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Chapter 2

Entrepreneurship

The ultimate goal of economics is to evaluate some argument for or against intervention in the market economy. Those who make such an argument must be making some assumptions, even if implicit, about market interaction and the entrepreneurship that would occur under market conditions.[1] The aim of economic science is to challenge those assumptions if they are unrealistic or, if they are realistic, to deduce the interaction and entrepreneurship that would occur.

In order to evaluate an argument relating to intervention, we must first build an image of a market economy. We define the market economy as interaction under a particular set of conditions: the use of money to satisfy all wants, specialization, private property rights, and freedom of enterprise (Mises 1966: 237). The market economy contains numerous specialized individuals each of whom possesses separate and independent wants, abilities, knowledge, plans, and expectations. Partly for this reason, we cannot describe a market economy in its entirety. The best we can do is to build simple images in order to elucidate particular characteristics of it that seem important. It would be best if we could trace every market phenomenon "back to definite choices of the members of

[1]If they are not making these assumptions, then their arguments do not deal with economic phenomena and, therefore, cannot be evaluated from the economic point of view.

the market society" (*ibid*.: 258). But our assumption that there are numerous specialized individuals makes this impossible. We must proceed step by step. Each step, if taken correctly, provides an integral part of our understanding of market phenomena. But we never expect to acquire a "complete" understanding of these phenomena, whatever that may be taken to mean.

Praxeological reasoning suggests a five step procedure. First, we must identify and clarify the properties of action in general. To do this, we begin as praxeologists. Second, we must associate these properties with the conditions of the market economy. Doing this enables us to derive the specific "functions" that economists have traditionally called "economic." The most fundamental are factor supply, production, consumption, and saving.[2] The next three steps have the goal of showing how the properties of action cause these functions to be performed under the conditions of the pure market economy.

Because of the enormous complexity of economic interaction under these conditions, we begin by trying to capture all of the distinctly human action in a single role. Successive subjective value theorists have increasingly come to use the term "entrepreneur" to refer to this role.[3] Thus, the third step consists of defining entrepreneurship and identifying its personal properties.

The fourth step is to build images of fully integrated economic interaction that are relevant to the argument being made. Due to complexity, our images must be as simple as possible. Because the simplest image is one in which all economic activity is directed by "pure entrepreneurs," we begin with this one, which we call the "pure entrepreneur economy." We define the pure entrepreneur as an appraiser of the factors, a decision-making employer of factors and producer *of a specific good* (undertaker), and a bearer of all the uncertainty connected with the employment of the factors and the production, sale, and consumption of the good. The pure entrepreneur causes the production of at least one good from start to finish. The image of the pure entrepreneur economy enables us to derive various characteristics of entrepreneurial interaction. Following this image, depending on our specific interest, we separate the pure entrepreneur role into parts, such as the middleman, the credit intermediary, the guarantor, the factor-

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[2]The terms "factor," or "factor of production," and "resource" are interchangeable in economics. In this book we use the former term.

[3]These include Hawley (1907), Davenport (1914), Knight (1921), and Mises.

supplying entrepreneur, and the consuming entrepreneur. We also conceive of entrepreneurs who produce many goods and who perform various parts of the total entrepreneur role, such as brokering exchanges.

Finally, because our fully integrated images may be too simple to deal with complex interventionist arguments, we must ordinarily supplement them with relevant examples of entrepreneurial action. Giving examples and, before that, choosing which examples to give is the fifth step. Giving examples is a means of building economic theory -- the theory of entrepreneurial action under particular circumstances.

The procedure of building particular images and giving examples that we describe here is not well understood by modern Austrian economists even though they, like all competent economists, use it. Mises did more than anyone else to attempt to describe the foundation for it. His work in this area was based on the writings of Menger, J. B. Clark, and Eugen Bohm Bawerk. Unfortunately, even Mises's articulation leaves readers largely to their own devices, as we shall see. Nevertheless, he makes two points clear. The first is that the imaginary construction of an economy containing robots, or automatons, is indispensible. The second is that the role of the entrepreneur and of the corresponding entrepreneurial profit and loss are crucial to the exercise.

