

## Ludwig von Mises's Transformation of the Austrian Theory of Value and Cost

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The term "theory of value," in today's words, means "theory of price."<sup>1</sup> "Price" includes the prices of consumer goods and the prices of the factors of production. The theory is distinguished from a theory of barter exchange rates by the assumption that all exchanges entail the use of money. An all-inclusive theory of price would aim to discover every cause of prices in the market economy. No Austrian economist has tried to achieve this aim. The Austrians have excluded theft and deceit. Also, while being careful to recognize that money is not neutral, Austrians have presented the theory of price independently of the theory of money. By doing so, they have disregarded the demand for and supply of cash balances. Besides these, Austrian authors have typically excluded time preference as a cause in order to achieve simplicity. Finally, in this field, the Austrian theory has not tried to account for credit and the money based on credit. My point is only that when we speak of the Austrian theory of value, we are not talking about an all-inclusive theory but a special theory designed to show the relationship between the prices of goods and factors in isolation of the above-mentioned influences. Following this lead, this paper also assumes fully defined property rights, no fraud, neutral money, absence of time preference, and no credit.

The word "cost" is included in the title of this paper to indicate that the theory of relative prices should also describe or explain cost as we understand it in everyday life. Cost in this sense means opportunity cost, which may be different from the prices that a producer must pay for the factors of production. When modern Austrian economists use the term "cost," they invariably refer to cost as subjective, meaning that it is a cost as perceived by some subject. They take it for granted that in describing cost as it relates to the market economy, they must refer to cost as it is perceived by some entrepreneur.<sup>2</sup> They may not realize that, in light of the history of Austrian economics, this notion of cost is distinctly Misesian. It differs substantially from that of the early Austrian value theorists: Carl Menger, Friedrich von Wieser and Eugen Böhm-Bawerk. In this paper, I aim to show how Mises transformed the earlier notion.

Menger's initial theory was incomplete. He began with the idea that for a thing to be a good, there must be both utility to the user and knowledge of how to cause the utility. However, in presenting the theory of price, he emphasized utility but neglected knowledge. This apparently led second-generation Austrians Wieser and Böhm-Bawerk to do the same. Moreover, in the wake of contributions by W. S. Jevons, Leon Walras, and Alfred Marshall, the idea of marginal utility had become popular among professional economists. This inclined the second-generation Austrians to present their theory in terms of marginal utility. Thus, when Wieser and Böhm-Bawerk presented their theory to the English-speaking world, they seemed to say that all relative prices and costs could be traced to marginal utility and disutility. Mises corrected this by redirecting our attention to subjective value instead of marginal utility and by focussing on knowledge, as embodied in the concept of the entrepreneur. The focus on knowledge is nowhere more evident than in his statement that the "term entrepreneur as used by [economic] theory means: acting man exclusively seen from the aspect of uncertainty inherent in every action." (1966, p. 253)

The purpose of this paper is to present the old Austrian theory and to show how Mises transformed it. Part 1 shows the importance of both utility and knowledge to Menger's theory and briefly discusses the role of knowledge and entrepreneurial ability. Part 2 presents Böhm-Bawerk's theory as he presented it in a paper to an American audience in 1894. It shows that the paper contained the seeds of the later Misesian theory but that its emphasis was different. Part 3 presents Mises's theory of relative prices. Part 4 is a brief conclusion.

## 1. Menger on Value, Entrepreneurship, and Knowledge

Carl Menger constructed an image of an errorless economy in which markets for factors of production are linked to markets for goods.<sup>3</sup> This image emphasized the relationship between the prices of the factors of production (higher-order goods) and the prices of the things valued by consumers (first-order goods). He said that the price of a higher-order good was totally derived from the prospective price of the first-order goods it could be used to produce (p. 149-152). And since the price of a first order good is derived from (or can be traced back to) its utility, the price of the higher-order good is also derived from (or can be traced back to) the utility.

Even in the errorless economy, someone must direct production. Menger said that the individual who transforms goods of higher order into goods of lower or first order performs *entrepreneurial activity*. To Menger, entrepreneurial activity consisted of (a) obtaining "information about the economic situation," (b) calculating the most efficient use of the factors, (c) performing the act of will, and (d) supervising production. It is worth noting that in speaking of entrepreneurial activity, Menger described these four activities as "functions" (159-160). Beginning with J. B. Clark (1899), later economists, including Mises, removed entrepreneurship from the errorless economy. Menger, however, regarded entrepreneurial ability as a kind of labor and, accordingly, assigned it a position among the higher-order goods.<sup>4</sup>

Menger regarded costs as opportunities foregone, or sacrifices:

Freight costs, loading charges, tolls, excise taxes, premiums for marine and other insurance, costs of correspondence, commissions and other sales costs, brokerage charges, the entire cost of the commercial banking system even the expenses of traders and all their employees, etc. are nothing but the various economic sacrifices which are required for the conduct of exchange operations and which absorb a portion of the economic gains resulting from the exploitation of existing exchange opportunities (Menger, 1981, 189).

