according to material legal rules (law). 4. <i>The traditional, material concept of law, understood as an abstract, general rule</i> predominates and is applied equally to all regardless of particular circumstances. 	<ol style="list-style-type: none"> 1. Attempts are made to deliberately impose social coordination from above via <i>coercive commands, orders and regulations</i> which emanate from the authorities (an organized hierarchy – from <i>hieros</i>, meaning sacred, and <i>archein</i>, meaning to command) 2. The protagonists of the process are the <i>leader</i> (democratic or not) and the <i>public official</i> (that person who acts in compliance with the administrative orders and regulations which emanate from the authorities). 3. The links of social interaction are <i>hegemonic</i>; some people command and others obey. In a “social democracy”, the “majority” coerces the “minority”. 4. <i>Commands and regulations</i> predominate and, notwithstanding their appearance as formal laws, are specific, concrete orders which command people to do certain things in particular circumstances and are not applied equally to all.

Table 6.2 (continued)

Spontaneous Social Process based on entrepreneurship (unassaulted social interaction)	Socialism (systematic institutional aggression against entrepreneurship and human action)
5. The laws and institutions which make the social process possible have not been deliberately created, but have <i>evolved</i> from <i>custom</i> , and they incorporate an enormous volume of practical experience and information which has accumulated over many generations.	5. Commands and regulations are deliberately issued by the <i>organized authorities</i> and are highly imperfect and unsound, given the ineradicable ignorance in which the authorities are always immersed with respect to civil society.
6. The spontaneous process makes <i>social peace</i> possible, since each actor, within the framework of the law, takes advantage of their practical knowledge and <i>pursues their own particular ends</i> through pacific cooperation with others and by spontaneously adapting their behavior to that of others who pursue different goals.	6. One end or set of ends must <i>predominate</i> and be imposed on all through a system of commands. This results in irresolvable and interminable social conflict and violence, which obstruct social peace.
7. "Freedom" is understood as the absence of coercion or aggression (both institutional and asystematic).	7. "Freedom" is understood as the ability to achieve the specific ends desired at any moment (through a simple act of will, a command or caprice).
8. The traditional meaning of <i>justice</i> prevails and indicates that the law in material form is applied equally to all, regardless of the concrete results of the social process. The only equality pursued is <i>equality before the law</i> ,	8. The spurious sense of "justice of the results" or "social justice" prevails; in other words, <i>equality of the results</i> of the social process, regardless of the behavior (whether correct or not from the standpoint of traditional law) of the individuals involved.

Table 6.2 (continued)

Spontaneous Social Process based on entrepreneurship (unassaulted social interaction)	Socialism (systematic institutional aggression against entrepreneurship and human action)
<p>applied by a justice system blind to specific differences between people.</p> <p>9. Relationships of an <i>abstract, economic</i> and <i>business</i> nature prevail. The spurious concepts of loyalty, “solidarity” and hierarchy do not come into play. Each actor disciplines their behavior based on material law rules and participates in a <i>universal social order</i>, in which there are no “friends” nor “enemies”, nor people they are close to nor distant from, but simply many human beings, the majority of whom the actor does not know, and with whom they interact in a mutually satisfying, and increasingly far-reaching and complex, manner (correct meaning of the term “solidarity”).</p>	<p>9. The <i>political</i> predominates in social life, and the basic links are “tribal”:</p> <p>a) <i>loyalty</i> to the group and to the chief; b) respect for the <i>hierarchy</i>; and c) help to the “fellow man” one knows (“solidarity”) and heedlessness or even contempt toward the “other” more or less unknown people, who are members of other “tribes” and are distrusted and considered “enemies” (spurious and short-sighted meaning of the term “solidarity”).</p>

7. The resurgence of the Austrian school

7.1 THE CRISIS OF EQUILIBRIUM ANALYSIS AND MATHEMATICAL FORMALISM

The three decades between the end of the Second World War and 1975 saw the triumph of the “neoclassical-Keynesian synthesis” and of the mathematical formalism of equilibrium analysis in our discipline. Indeed, during this period, equilibrium analysis became master of economic science, though we should note that economists fell into two major camps concerning their use of the notion of equilibrium.

One camp followed Samuelson, who, after the publication of his *Foundations of Economic Analysis* (Samuelson 1947), joined Hicks in pioneering the neoclassical-Keynesian synthesis. Samuelson expressly embraced Lange and Lerner’s theory on the possibility of market socialism (Samuelson 1947, 217, 232), and thus he blindly adopted the stance of these neoclassical authors regarding the challenge posed by the theorem of the impossibility of socialism, which Mises had discovered. Moreover Samuelson set himself the explicit goal of reconstructing economic science using mathematical language and, as a result, he made a number of simplifying assumptions that excluded from his models most of the richness and complexity of real market processes. In this way, bit by bit, the medium of analysis (mathematical formalism) was confused with the message, and syntactic clarity was achieved at the expense of the semantic content of the different economic analyses, even to the point that the scientific status of the most realistic theories and of literary economics was denied (Boettke 1997, 11–64).

The theorists of this group, which would also include Kenneth Arrow, Gerard Debreu, Frank Hahn and, more recently, Joseph Stiglitz, accept the competitive equilibrium model in normative terms as the ideal the economy should approach. Therefore, whenever they notice that actual conditions do not correspond with equilibrium in perfect competition, they imagine they have identified a “market failure” which would justify, *prima facie*, the intervention of the state to nudge these conditions toward the ideal represented by the general equilibrium model.