We begin this chapter in part 1 by identifying the properties of action and introducing the problem of defining the praxeological entrepreneur and elucidating its *personal properties*. These properties are identified in Part 2. Part 3 describes additional steps that are required to build such an image: (1) building the image of the pure entrepreneur economy and (2) giving examples of entrepreneurship.

1.THE PROPERTIES OF ACTION AND THE PROBLEM OF ELUCIDATING ENTREPRENEURSHIP

Much of the author's work in Austrian economics has been aimed at showing (1) how Mises, and economics generally, uses the method of imaginary constructions and (2) which constructions are most useful in building images of the market economy. Perhaps the most relevant aspect of this work to our concerns in this book has been the derivation of the personal properties of praxeological entrepreneur. The task begins with Mises's identification of the properties of action.

Identifying the Properties of Action

Mises used the method of imaginary constructions to derive the properties of action. He described the method as follows:

> ...An imaginary construction is a conceptual image of a sequence of events logically evolved from the elements of action employed in its formation. It is a product of deduction, ultimately derived from the fundamental category of action, the act of preferring and setting aside...(1966: 237, italics added).

> The main formula for designing of imaginary constructions is to abstract from the operation of some conditions present in actual action. Then we are in a position to grasp the hypothetical consequences of the absence of these conditions and to conceive the effects of their existence (*ibid.*: 237-8, as quoted above).

The function of an imaginary construction is to "to serve man in a scrutiny which cannot rely on his senses" (*ibid.*).

To identify the what he called the properties of the category of action, he tried to imagine a being who exists but who does not act. There seem to be only three possibilities. In the first, we imagine a person who is fully content. She has no unsatisfied wants. She may be content because she feels no uneasiness or because she can conceive of no way of causing her future condition to be different from what she expects it to be (*ibid.*: 13; 237). In the second, she is not content and she can conceive of different alternative ways of satisfying her wants. However, her choices have the characteristic of absolute certainty. In this case, she is not an actor but a simple calculator. She selects the best among the alternative known plans available. The third possibility is the automaton, or robot. The robot behaves according to algorithms assigned by its maker. This possibility is similar to the second one and an argument might be made that there are only two possibilities.[4] However, by distinguishing the third from the second, we can emphasize a meaning of non-action that is particularly relevant to building an image of the market economy -- that non-action refers to behavior that is specified by the economist. The importance of this will become evident later in the chapter.

Mises identified the distinctive properties of human action by building imaginary constructions of beings that do not possess these properties. Beginning with the imaginary construction of a being who is fully content

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[4]Mises combines the two in the following statement: "If man knew the future, he would not have to choose and would not act. He would be like an automaton, reacting to stimuli without any will of his own" (*ibid.*: 105).

(the first possibility), he used the logic of contradiction, by means of the counterfactual, to determine that action necessarily entails (1) unsatisfied wants, (2) perceived means by which wants can be satisfied, and (3) an expectation that action will cause some wants to be satisfied.[5] By the same means he determined that the presence of ends and means implies (subjective) time.[6] Also by the same means he employed the imaginary construction of a being who possesses complete certainty (the second possibility) to determine that human action must entail uncertainty about the outcome (*ibid*.: 105). Finally, he used the counterfactual to determine that the human actor differs from the robot in that she makes choices.[7]

One must presume that when Mises said that "we conceive the category of action by constructing the image of a state in which there is no action..."(*ibid*.: 237, as quoted above), he was referring to these counterfactual exercises, which he had already used earlier in the book. To summarize Mises's view, *we identify the properties of the category of action by using the method of imaginary constructions to build images of counterfactuals.*[8]

Thus, we use an imaginary construction -- that of someone for whom choosing is irrelevant or of the robot -- as a counterfactual to help us determine the meaning of action in general. We think: "When I say that I act, I mean that I have unsatisfied ends (I feel uneasiness) because if I did not, I would have no reason to act." "And I mean that I am uncertain because if I were not, my behavior would not be action but routine selection." Or we think: "When I say that I act, I mean that I am not a robot because robots, by definition, possess no independent will."