Especially interesting in this list is the inclusion of excise taxes and the "entire cost of the commercial banking system." However, Menger did not follow up on these ideas and had little else to say about costs. He would presumably have associated costs with the second item on the above list of entrepreneurial abilities, namely, calculating the most efficient use of factors. Costs are presumably anticipated money outlays as perceived by the calculating entrepreneur. How he would have reconciled entrepreneurship as a higher-order good with the other items to which entrepreneurial calculation assigns costs is not clear. He also did not say anything about the calculations made by the individuals who presumably initially possess the factors of production, before they are acquired by individuals who actually give the orders concerning how they will be used. It is possible that by "entrepreneurial activity," he meant to include the actions, say, of a worker who is deciding whether to accept one job or another.

Since he said nothing about this, however, there is no reason to believe that his conception of the entrepreneur was so fundamental.

It is worth stressing Menger's recognition of the role of knowledge in the theory of value. This is evident from his use of the term "prospective" in his discussion of the prices of the higher order goods and from his idea of the entrepreneurial function. In an oft quoted passage, Menger lists four prerequisites of an item for it to possess "goods character:" Two of these are a human need and human knowledge of the causal connection of the item with the satisfaction of the need (p. 52). In addition, two of the three characteristics of entrepreneurial activity, as described above, require the use of knowledge.

## 2. Böhm-Bawerk's Ultimate Standard

Circa 1890, English-speaking economists were rapidly becoming familiar with the Austrian theory. Menger's *Principles*, two books by Wieser, and the first two volumes of Böhm-Bawerk's *Capital and Interest* had been published in German. Several papers were written by non-Austrian economists for major journals in England and the U.S. about the theory.<sup>5</sup> Here I will focus on Böhm-Bawerk's 1894 paper, "The Ultimate Standard of Value." In that paper, he tried to answer the major critics of the Austrian theory and especially tried to show the difference between the Austrian theory of subjective costs and the Marshallian theory of real costs.

By way of background, the Austrian theory maintained that the ultimate cause of all prices were the choices of individuals. By definition, choices are always made on the basis of utility. Every choice entails foregone utility. In the market economy, such choices lead to a tendency, argued the Austrians, to make prices equal to marginal opportunity costs. Since opportunity costs are nothing but foregone utility, the ultimate cause of all prices, in the sense of a tendency, is utility.

The main opponents of this view at the time argued that labor and waiting are the sources of value. Since Böhm-Bawerk focussed on labor and since I wish to keep the theory simple, I shall disregard waiting, as Böhm-Bawerk did in the article. Böhm-Bawerk said that opponents of the subjective value theory viewed labor as either (1) a quantity, (2) a price, or (3) a pain or disutility. He disposed of the quantity view by saying that it is impossible to form a clear idea of the amount of labor. Because of specialisation, labor differs in nature and quality as among individuals. As a result, we cannot use the quantity of labor to help us explain the prices of goods (p. 327). He accepted the price view and went on to argue that the equilibrium market price of labor is merely foregone utility. In equilibrium, the price of labor equals, for the most part, the marginal utility of the alternative goods that could be produced with the labor, in terms of money. The main question that Böhm-Bawerk addressed was the extent to which labor disutility (the third view) was also a contributing factor to the cost of production. He answered basically that although Crusoe might produce a good up to the point where the marginal utility of the goods equals the marginal disutility of the labor expended, the production of goods in the market economy requires different kinds of complementary labor and other factors that are limited in supply. As a result, most people who perform work are not offered the opportunity to work for as many minutes as they would like at the wage that is paid by the employer. Thus, for most types of labor, the subjective marginal utility of the goods that can be bought with a dollar earned is higher than the combined marginal disutility of labor required to produce them. It follows that while marginal disutility of labor is a source of cost, it is substantially less significant in determining wage rates than the marginal utilities of the alternative goods that could be produced with the labor (pp. 327-343).

It should be noted that Böhm-Bawerk's theory of value and cost, based on marginal utility, is not contradicted by the idea that cost is partly determined by the marginal disutility of labor. Marginal disutility and marginal utility of goods are members of the same species. The idea of positive and negative utility implies a standard for defining zero, which is not an essential part of the subjective theory of value. Indeed, one can "normalize" the disutility of labor by substituting the idea of the utility of leisure. Menger's brief discussion of cost, as quoted above, uses the term "sacrifice" instead of utility, which is more appropriate.

Before going on, I would like to describe a methodological element in Böhm-Bawerk's analysis, since it provides the starting point for the Austrian theory as it developed later. As implied above, Böhm-Bawerk began his argument about whether cost could be associated with the marginal disutility of labor with a discussion of the meaning of cost in a Crusoe situation. Then he proceeded to consider what he called the "synchronously reckoned money cost of the entrepreneur." (325, 363) This is the cost that competing entrepreneurs would cause to emerge in the market. It is the equilibrium cost. In order to understand this cost, one must put oneself in the shoes of the entrepreneurs. Many errors, Böhm-Bawerk implied, had resulted from the failure to distinguish correctly between the "synchronously reckoned" cost and "historical cost":

"It would...be a very serious sin of omission, on the part of economic science, to attempt an explanation [of prices] without any reference to the characteristic circumstance that these prices represent the present cost to the entrepreneur" (366).