In response to this first camp of economists, a second one formed within the mainstream and comprised those equilibrium theorists who were

nevertheless in favor of a market economy. This group basically centered around the Chicago School, and its leading members included authors, such as Milton Friedman, George Stigler, Robert Lucas and Gary Becker, who all share an economic frame of reference composed exclusively of the equilibrium model, the principle of maximization and the assumption of constancy.

The reaction of these economists, who, despite being equilibrium theorists, defend the market economy against the first camp's theory of "market failures", consists of arguing that the equilibrium model describes the real world fairly accurately, and that, in keeping with the tenets of the public choice school, the failures of the public sector will always exceed those identified in the private sector.

The theorists of the Chicago School believe that the above approach inoculates them against attacks by market failure theorists, and that the Chicago analysis shows state intervention in the economy to be unnecessary. As, from the viewpoint of this school, the real world closely resembles competitive equilibrium, its members hold that the real market is efficient in the Paretian sense and does not require intervention, especially since the combined action of politicians, voters and bureaucrats does not itself appear free from serious failures.

From the standpoint of the dynamic, Austrian conception of the market, the positions of both mainstream groups leave a great deal to be desired.

With respect to the Chicagoan models, Austrians note that they rely entirely on starting assumptions: equilibrium, maximization and constancy. Austrians argue that before concluding that actual circumstances closely coincide with the equilibrium model, Chicago theorists should develop a theory on the real market process, a theory to explain how this process resembles equilibrium, if indeed it does. In other words, in believing that competitive equilibrium accurately describes the real world, Chicago theorists are too utopian, and they needlessly leave many flanks open to their ideological opponents of the first group, who in a sense are somewhat more realistic.

However, from the Austrian point of view, neoclassical market failure theorists also commit important errors. In fact this group overlooks the dynamic effects of coordination which entrepreneurship exerts and which appear in all real markets. These theorists maintain that it is somehow possible to approach the ideal of general equilibrium through state intervention, as if planners could actually obtain information that in reality will never be available to them. To Austrians market failure theorists do not appear utopian; on the contrary, they seem to consider the world is much worse than it really is. By focusing on equilibrium in their analyses, even as a reference point, they miss the real process of coordination which takes place in the market, and they fail to see that the disequilibrium they so criticize is not an imperfection or a market failure, but is in fact the most natural characteristic of the real world and that, in

any case, the real market process is superior to any other humanly possible alternative.

Therefore, public choice analysis aside, the main theoretical problems that Austrian economists have identified in the approach of the market failure theorists are as follows: first, they do not take into account that the interventionist measures they advocate to bring the real world closer to the equilibrium model can, and indeed do, exert very harmful effects on the entrepreneurial process of coordination which takes place in the real world; and second, they assume that the person in charge of public intervention can gain access to information which far exceeds what is theoretically conceivable.

Austrian theorists propose to go beyond the two equilibrium perspectives (that of the Chicago School and that of the market failure theorists) by shifting the focus of economics research to the dynamic process of entrepreneurial coordination, which would eventually lead toward a state of equilibrium, though this state can never be reached in real life. Thus, as the current focal point of research, the equilibrium model would be replaced by a dynamic analysis which would consist of the study of market processes, and in this way the severe deficiencies of both neoclassical trends would be avoided.

Two examples, one from microeconomics and another from macroeconomics, should help to clarify this Austrian proposal.

The first example involves the modern development of information theory, which, in the Chicago School version, began with Stigler's seminal paper on "The economics of information" (Stigler 1961). Stigler and his followers from the Chicago School view information objectively; that is, as a commodity which is bought and sold in the market in terms of costs and benefits. These theorists recognize that ignorance exists in the real world, but they assert that it always exists at an "optimal" level, since the search for new information, objectively speaking, ends only when the marginal cost exceeds the marginal revenue.

"Market failure" theorists, led by Grossman and Stiglitz, in keeping with their characteristic approach, carry out a markedly different economic analysis of information. According to them, the real world is in a state of inefficient equilibrium in which they detect the following "failure": because economic agents believe that prices transmit information efficiently, a "free rider" effect appears, by which economic agents do not bother to privately acquire the additional information they need, because it is costly. These theorists draw a conclusion which is obvious to them: the market tends to produce an inefficiently small volume of information, which would justify state intervention whenever the benefits of such intervention exceeded the monitoring costs and so on that it entails (Grossman and Stiglitz 1980).

As we indicated at the beginning of this book, from the standpoint of the Austrian school, the principal problem with both approaches is that they treat

entrepreneurial information as an objective entity, that is, as if information were “given” somewhere (though sometimes no one may know where). Unlike theorists of the two neoclassical trends, Austrians believe that market information or knowledge is always subjective and cannot be given, since entrepreneurs continually create or generate it when they recognize profit opportunities; that is, when, in the ever-changing constellation of market prices, they notice the existence of previously unnoticed maladjustments or discoordination. As a result, entrepreneurial information cannot be allocated in terms of costs and benefits, because until entrepreneurs discover the information no one knows its value. Moreover, if it is impossible to make this maximizing allocation (in terms of costs and benefits), the Chicago School’s entire analysis of information falls like a house of cards.

In addition, as long as the free exercise of entrepreneurship is not prevented or hampered, the information which is created or generated in the market cannot be deemed “under-produced”, since there is no standard which enables us to determine whether or not the volume of real information that the market creates and uses is smaller than the supposedly “optimal” volume of information. The whole of the Austrian analysis regarding the theoretical impossibility of socialism is directly applicable here in the sense that the supervisory agency will never be able to surpass the creative, entrepreneurial capacity of economic agents, who are the protagonists of market processes. As we know, Father Juan de Mariana declared back in the Spanish Golden Age that it is never feasible for the blind to lead the sighted (even if the sighted see “imperfectly” or have only one eye).