Identifying Action in the Market Economy

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[5]"A man perfectly content with the state of his affairs would have no incentive to change things...He would not act; he would simply live free from care" (*ibid*.: 13). "In the absence of [the expectation that purposeful behavior has the power to alleviate the felt uneasiness]...[m]an must yield to the inevitable. He must submit to destiny...no action is feasible" (*ibid*.: 14).

[6]"Human reason is even incapable of conceiving the ideas of timeless existence and timeless action" (*ibid*.: 99).

[7]See the discussion of behavior in the evenly rotating economy (*ibid*.: 249-50), paying particular attention to the concepts of automatic reaction and a "rigid world."

[8]For a more detailed discussion of how Mises used the method of imaginary constructions to elucidate the properties of action, see Gunning 1990: 38-44.

To build an image of the market economy means to identify and elucidate action under the conditions of the market economy. It would seem to follow that to do this one would begin by using the same method of imaginary constructions to show how the properties of action get manifest under the conditions of the market economy. Such a follow up would emphasize Mises's point that economics is a branch of praxeology and that economics should use the same method and analogous procedures. Thus, our second step should consist of using a counterfactual image of robot behavior under market economy conditions to elucidate the concept of action in the market economy. Although *Human Action* contains a number of passages that provide one with clues as to how this could be done, Mises's own exposition did not proceed in this way. We shall discuss Mises's use of his image of the robot economy, the evenly rotating economy (ERE), in Chapter Seven. The aim here is to more fully elaborate a purpose for which he did *not* use an image of the robot economy.

Consider the image of a robot economy in which robot consumers, specialized producers and specialized factor suppliers behave in specific ways again and again. The consequences of their behavior is the production of specific factors of production and consumers' goods, the uses of the factors in production, and the consumption of the consumers' goods. We can use such an image as part of the method of imaginary constructions to derive the properties of action under the conditions of the market economy in a way that is analogous to Mises's use of counterfactual images to derive the properties of action in general. More specifically, we can use the image of a robot economy to help us elucidate what we have called the "personal properties of the praxeological entrepreneur."

Mises seemed to be leading his readers in that direction. He wrote:

> [T]he *evenly rotating economy*...is characterized by the elimination of change in the data and of the time element...The evenly rotating economy is a fictitious system in which the market prices of all goods and services coincide with the final prices...The same market transactions are repeated again and again...The plain state of rest is disarranged again and again, but it is instantly reestablished at the previous level...(*ibid*.: 247)

After describing various contradictions and anomalies in this image, he further wrote:

> The [appropriate and indispensable] service which this imaginary construction renders [is the treatment of] the problem of the relation between the prices and products and those of the factors required for their production, and the implied problems of entrepreneurship and of profit and loss. In order to grasp the function of

> entrepreneurship and the meaning of profit and loss, we construct a system from which they are absent. This image is merely a tool for our thinking (*ibid*.: 248).

And

> It is...out of question to carry the imaginary construction of an evenly rotating system to its ultimate logical consequences. For it is impossible to eliminate the entrepreneur from the picture of the market economy. The various complementary factors of production cannot come together spontaneously (248)...Such a rigid system is not peopled with living men making choices liable to error; it is a world of soulless unthinking automatons; it is not a human society, it is an ant hill (*ibid*.: 248).