The second example we offer to clarify the Austrian proposal involves the different theoretical assumptions that theorists make about the labor market. As is well known, the Chicago School theorists of new classical macroeconomics have directly attacked the irrationality implicit in the Keynesian assumption that nominal wages are sticky downward. As we have already seen, members of the Chicago School view the ignorance which exists in the market as “optimal” by definition. In other words, anyone who is unemployed is in that situation because they would rather continue searching for a better job than accept the one they are offered, and thus theorists conclude that no type of involuntary unemployment can exist in a real market. They also conclude that where there are economic cycles which affect employment, these must be due either to the succession of unanticipated changes in the money supply which prevent agents from clearly distinguishing between relative price variations with a real, underlying cause and general price level variations caused by inflation (Lucas 1977); or simply to the sudden appearance of external supply, or real shocks (Kydland and Prescott 1982).

For their part, the new Keynesians (Shapiro and Stiglitz 1984; Salop 1979) have developed different models of equilibrium unemployment based on the

maximizing behavior of agents who act in an environment in which the “efficiency wage hypothesis” is borne out. According to this hypothesis, productivity does not determine wages but, instead, wages determine productivity. In other words, to keep their employees motivated, entrepreneurs maintain equilibrium wages which are too high to clear the labor market. Again both approaches are woefully deficient from the perspective of the dynamic, Austrian conception of the market. In fact to consider, as Chicago theorists do, that all unemployment is “voluntary” is wildly unrealistic, since doing so entails the assumption that at all times the real process of coordination which constitutes the market has already taken place and, that therefore, the final state of rest described by the equilibrium model has already been reached. Nevertheless the real market is in a constant state of disequilibrium and, even in the absence of institutional restrictions (minimum wage laws, union intervention and so on), it is certainly quite possible that numerous workers who would be delighted to work with certain specific entrepreneurs (and vice versa) remain unemployed and never actually meet these entrepreneurs, or if the two do meet, they fail to seize the mutually beneficial opportunity to enter into an employment contract, simply due to a lack of sufficient entrepreneurial alertness.

As for the theorists of the “efficiency wage hypothesis”, the belief that in the absence of legal or union restrictions states of involuntary unemployment will be prolonged indefinitely, owing to the “efficiency wage”, runs directly contrary to the entrepreneurial desire of employers and employees to obtain profits and avoid losses. Indeed, if workers demand a wage that is too high and they do not find employment, they will tend to lower their expectations. Likewise, as entrepreneurs, if certain economic agents overpay their workers to keep them satisfied, and later these agents realize that they could hire similar or superior talents at lower wages, they are bound to decide in the end to change strategies, or they will be obliged to do so, in order to survive in the market. Furthermore we have not even mentioned that the new Keynesians overlook the severe effects exerted on employment by state intervention in the labor market, understood as a dynamic process.

From the standpoint of the Austrian school, economic cycles are neither a completely external phenomenon (that is, caused by unanticipated changes, real shocks and so on), as Chicago theorists would assert, nor a totally endogenous one (that is, triggered by nominal or real rigidities, efficiency wages and so on), as Keynesians believe. For Austrians, as we know, economic cycles result rather from certain monetary and credit institutions (fractional-reserve banking orchestrated by a central bank). Although today these institutions are considered typical of the market, they have not emerged from its natural evolution, but instead have been coercively imposed from the outside and generate grave maladjustments in the process of intertemporal market coordination (Huerta de Soto 2006).

Consequently, we can conclude that the dynamic, Austrian conception of the market irons out the imperfections and tempers the extreme conclusions to which the two equilibrium trends (that of the Chicago School and that of the new Keynesians) lead, and it gives a dose of realism to the analysis, realism which avoids the serious errors, in theory and economic policy, that arise from both neoclassical schools of thought.

Hence it is not surprising that present-day economics, dominated by the mathematical formalism of equilibrium theorists of both perspectives, is deemed to be going through a major crisis. This crisis springs mainly from the following causes: first, theorists' central preoccupation with states of equilibrium, which have nothing to do with reality but are the only states which can be analysed via mathematical methods; second, the total disregard for the role of dynamic market processes and real-world competition, or the study of these from an unfortunate angle; third, the insufficient attention to the role played in the market by subjective information, knowledge and learning processes; and fourth, the indiscriminate use of macroeconomic aggregates and the concomitant neglect of the study of coordination between the plans of the individual agents who participate in the market. All of these factors explain the lack of understanding in economic science today concerning the weightiest problems of real economic life in our time and, thus, they also account for the state of crisis and increasing loss of prestige in which, by and large, we now find our discipline. The above factors all share a common source: the lack of realism in assumptions, and the attempt to apply a methodology characteristic of the natural sciences to the sciences of human action, a field entirely foreign to it. It is precisely the discipline's current state of crisis which also explains the strong resurgence, beginning in 1974, of the Austrian school of economics, the members of which have been able to present an alternative paradigm which is far more realistic, coherent and fruitful, with a view to rebuilding our science.

7.2 ROTHBARD, KIRZNER AND THE RESURGENCE OF THE AUSTRIAN SCHOOL

The awarding of the Nobel Prize in Economics in 1974, the year following Mises's death, to his most brilliant disciple, F.A. Hayek, and the growing discredit of Keynesian macroeconomic theory and of interventionist prescriptions, a situation which first became evident during the stagflation period of the 1970s, provided fresh international impetus to the doctrinal development of the Austrian school (Kirzner 1987, 148–50).