Nevertheless, he did not proceed to derive the properties of entrepreneurship.[9]

2. THE THREE PERSONAL PROPERTIES OF PRAXEOLOGICAL ENTREPRENEURSHIP

Mises did not try to derive the properties of entrepreneurship. I attempted to fill this gap in my 1990 book.(Chapter six) I showed that entrepreneurship can be said to have three distinct properties. The first is *appraisement*, which refers to identifying and pricing the factors of production. Appraisement is not limited to a set of factors that the economist might assume exists at a particular time. The appraiser is imaginative, inventive, and creative. She can discover factors of which she was previously unaware and she can invent new factors of which no one was aware. Accordingly, an individual who aims to make informed appraisals anticipates that during his actions, he and others may discover previously unknown factors of production, methods of production, and consumers' goods. The second is *undertaking*, which refers to the act of will that directs the factors of production to specific employments. The third is *uncertainty-bearing*. The presence of this property implies that we should interpret entrepreneurial action as a bet that one's appraisals

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[9]It is true that Mises writes that "[e]ntrepreneur means acting man in regard to the changes occurring in the data of the market" (254) and that "[i]n any real and living economy every actor is always an entrepreneur and speculator" (252). A closer reading, however, suggests that his view of entrepreneurship was limited as evidenced by the following statement: "The term entrepreneur as used by catallactic theory means: acting man exclusively seen from the aspect of the uncertainty inherent in every action" (253). We shall emphasize below two other properties besides uncertainty-bearing: appraisement of factors and undertaking.

are correct by being willing to suffer a decrease in wealth if the predictions turn out to be erroneous. Uncertainty-bearing logically leads to an additional concept -- *guaranty*, a set of assets that a bettor may hold in reserve to assure that losses will not exceed some subjectively-determined level.

In my 1990 book, I called these the "categories of entrepreneurial action." A better term might have been the personal properties of the praxeological concept of the entrepreneur. Praxeological entrepreneurship personifies all of the distinctly human action as it is manifest under the conditions of the market economy.[10] The purpose of this section is to describe these in greater detail.

In my 1990 book I sought to produce an image of entrepreneurship that would capture all of the distinctly human action under market economy conditions.[11] This would assure that any image of the market economy that uses this concept of entrepreneurship could be traced back to the category of action, thereby fulfilling the requirements of sound praxeological reasoning. Mises's chapters in *Human Action* on the properties of the category of action provided the guide (Mises 1966: chapters four to six). My reading of those chapters indicated that the

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[10]Mises wrote about what we might call a distant cousin of the praxeological entrepreneur although he did not elucidate its properties. It is convenient to call this cousin the *functional entrepreneur*. In the market economy, he said, everyone is an entrepreneur and every economic (entrepreneurial) action entails intersubjective uncertainty and speculation (*ibid*.: 253-4).

> Economics, in speaking of entrepreneurs, has in view not men, but a definite function. This function is not the particular feature of a special group or class of men; it is inherent in every action and burdens every actor. In embodying this function in an imaginary figure, we resort to a methodological makeshift. The term entrepreneur as used by catallactic [economic] theory means: acting man exclusively seen from the aspect of uncertainty inherent in every action...(*ibid*.: 252-3)

> Entrepreneur means acting man in regard to the changes occurring in the data of the market (ibid.: 254).

Note that the functional entrepreneur is not a datum; rather he represents "acting man in regard to changes in the data." The functional entrepreneur is a "mandatory, as it were, of the [consumer role]" (*ibid*.: 303). We discuss Mises's functional entrepreneur in Chapter Four.

[11]See Chapters Five and Six of that book. I did not see the advantage in clarity of introducing the term "praxeological entrepreneur." Moreover, it seemed to me at the time that Mises's "functional entrepreneur" (see Chapter 4) was meant to embody all of the characteristics of the praxeological entrepreneur. As I saw it, his discussions of the market and prices, where he lumped together entrepreneurs, capitalists, and other factor suppliers, were evidence merely of a failure to correctly employ the idea of the functional entrepreneur. I now see these discussions as evidence of a more fundamental shortcoming in Mises's application of the method of imaginary constructions to the problem of elucidating market phenomena. I now find myself in agreement with his approval in his 1933 book of early Austrian work that eschewed the use of the concept of function, at least as it applies to action (Mises 1933: 165).

properties of action are ends and means, time, and uncertainty. So I set out to identify corresponding properties of entrepreneurial action. I wanted a definition of the entrepreneur that is so tight that whenever this term is used, it would mean the identification and use of means to achieve ends and it would imply time and uncertainty under market economy conditions. A deductive system of the type Mises sought seemed to require this.