Two of Mises's brightest students in the USA, Murray N. Rothbard and Israel M. Kirzner, have played a leading role in this resurgence of the Austrian school.

Rothbard was born in New York in 1926 into a family of Jewish immigrants who originally came from Poland. He earned a doctorate at New York's Columbia University, where he studied under the guidance of his neighbor, the famous economist Arthur Burns. By chance, Rothbard was exposed to the seminar that Ludwig von Mises was giving at that time at New York University, and he immediately became one of Mises's youngest, and most gifted and promising disciples. With time, Rothbard became Professor of Economics at the New York Polytechnic Institute and, later, a distinguished Professor of Economics at the University of Nevada, Las Vegas, a position he held until his unexpected death on 7 January 1995. Rothbard has been one of the most coherent, multidisciplinary and tenacious thinkers of the Austrian school and builders of a natural law philosophical foundation for classical economic liberalism. His writings comprise over 20 books and hundreds of articles, including important works of economic history, such as *America's Great Depression* (Rothbard 1975) and of economic theory, such as his economic treatise *Man, Economy, and State* (Rothbard 1993) as well as *Power and Market* (Rothbard 1977). Edward Elgar published *The Logic of Action*, an anthology of Rothbard's principal articles on economic theory in two volumes (Rothbard 1997). Edward Elgar also published both volumes of Rothbard's monumental posthumous work, *An Austrian Perspective on the History of Economic Thought* (Rothbard 1995a, 1995b), which has recently been translated into Spanish.

Israel M. Kirzner was born in England in 1930 and, after several family vicissitudes, he wound up studying business administration at New York University. Also by chance (he needed a few more credits to complete his degree and decided to attend the seminar of the professor with the most publications, which was Mises), he came into contact with the great Austrian and became another assiduous participant in Mises's seminar at New York University. Moreover Kirzner realized that his vocation lay in education, and he became Professor of Economics at that same institution, a post from which he recently retired. Kirzner has specialized in the development of the dynamic, entrepreneurial view and in the study of the coordinating consequences entrepreneurship has for the market. He has authored several important books on the topic, among which *Competition and Entrepreneurship* (Kirzner 1973), *Perception, Opportunity, and Profit* (Kirzner 1979) and *Discovery and the Capitalist Process* (Kirzner 1985) stand out. Furthermore, in a work entitled *Discovery, Capitalism, and Distributive Justice* (Kirzner 1989), Kirzner has explored the implications his dynamic conception of entrepreneurship suggests in the field of social ethics. Finally, Kirzner has written numerous articles on Austrian economic theory in general, and on entrepreneurship in particular, and in them he has been able to present a very clear, stimulating view of the market processes entrepreneurship drives, a view we have already largely put forward in Chapter 2 of this book.

A large group of young theorists from various universities in the USA and Europe are responsible for this new resurgence of the Austrian school. Notable among the American universities are New York University (with Mario J. Rizzo and Israel M. Kirzner), George Mason University (with Peter J. Boettke, Donald Lavoie and Karen Vaughn), Auburn University (Roger Garrison), Pace University (Joseph T. Salerno) and at other institutions we find Austrian economists as prominent as Hans Herman Hoppe, Gerald P. O'Driscoll and Lawrence White, among others. In Europe we could mention Professors Stephen Littlechild and Norman P. Barry from the University of Buckingham, Professors William J. Keizer and Gerrit Meijer in Holland, Professors Raimundo Cubeddu, Enrico Colombatto, Lorenzo Infantino and Dario Antiseri in Italy, Professors Pascal Salin, Jörg Guido Hülsmann and Jacques Garello in France, Roland Baader and Karl Socher in Germany and Austria, Professor José Manuel Moreira from the University of Oporto in Portugal, and in Spain a growing group of professors and researchers interested in the Austrian school, who, aware of the great academic and scientific responsibility entailed by the recognition of the school's Spanish origin (see Chapter 3), are quickly joining together (and include Professors Rubio de Urquía, José Juan Franch, Ángel Rodríguez, Oscar Vara, Javier Aranzadi del Cerro, Gabriel Calzada, Philipp Bagus and so on).

In addition, the last 25 years have seen a dramatic increase in the publication of books and monographs by authors of the Austrian school of economics, and for years three scientific journals have published the research findings of these authors: *The Quarterly Journal of Austrian Economics*, which is printed every three months by Transaction Publishers in the USA; *The Review of Austrian Economics*, which is printed biannually by Kluwer Academic Publishers in Holland; and *Procesos de Mercado: Revista Europea de Economía Política*, published also biannually jointly by Universidad Rey Juan Carlos and Unión Editorial (both in Madrid, Spain).

Finally, various international conferences and meetings take place regularly and provide an arena for the enthusiastic discussion of the most controversial and novel present contributions of the modern Austrian school of economics. Professors and researchers from all over the world who specialize in the Austrian school attend.

7.3 THE CURRENT RESEARCH PROGRAM OF THE AUSTRIAN SCHOOL AND ITS FORESEEABLE CONTRIBUTIONS TO THE FUTURE EVOLUTION OF ECONOMICS

The fall of the Berlin Wall, and with it that of real socialism, is exerting a

profound impact on the neoclassical paradigm thus far predominant, and in general on the way economic science is practiced. For it seems obvious that a critical failure has occurred in economics as a science, since, with the rare exception of the Austrian school, economists were unable to predict such a momentous event and analyse it adequately. Fortunately, due to the heavy blow received, we are now in the position to correctly assess the nature and degree of the distortion in the neoclassical “theoretical spectacles”, which until now has largely prevented economists from perceiving and interpreting the most significant events of the social world with sufficient clarity. Furthermore we need not undertake the essential reconstruction of economic science from scratch, as many of the analytical tools which will now be necessary have already been developed and perfected by Austrian theorists in their effort to explain, defend and refine their positions throughout the successive debates they have had with their scientific counterparts since the foundation of the Austrian school.

Though we cannot possibly list here all areas of our discipline which are affected by the current situation, much less develop in detail the new content which could result from Austrian contributions, we can offer a few inexhaustive examples.

First, we must mention the theory of institutional coercion, which emerges as an extension of the Austrian analysis of socialism. Indeed we have already explained that each entrepreneurial act involves the discovery of new information, the transmission of this information throughout the market and the coordination of maladjustments in the behavior of human beings, all in a spontaneous, evolutionary process which makes life in society possible. Therefore it is clear that the systematic, institutional exercise of coercion which socialism and interventionism involve precludes, to a greater or lesser extent, not only the creation and transmission of information, but also something even more serious: the spontaneous process by which maladjustments in the behavior of human beings are coordinated and, hence, the survival of the coordinated social process. Thus a whole new field of research opens up for the analysis of the maladjustments which follow from economic interventionism in each and every sphere in which it is present. This is a promising field for the future research efforts of scholars in our discipline.

Second, we need to abandon the widespread functional theory of price determination and replace it with a price theory which explains how a sequential, evolutionary process results in the dynamic formation of prices. This process is driven by the force of entrepreneurship, that is, by the human actions of the actors involved, and not by the intersection of more or less mysterious curves or functions which in any case lack real significance, since the information which is hypothetically necessary to know and draw them does not even exist in the minds of the actors involved.

Third, we should comment on the development of the Austrian theory of competition and monopoly, which calls for the abandonment and reconstruction of the clumsy static theory of markets that is advanced in textbooks, and its replacement with a theory of competition, understood as a dynamic, purely entrepreneurial process of rivalry. Such a theory renders irrelevant or inexistent the problems of monopoly, understood in the traditional sense, and focuses on institutional restrictions on the free exercise of entrepreneurship in any sphere of the market. Furthermore an important economic policy corollary of the Austrian analysis of competition and monopoly is the reconsideration of all anti-trust policy and legislation, which from the Austrian perspective becomes largely detrimental and superfluous (Kirzner 1998–99, 67–77; Armentano 1972).

Fourth, as we have already seen, the theory of capital and interest is heavily influenced by the subjectivist viewpoint of the Austrian school. It is necessary to reincorporate capital theory into the study programs at university schools of economics in order to overcome the current inadequacies in the macroeconomic view, which overlooks the microeconomic processes of coordination that take place in the productive structure in the real world.

Fifth, the theory of money, credit and financial markets may present the greatest theoretical challenge to our science in the near future, from the standpoint of the Austrian school. Now that the theoretical gap represented by the analysis of socialism has been filled, the least known and most vitally important field is the monetary field, where methodological errors, theoretical confusion and the systematic coercion of central banks continue to prevail throughout. The social relationships that involve money are decidedly the most abstract and difficult to understand, and hence the knowledge they generate is the most vast, complex and intangible, which in turn makes intervention in this area by far the most harmful and, ultimately, the direct cause of the regular emergence of successive economic recessions (Huerta de Soto 2006).

Sixth, the theory of economic growth and underdevelopment, which rests on equilibrium and macroeconomic aggregates, has been formulated without taking account of the only true protagonists of the process: human beings and their alertness and creative entrepreneurial capacity. Therefore we must reconstruct the entire theory of growth and underdevelopment and eliminate the elements which justify institutional coercion and which until now have rendered the theory harmful and futile. We should center the theory on the theoretical study of the processes by which to discover the development opportunities that remain unexploited due to a lack of the essential entrepreneurial element, which is undoubtedly the key to leaving underdevelopment behind.

Seventh, a similar observation is in order about so-called welfare economics, which is based on the phantasmagoric Paretian concept of efficiency and

thus becomes irrelevant and useless, since to be workable it requires a static environment of full information which never exists in real life. Consequently, rather than on Pareto criteria, efficiency hinges on, and must be dynamically defined in terms of, the capacity of entrepreneurship to spontaneously coordinate the maladjustments which emerge in situations of disequilibrium (Cordato 1992).

Eighth, the theory of “public” goods has always been constructed in the strictly static terms of the equilibrium paradigm, for it is assumed that the circumstances which determine “joint supply” and “non-rivalry in consumption” are given and will not change. Nevertheless, from the standpoint of the dynamic theory of entrepreneurship, any apparent instance of a public good creates a clear opportunity for someone to discover and eliminate it via entrepreneurial creativity in the legal and/or technological spheres. Therefore, from the Austrian perspective, the set of public goods tends to become empty and, thus, one of the stalest alibis used to justify state intervention in the economy in many social areas disappears.

Ninth, we could also remark on the research program that Austrian theorists are developing in the realm of the public choice school and the economic analysis of law and institutions. Researchers in these fields currently struggle to get rid of the unhealthy influence of the static model based on full information, a model which, in the neoclassical field, has given rise to a pseudoscientific analysis of many laws, an analysis which rests on methodological assumptions identical to those put forward in the past with the aim of justifying socialism (full information). Such assumptions exclude the dynamic, evolutionary analysis of the spontaneous social processes that entrepreneurship sparks and drives. Austrian theorists see an obvious contradiction in the attempt to analyse legal norms and rules based on a paradigm which, like the neoclassical, presupposes an environment of constancy and the existence of full information (either in certain or probabilistic terms) concerning the costs and benefits which derive from these norms and rules. Indeed, if such information existed, the rules and norms would be unnecessary and it would be more effective to replace them with simple commands. In fact if anything substantiates and explains the evolutionary emergence of law, it is precisely the ineradicable ignorance in which human beings are constantly immersed.