I began by considering the ends and means of the isolated actor. I reasoned that insofar as the isolated actor's act is relevant to the subject matter of economics, it would contain the following characteristics: production of Mengerian first-order goods (Menger, 1981), consumption of those goods, identification of factors of production (Menger's higher-order goods), production of factors of production, estimation of the net benefits of particular production actions, saving, making decisions to produce, and bearing uncertainty. These characteristics are the most fundamental. It seemed to me that no one who legitimately calls herself an economist would deny that action under the conditions of the market economy contains these characteristics.

I went on to break these characteristics into two classes. I called the first class *essential functions*. These consist of the *behaviors* of producing the goods and factors of production, consuming, and saving. Since even animals would exhibit these behaviors, there is nothing distinctly human about them. They are characteristics of behavior that economists assume must be performed in the market economy. But nothing about these terms hints of their being associated with distinctly human action. I reasoned that the other characteristics -- (1) identifying factors, (2) estimating the comparative net benefits of employing the factors in different ways, (3) making decisions, and (4) bearing uncertainty -- were distinctly human.

I tried to match my procedure as closely as possible with that of Mises. Mises had defined the ERE as a robot economy and he had asserted that it is necessary in order to elucidate entrepreneurship. He also wrote of using the ERE as a counterfactual. I reasoned that robots in the ERE consume, produce goods and factors, and save. This leaves the four other characteristics described above. We can identify the properties of entrepreneurship, I said, by contrasting the ERE with what we can know through intuition and experience about how distinctly human actors would identify factors, estimate the comparative net benefits, make decisions, and bear uncertainty under market economy conditions. I called this procedure the "method of contrasting images of functions," If used properly, it would help us see how these four characteristics could cause the essential functions to be performed.

Appraisement

I use the term "appraisement" to represent the first two of the items on the list of entrepreneur characteristics: identifying factors and estimating the comparative net benefits of employing the factors in different ways (Gunning 1990: 87). Appraisement, as I define it, means these two characteristics, given the presence of the conditions of the pure market economy as defined above. In the market economy, to appraise means to calculate the expected contribution of a factor of production or good to profit.[12] A single actor's appraisal of a factor consists of her identifying the factor and estimating how much it will contribute to her revenue (1) in a production process of which she has knowledge and which she has tentative plans to carry out or (2) in resale. Consider first a factor that she plans to use in production. We assume that the appraiser builds an image of a future in which (a) she buys all of the complementary factors she needs, (b) she completes the production of the good or factor, and (c) she sells the product or factor for a particular price. To determine the factor's contribution to the revenue, she must know the methods of production. She must also predict the prices she will have to pay for the complementary factors at the time she plans to purchase them. Finally, she must estimate the expected rate of interest on her borrowing and on the money she can lend to others, as well as the terms of the loan contracts. If her appraisal is higher than the price of the factor that a seller offers, she will buy it.

Money is the tool of appraisement. However, because an appraisal is based on predicted revenues and costs, there is no reason to expect that two individuals will attach the same appraisal to a factor. Each makes his own subjective judgment. Nor is it necessary that an appraiser trusts his own judgment more than that of another person. An individual who is trying to determine whether a particular production project is profitable

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[12]My definition should not be confused with that of Mises, who used a rather limited notion of appraisement. He wrote:

> Appraisement is the anticipation of an expected fact. It aims at establishing what prices will be paid on the market for a particular commodity or what amount of money will be required for the purchase of a definite commodity (1966: 332).

In this passage, he seems to have neglected other transactions characteristics. Moreover, it is not evident whether he was writing about the praxeological entrepreneur or the promoter. Consider his reference to promoting and speculating entrepreneurs on p. 328 and by his various references of a tendency toward the ERE caused by the operations of entrepreneurs (*ibid*.: 329 and 334, for example). Indeed there is a noteworthy absence of any direct reference to the entrepreneur in the section containing his discussion, which is entitled "Valuation and Appraisement."

may hire a team of appraisers and assistants to contribute to her final decision. She may be the final decision-maker but her decision in this event will be based partly on the expressed appraisals of her helpers.

Wise profit-seeking producers and speculators employ capital accounting and market rates of interest in order to compare the revenues and costs that they expect at different times. This means, in turn, that they must make judgments about what the market interest rates and the terms of loan contracts will be when they pay their costs and receive their revenues.

When the isolated actor deliberates in order to make informed decisions, she needs only to know the wants, factors, and technology that exist in a single mind -- her own. Appraisement in a market economy refers to the complex of separate identifications of the factors made by the various prospective producers and their judgments, made through interaction with others, about how much each factor is worth in helping them generate income.

Appraisement is carried out by all specialist producers and prospective producers at different positions in the hierarchy of the structure of production. Each appraisal is based not only on the appraiser's judgment of ends and means available to her but also on the positioning and transaction commitments made by numerous others in the complex network of positioning and transaction commitment-making (these latter ideas are discussed in Chapter Three). Economists often simplify this network by referring to the communicative role of the price system. They either forget that wise appraisers know that the prices that exist at any given time are not the prices that are likely to exist in the future or they risk having their readers forget this. They also neglect the non-price characteristics of transactions.

In a market economy, we can expect specialists to emerge to discover consumers' wants, factors, and technology. But discovery by a specialist is only the beginning. The knowledge discovered by a specialist must typically be communicated to someone else who will put it into practice by undertaking a production project. In addition, in some cases, the discoverer of knowledge must avoid having the knowledge copied by a potential competitor. A discoverer may benefit from identifying and employing factors to deter or prevent the copying or by using methods of production which, although less efficient, are also less apt to be copied. Factors used for these purposes must also be appraised.

Actors expect that following appraisement, they will either (1) negotiate the price, exchange characteristics and conditions of exchange of the factors; (2) set the prices, characteristics, the conditions of exchange for others to accept or reject; or (3) buy the factors with characteristics and

conditions of exchange at the prices set by others. The conditions of exchange refer to such aspects as credit, guarantees, legal conditions, and so on. Thus, rather that aiming narrowly "at establishing what prices will be paid," appraisement, insofar as it leads to buying and selling, is the preliminary step in an interaction through which exchange prices, characteristics of the thing exchanged, and other conditions of sale are ultimately determined by actors.

Undertaking

To represent decision-making under the conditions of the pure market economy, I employed the term "undertake." To undertake is simply to make the act of will that causes later behavior to be performed.[13] The consequence of undertaking is the allocation of factors. I related the undertaking concept to Mises's description of the "specific entrepreneurial function." Mises wrote:

> The specific entrepreneurial function consists in determining the employment of factors of production" (Mises 1966: 290-1)....The function of the entrepreneur cannot be separated from the direction of the employment of factors of production for the accomplishment of definite tasks. The entrepreneur controls the factors of production; it is this control that brings him either entrepreneurial profit or loss (*ibid*.: 306).

Undertaking in the market economy is extremely more complex than an isolated actor's decision to produce a good. It is typically embedded in a myriad of legal rights. We can identify four reasons for this. First, undertaking in a market economy may require the use of factors that are initially owned by someone other than the decision-maker. Since the basic law maintains that a good is owned by its producer, decisions must be made about the rights to the good before the initial factor owners can agree on a production plan. Second, production may require the performance of work by two or more individuals. In most modern instances of production, compacts and contracts are typically made between employer and employee. These agreements often entail

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[13]This is a much narrower use of the term than in the historical literature on entrepreneurship. In the eighteenth century the term "undertaker" was employed as an English translation of Richard Cantillon's entrepreneur (Hoselitz 1951: 204). Cantillon had used the term in a broader sense to refer to one of two classes, the other being hired people. The undertakers "were on unfixed wages." They may "set up with a capital to conduct their enterprise" or they may be "undertakers of their own labor without capital, and they may be regarded as living at uncertainty" (Koolman 1971: 283). The term was also used in British writings, most notably by Alfred Marshall (Marshall 1961[1890]: 293).