Tenth, the contributions of Austrian theorists in general, and of Hayek in particular, have given a revolutionary boost to population theory. Austrians do not consider human beings a homogeneous factor of production, but instead they believe humans are endowed with an innate and entrepreneurial creative capacity. Hence Austrians view population growth not as a hindrance to economic development, but as both the driving force behind it and the necessary condition for it to occur. Moreover theorists have shown that the advancement of civilization involves a perpetually increasing horizontal and vertical

division of practical knowledge, which is only possible when there is a parallel rise in the number of people, a rise sufficient to sustain the growing volume of practical information used on a social level (Huerta de Soto 1992, 80–82). These ideas, in turn, have been developed by other scholars who have been influenced by the Austrian school, such as Julian L. Simon, who have applied them to the theory of population growth in Third World countries and to the analysis of the positive economic effects of immigration (Simon 1989, 1994).

Finally, eleventh, Austrian contributions are exerting a powerful impact in the field of the theoretical analysis of justice and social ethics. Notable examples include not only the critical analysis Hayek makes of the concept of social justice in Volume 2 of *Law, Legislation, and Liberty*, but also the aforementioned work by Kirzner, *Discovery, Capitalism, and Distributive Justice*, in which he demonstrates that every human being has the right to reap the fruits of their own entrepreneurial creativity. In this analysis Kirzner perfects and completes Robert Nozick's earlier examination of the same issue (Nozick 1974). Lastly, one of Rothbard's most brilliant disciples, Hans Hermann Hoppe, has successfully provided an a priori justification for property rights and the free market, based on the Habermasian principle that argumentation presupposes the existence of, and prior respect for, each person's ownership of their own body and personal attributes. From this principle, Hoppe logically deduces an entire theory on the free market and capitalism (Hoppe 1989) which complements the natural law justification for liberty that Rothbard presents in his now classic treatise, *The Ethics of Liberty* (Rothbard 1982).

We could mention many other fields of research to which the program of the new Austrian school of economics is sure to spread with fruitful results. However we feel that with the brief references to the above areas, we have given sufficient indication of the direction economic science may take in the future, once freed from the theoretical and methodological defects which until now have largely encumbered it. In this new century the widespread acceptance of the Austrian perspective is sure to give rise to a much broader, richer and more realistic and elucidative social science in the service of humanity.

7.4 REPLIES TO SOME COMMENTS AND CRITICISMS

We shall now respond to some critical comments which are often expressed regarding the Austrian paradigm and which, for reasons we shall offer, we deem unfounded. The most common criticisms leveled at the Austrians are as follows:

“The two approaches (the Austrian and the neoclassical) are not mutually exclusive, but complementary”

This is the thesis of those neoclassical authors who wish to maintain an eclectic position not openly opposed to the Austrian school. Nonetheless Austrians consider this view as generally nothing more than an unfortunate consequence of the nihilism typical of methodological pluralism, according to which all methods are acceptable and the only problem of economic science is to choose the method most suitable for each specific problem. Austrian authors identify this position as a mere attempt to safeguard the neoclassical paradigm from the powerful critical arguments raised against it by Austrian methodology. The thesis of compatibility would be justified if the neoclassical method (based on equilibrium, constancy and the narrow concepts of optimization and rationality) corresponded to the real manner in which human beings act, and did not, on the whole, tend to corrupt theoretical analysis, as Austrians believe it does. Thus the great importance of reformulating neoclassical theoretical conclusions from the standpoint of dynamic, subjectivist Austrian methodology, in order to show which neoclassical conclusions must be abandoned due to analytical defects. For it is inconceivable that the neoclassical paradigm could incorporate human realities which, like creative entrepreneurship, far exceed its conceptual framework of categories. The attempt to force the subjective human realities that Austrians study into the neoclassical corset leads inevitably to either the blatant mockery of these realities or the healthy failure of the neoclassical approach, which would be overcome by the richer and more realistic, complex and illuminating conceptual framework characteristic of the Austrian school.

“Austrians should not criticize neoclassicals for employing simplified assumptions which make reality easier to understand”

In reply to this argument, which is so often used, Austrian economists state that it is one thing for an assumption to be simplified and quite another for it to be totally unreal. The bone Austrians have to pick with neoclassicals is not that their assumptions are simplified, but precisely that they contradict the empirical reality of how human beings act and express themselves (dynamically and creatively). Therefore it is the fundamental unreality (and not the simplification) of neoclassical assumptions which, from the Austrian viewpoint, tends to jeopardize the validity of the theoretical conclusions neoclassicals reach in their analyses of the different problems of applied economics they set out to study.

“Austrians fail to formalize their theoretical proposals”

This is the only argument Stiglitz raises against the Austrian school in his critical treatise on general equilibrium models (Stiglitz 1994, 24–6). We have

already explained why, from the beginning, most Austrian economists have been very wary of the use of mathematical language in our science. Austrians regard the use of mathematical formalism as a vice more than a virtue, since it consists of symbolic language that has been developed to meet the requirements of the world of natural sciences, engineering and logic. In all of these areas subjective time and entrepreneurial creativity are conspicuously absent, and hence mathematical formalism tends to overlook the most essential characteristics of the nature of human beings, who are the protagonists of the social processes that economists should study.