performance incentives and the employee's performance must be monitored. In addition, means of communication (or of more detailed communication) between employer and employees must often be instituted. Third, production may require a joint or collective decision, by two or more individuals, on what behavior should be performed. If so, the individuals must agree on the role to be played by each of the decision-makers. Fourth, production may have effects on others who would not ordinarily participate in the making of the decision. Individuals often want to establish rights to control actions that cause these effects. We can provisionally set the fourth of these aside by assuming a "complete set of private property rights." However, a full exposition of the undertaking in a market economy would require a treatise on business organization and business law.

Uncertainty-Bearing

In using the term "uncertainty-bearing," I converted the Misesian (or, more correctly, the Knightian) concept of uncertainty as a property of the category of action into a form that was more suitable to represent what happens in the pure market economy.[14] I wanted a way of referring to the willingness to bear uncertainty that consumers, producers and suppliers of factors in the ERE, by definition, cannot bear.[15]

In a market economy, uncertainty-bearing is frequently shared. As in the case of undertaking, uncertainty sharing is typically embedded in a myriad of legal rights. If a sole proprietor borrows money, the lender typically must incur some loss if the venture fails and there is insufficient funds to repay the loan. If a producer seeks financing for his enterprise from a partner, the partner shares in it, according to the terms of the contract or compact, as interpreted in a court of law. Under modern conditions, the uncertainty of many production projects appears too large for a single financier to be both willing and able to bear. Such projects may be impossible without a cooperative effort of several financiers. Laws relating to partnerships and corporations provide a context within which the various uncertainty-bearers make their arrangements.

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[14]See Frank Knight 1921: 19. A very similar idea can be found under a different name in Frederick B. Hawley, first in his 1893 paper and more completely in his 1907 book.

[15]I believe that one of the deficiencies of *Human Action* and indeed of Austrian economics generally is that it neglects the many ways that the burden of uncertainty is dealt with in a market economy.

It would be a great error to think that the problem of uncertainty-bearing in a market economy is simply one of deciding who will bear a "given amount of uncertainty." Although uncertainty is present in every undertaking by definition, appraisals of rights to profit and obligations to compensate for losses in each of the countless separate production projects varies greatly among individuals. Moreover, even if two individuals estimate the probabilities of profits and losses identically, they are likely to differ in their willingness and ability to bear the uncertainty. Unregulated financial markets provide opportunities for people with financial means to gain from having more accurately appraised the rights to share in profit and the obligation to pay off losses than their counterparts. They also provide opportunities for people who lack financial means but who nevertheless have made more accurate appraisals to gain by persuading financiers of the merits of their projects. The network of financial linkages that we broadly call financial markets great expands the wealth-producing possibilities of a market economy.

3. THE PURE ENTREPRENEUR ECONOMY AND EXAMPLES OF ENTREPRENEURSHIP

If it was possible, we would build an image of a pure market economy that contains the intersubjective understandings and actions of millions of separate individuals. It is obvious that we cannot succeed in such an endeavor. But we need not be too concerned about this fact. After all, those who make the interventionist arguments that we ultimately intend to evaluate face the same problem. It is sufficient to build the images that are suitable for evaluating the arguments.

The Pure Entrepreneur and Related Economies

Once we have identified the personal properties of entrepreneurship, we are in a position to build images of economic interaction under the conditions of the pure market economy. To build the image of the *pure entrepreneur economy*, we imagine that the characteristics of action are performed entirely by a "class" of *pure entrepreneurs*. A pure entrepreneur does not consume or save. His role in production is to appraise and employ factors, to undertake a production activity, and to bear uncertainty. The pure entrepreneur economy contains (1) passive, robot factor suppliers, producers, and consumer-savers and (2) active,

distinctly human pure entrepreneurs. All production is controlled by the members of the class of pure entrepreneurs.[16] This image enables us to describe various general patterns of economic interaction that have traditionally been associated with the market economy in their simplest form. Specifically, it enables us to describe competition, interaction that leads to specialization, consumer sovereignty, and the uses of price signals as conveyors of information.

We build additional images of entrepreneur economies, depending upon which characteristics we want to elucidate and which interventionist arguments we want to evaluate.[17] To describe specialization and competition in the production of consumers' goods, for example, we can divide the entrepreneurs into sub-classes based on the consumers' good that we assume each is specialized in causing to be produced. To describe specialization in producing goods of different orders in a structure of production, we can divide pure entrepreneurs into classes based on which order of goods they are specialized in producing. We can elucidate middleman activity, the supply of guaranty, and agency by creating sub-classes of entrepreneurs who specialize in these activities. We can introduce credit intermediation and banking entrepreneurs to deal, respectively, with credit middleman activity and money creation. We can introduce employee and employer entrepreneurs to help us understand the employment compact. Finally, we can introduce technical or interactive relationships among different entrepreneurs in order to help comprehend economic organization and changes in it, such as mergers and inter-entrepreneur agreements.

The number of economies that we can create in order to help us understand economic interaction is indefinite. The ones we actually do create depends on the interventionist argument we aim to evaluate.

Giving Examples of Entrepreneurship

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[16]This procedure is similar to that used by Israel Kirzner (1973: 41-43; 72), albeit in a different context. Kirzner (1992: 98-99) defends the procedure as an analytical device that is necessary in "order to understand the entrepreneur-driven market process. The procedures may have first developed in the work of Davenport (1914), who conceived of entrepreneurship as, among other things, an agency responsible for assigning, through capitalization, prices to all factors (Gunning 1998b).

[17]The rationale for building these images is that to evaluate most arguments, we must begin by recognizing and acknowledging the patterns and, more specifically, how the patterns are manifest under more specific conditions.

The last step is to give examples of entrepreneurship. To give an example of entrepreneurship, we imagine a starting point at which, given our assumptions, all future behavior is determined completely by an imaginary, fully synchronized set of individual plans. All that remains is for the behavioral plans to be carried out. As a result, there is no incentive to change one's behavior. In other words, although there are individuals who possess the potential for gaining from their behavior, no unexploited opportunities to gain are present. Next we introduce an incentive to change behavior in the form of a want or an ability to satisfy a want that is not accounted for in the plans that we assume to exist at the starting point. Assuming that everything else stays the same, we make assumptions about the appraisals, undertaking, and uncertainty-bearing that all of the relevant individuals would have to carry out in order to reach a new imaginary, fully synchronized set of behavioral plans. This set is the ending point at which there is no longer any unexploited opportunities to gain. We end this step with a contrast between the entrepreneur *behavior* that we assume will lead to the endpoint and a reference to real entrepreneur *action*, which is beyond our ability to completely comprehend. We point out that the image we build in order to describe the entrepreneur behavior needed to reach the endpoint does not, and cannot, fully and accurately depict the breadth and depth of entrepreneurship. Real entrepreneurship entails imagination, creativity and inventiveness in specialized fields that we, as economists, can know little about. The images of economies discussed in the fourth step are invaluable aids in giving examples, since they help us simplify the complex of economic interaction.

Part of the process of giving examples of entrepreneurship involves identifying a state in which entrepreneurs' plans are not synchronized and specifying the behavior that would lead to a final state in which they are synchronized. Israel Kirzner (1992) has attached the label "market process" to such behavior. To the extent that the examples in Kirzner's market process analysis employ a concept of entrepreneurship that includes appraisement, undertaking, and uncertainty-bearing and to the extent that they are open-ended in the sense that they emphasize entrepreneurial imagination, creativity and inventiveness -- which they do not always do -- they are a part of the procedure described here. As we shall argue in later chapters, market process analysis, as usually understood, is only part of the procedure that praxeological economists use to give examples of entrepreneurship. Also those who have used the market process analysis have typically not acknowledged the background assumption of a pure entrepreneur economy.

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