Moreover mathematicians have yet to (and may never) take up the challenge of conceiving and developing a whole new “mathematics” which permits the analysis of human creative capacity with all of its implications. To do so mathematicians could not rely on the postulates of constancy from the world of physics, which underlie the development of all known mathematical languages. Nevertheless we believe that the ideal scientific language in which to communicate this creative capacity is precisely the one which human beings themselves have spontaneously and gradually created in their daily entrepreneurial activities and which takes the form of the different verbal languages now used in the world.

“Austrians produce very few empirical studies”

This is the criticism empiricists most frequently direct at the Austrian school. Though Austrians attach enormous importance to the role of history, they recognize that their scientific activity takes place in a very different area, that of theory, and theory must be known before it can be applied to reality or illustrated with historical events. In fact Austrians see an overproduction of empirical analyses and a relative shortage of theoretical studies which facilitate the understanding and interpretation of real life. Moreover, though the methodological assumptions of the neoclassical school (equilibrium, maximization and constancy of preferences) appear to aid empirical studies and comparisons between certain theories, they often conceal the true theoretical relationships, and thus they can lead to serious errors in theory and in the interpretation of what is really occurring at any specific moment or in any particular set of historical circumstances.

“Austrians jettison economic forecasting”

We have already seen that Austrian theorists are quite humble and prudent as to the possibility of scientifically predicting future events in the economic and social sphere. They prefer to focus on building a framework or store of concepts and theoretical laws which permit the interpretation of reality and

help acting human beings (entrepreneurs) to make decisions with a greater likelihood of being successful. Austrians may make only qualitative “predictions” and couch them in strictly theoretical terms; however paradoxically, in practice, the far more realistic nature of Austrian assumptions (dynamic processes of entrepreneurial creativity) considerably improves the chances that their conclusions and theories, in comparison with those of the neoclassical school, will help Austrians make accurate “predictions” in the realm of human action. As examples we could mention the prediction of the fall of real socialism, a forecast implicit in the Misesian analysis of the impossibility of socialism, and the prediction Austrians made of the Great Depression of 1929. Curiously, neoclassical economists foresaw neither of these momentous historical events.

“Austrians lack empirical criteria by which to validate their theories”

According to this criticism, which is often voiced by empiricists who suffer from a “Doubting Thomas” complex (“I’ll believe it when I see it”), empirical reality alone will reliably expose unsound economic theories as such. As we already know, this approach ignores the fact that in economics the empirical “evidence” is never incontrovertible, since it concerns complex historical phenomena which do not permit laboratory experiments in which the relevant phenomena are isolated and all other factors which may be involved remain constant. In other words, economic laws are always *ceteris paribus* laws, when in real life this assumption of constancy is always false. Austrians assert that it is perfectly possible to validate theories by a continual elimination of flaws in the corresponding chain of logical-deductive arguments, by the analysis and examination of the different steps in the formulation of theories, and by using the utmost care when, in applying theories to real life situations, it becomes necessary to determine whether or not the assumptions behind them are correct in the specific historical context in question. Given the uniform logical structure of the human mind, this continuous validation process that Austrians propose is more than sufficient for scientists to reach intersubjective agreement, which, in spite of deceptive appearances, in practice is much more difficult to achieve in the case of empirical phenomena, because their extremely complex nature means they invariably lend themselves to the most diverse and contradictory interpretations.

“Austrians are dogmatic”

Fortunately, due to the remarkable resurgence of the Austrian school in recent years and to the keener grasp economists in general have of its tenets, this accusation is made less and less. However, in the past, many neoclassical

economists have yielded to the strong temptation to dismiss the entire Austrian paradigm and label it as “dogmatic” without examining its different facets nor attempting to answer the criticisms Austrians have expressed.

Among others, Bruce Caldwell has been sharply critical of this attitude that neoclassicals have adopted when they have discounted the positions of Austrian methodologists without even considering them. Caldwell declares that this attitude itself is dogmatic and anti-scientific, and he concludes that it is totally unjustified from a scientific standpoint. Caldwell criticizes Samuelson’s stance on the Austrian school and asks:

What are the reasons behind this almost anti-scientific response to praxeology? There is, of course, a practical concern: the human capital of most economists would be drastically reduced (or made obsolete) were praxeology operationalized throughout the discipline. But the principal reason for rejecting Misesian methodology is not so self-serving. Simply put, the preoccupation of praxeologists with the “ultimate foundations” of economics must seem mindless, if not perverse, to economists who dutifully learned their methodology from Friedman and who therefore are confident that assumptions do not matter and that prediction is the key Regardless of its origins, such a reaction is itself dogmatic and, at its core, anti-scientific. (Caldwell 1994, 118–19)

Paradoxically, the real arrogance and dogmatism lie in neoclassical economists’ habitual presentation of the approach they deem most typical of economics: one based exclusively on the principles of equilibrium, maximization and constancy of preferences. In this way, neoclassicals seek a monopoly over the scope of what is considered “economics”, and they try to impose a gag rule on theorists who, like the Austrians, represent alternative viewpoints, adhere to richer and more realistic paradigms, and compete with neoclassicals in the field of scientific research. We hope, for the good of the future development of our discipline, that this camouflaged dogmatism (for example, Becker 1995) disappears permanently.

7.5 CONCLUSION: A COMPARATIVE ASSESSMENT OF THE AUSTRIAN PARADIGM

The comparative assessment neoclassical economists usually give of the successes of the different paradigms is in keeping with their fundamental methodological stance: they frame their assessment in strictly empirical and quantitative terms. For instance, they usually regard the number of scientists who defend a particular methodological position as the main criterion of its “success”. They also frequently refer to the number of specific problems which the approach in question has apparently “solved” in operational terms.

Nevertheless the “democratic” argument concerning the number of scientists who follow a certain paradigm is hardly convincing (Yeager 1997, 153, 165). It is not only that in the history of human thought, even in the natural sciences, the majority of scientists have often been mistaken; it is also that an additional problem arises in the area of economics: the empirical evidence is never indisputable, and hence erroneous doctrines are not immediately identified and abandoned.

Furthermore, when theoretical analyses based on equilibrium seem to receive empirical confirmation, even if the underlying economic theory is unsound, they can appear valid for very long periods of time. And even if the theoretical error or defect they contain is eventually exposed, the fact that these analyses were carried out in connection with the operational solution of concrete historical problems means that once the problems are no longer current, the theoretical errors committed in the analyses go unnoticed or remain largely concealed from the majority.

Also, up until now, there has been (and presumably will continue to be in the future) a naive but strong effective demand on the part of many social agents (mainly public authorities, social leaders and citizens in general) for concrete predictions and empirical, “operational” analyses regarding different economic and social policy measures that could be adopted. Thus it is not surprising that this demand (just like that for horoscopes and astrological predictions) tends to be satisfied in the market by a supply of “analysts” and “social engineers” who give their customers what they desire, with a veneer of scientific respectability and legitimacy.

However Mises rightly states:

The development of a profession of economists is an offshoot of interventionism. The professional economist is the specialist who is instrumental in designing various measures of government interference with business. He is an expert in the field of economic legislation, which today invariably aims at hindering the operation of the market economy. (Mises 1996, 869)

If consensus among professional specialists in intervention is to determine the ultimate value of a paradigm which, like the Austrian, discredits the methodology embodied in the interventionary measures these very specialists advocate, then the “democratic” argument is senseless. Moreover, if we admit that in the realm of economics, unlike in that of engineering or the natural sciences, rather than perpetual advances, there are sometimes serious backward steps and errors that take a long time to identify and correct, then we cannot accept the mere number of apparently successful operational solutions as the definitive criterion of success, since tomorrow it may be revealed that what today appears “correct” from an operational standpoint rests on faulty theories.

In contrast with empirical criteria for success, we propose a qualitative

criterion. According to this standard, a school's degree of success would hinge on its bringing about solid theoretical developments of momentous import to the evolution of humanity. That school of thought with the most achievements of this sort would be the most successful. From this perspective, it is obvious that the Austrian approach surpasses the neoclassical. Austrians have formulated a theory on the impossibility of socialism, a theory which would have spared the human race enormous suffering had it been heeded in time. Furthermore the historic fall of real socialism has vividly illustrated the soundness and the immense significance of the Austrian analysis. Austrians showed similar insight, as we have already indicated, in the case of the Great Depression of 1929, and in many other areas in which they have carried out their dynamic analysis of the discoordinating effects of state intervention. Examples include the monetary and credit sphere, the theory of economic cycles, the formulation of a dynamic theory of competition and monopoly which supersedes the static one, the theory of interventionism, the establishment of new criteria for dynamic efficiency to replace the traditional Pareto criteria, the critical analysis of the concept of "social justice" and, in short, the improved understanding of the market as a process of social interaction driven by the force of entrepreneurship. These are all examples of the considerable qualitative successes that the Austrian school has achieved, and they contrast with the severe deficiencies of the neoclassical school, including, notably, the confessed inability of its members to recognize the theoretical impossibility of the socialist economic system and to foresee its damaging consequences in time. Sherwin Rosen, a neoclassical of the Chicago School, ultimately admitted: "The collapse of central planning in the past decade has come as a surprise to most of us" (Rosen 1997, 139–52). Another surprised economist was Ronald H. Coase himself, who stated: "Nothing I'd read or known suggested that the collapse was going to occur" (Coase 1997, 45).

Some neoclassical economists, like Mark Blaug, have shown great courage and have ultimately declared their apostasy from the general equilibrium model and the static, neoclassical Walrasian paradigm. Blaug concludes: "I have come slowly and extremely reluctantly to the view that they [the Austrian school] are right and that we have all been wrong" (Blaug and de Marchi 1991, 508). More recently, in reference to the application of the neoclassical paradigm to justify the socialist system, Blaug himself called this paradigm "so administratively naive as to be positively laughable. Only those drunk on perfectly competitive static equilibrium theory could have swallowed such nonsense. I was one of those who swallowed it as a student in the 1950s and I can only marvel now at my own dim-wittedness" (Blaug 1993, 1571).

Clearly, if we wish to overcome the inertia implied by the constant social demand for concrete predictions, formulas for intervention and empirical studies, all of which are willingly accepted, though from a theoretical standpoint

they incorporate serious defects that are concealed in an empirical context in which it is very difficult to obtain incontrovertible evidence for the conclusions drawn, we must continue to develop and spread the subjectivist Austrian approach in our science. Therefore the *Methodenstreit* of the Austrian school will go on as long as human beings continue to prefer doctrines that satisfy them in each concrete situation to those that are theoretically valid, and as long as the traditional arrogance or fatal rationalist conceit of human beings prevails. This is the conceit which leads people to assume that in each specific set of historical circumstances, they possess far more detailed and accurate information than they can ever actually obtain (Hayek 1990b). Against these dangerous trends in human thought, trends likely to emerge again and again, our only weapon is the much more realistic, fruitful and humanistic methodology which until now the theorists of the Austrian school have developed, and which can be expected to acquire ever-increasing importance in the future of economic science.

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IMPORTANT NOTE: As a guide to the future research of those readers who wish to deepen their knowledge of the Austrian school, an asterisk marks the works the author deems most significant.

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