Finally, I would like to point out a continuity between (1) Menger's initial point that for an item to be a good, someone must have knowledge of the causal connections between them and the want it can be used to satisfy (Menger, 1981, p. 52) and (2) Böhm-Bawerk's reference to the entrepreneur. Böhm-Bawerk did not discuss the possibility that the concept of the entrepreneur might be used to represent, in part at least, what Menger had meant by knowledge of the causal connections. For Mises, however, appraisal of the factors of production and dealing with uncertainty were the central characteristics of the entrepreneurial function. Thus, Menger's emphasis on knowledge seems to get concealed by Böhm-Bawerk's reference to the entrepreneur. I will point out below that Mises reestablished the link between the two ideas.

### 3. Mises's Transformation of the Theory

Before discussing Mises, brief mention should be made of F. A. Hayek. In his famous 1937 and 1945 papers, Hayek developed the knowledge theme in Menger's definition of goods characteristics to the highest level. He wrote first (1937) about "the central question of all social sciences," namely, "how the combination of fragments of knowledge existing in different minds can bring about the results which, if they were to be brought about deliberately, would require a knowledge on the part of the directing mind which no single person can possess" (p. 52). Economics, he said, had come closest to answering this question. In the 1945 paper, he showed how the price system operates to enable specialized individuals to discover the relationship between their own knowledge and the knowledge of others.<sup>6</sup> One of the distinguishing features of Hayek's work is that he seldom used the term 'entrepreneur.' In this respect, his work takes the Austrian theory down a different path than that of Mises's praxeology and apriorism.

We now turn to Mises. Regarding relative price and cost, Mises (1981, p. 181) argued early on<sup>7</sup> that, while the thrust of the Austrian theory was its focus on the assumption that

choice is subjective, both Menger and Böhm-Bawerk often wrote as though the focus should be on the marginality of utility. Thus the true, qualitative theory of subjective value was often mistaken for the quantitative theory of marginal utility. Making subjective choice the center of his efforts to explain prices and cost, Mises sought in *Human Action* (1966) to isolate the distinctly human characteristics of choosing, or action.<sup>8</sup> Thus, he used the term "praxeology" as the most fundamental way to describe the subject he studied. Economics, he said, was a branch of praxeology dealing with action under the conditions of the market economy.<sup>9</sup>

Mises thus began his study at the most fundamental level, with the idea that human beings are distinct in having means and ends. The problem he faced was how to expand this fundamental (a priori) assumption of praxeology into an explanation of the complex relations among human actors that lead prices and costs to emerge. His answer was to incorporate all of the distinctly human properties of actors into the concept of the entrepreneur, or entrepreneurship.<sup>10</sup> As Ludwig Lachmann (1951) correctly pointed out, the Misesian theory of markets is a theory based on the concept of entrepreneurship.

From the standpoint of entrepreneurship, cost refers to a value judgment. "Economics cannot help reducing all items of cost to value judgments." (1966, p. 396). These value judgments are directly manifest not in valuation, which aims to determine use value, or utility. Valuations enter indirectly through entrepreneurial appraisalment.

Appraisalment 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. (332)

To facilitate his making of appraisals, the entrepreneur employs cost accounting. However,

[c]ost accounting is...not an arithmetical process which can be established and examined by an indifferent umpire. It does not operate with uniquely determined magnitudes which can be found out in an objective way. Its essential items are the result of an understanding of future conditions, necessarily always colored by the entrepreneur's opinion about the future state of the market....The essential elements of economic calculation are speculative anticipations of future conditions. (349)

Mises used the term "entrepreneur" in two ways. The most fundamental definition - the theoretical one based on the concept of the entrepreneur as a functional category - referred to the entrepreneur as an appraiser, director of the factors of production, and uncertainty-bearer.<sup>11</sup> However, in describing markets and prices, he mainly used a definition that represented those who are "especially eager to profit from adjusting production to the expected changes in conditions, those who have more initiative, more venturesomeness, and a quicker eye than the crowd, the pushing and promoting pioneers of economic improvement" (p. 254). According to this latter definition, prices and costs are determined through the bidding of the entrepreneurs, each of whom has a quality that distinguishes him from other entrepreneurs.<sup>12</sup>

In placing entrepreneurship at the center of the system, Mises appears to have built on Böhm-Bawerk's synchronously reckoned money cost. But the difference in mode of expression between Böhm-Bawerk and Mises is so great as to suggest that however much Böhm-Bawerk may have dimly perceived the importance of the entrepreneur concept, Mises was the first recognized Austrian to fix it firmly at the center of the theory of markets and

prices. For Mises, cost could mean nothing other than the cost as perceived by the entrepreneur. In the first and more fundamental sense, this means cost is associated with the entrepreneur as appraiser, undertaker, and uncertainty-bearer — cost as it appears in subjective cost accounting. In the second sense, representing differences among individuals, it means that different individuals acting in the role of the entrepreneur perceive the relationship between wants and the means of satisfying them in different ways. Further, it means that the price of a factor that emerges through entrepreneurial bidding will represent the appraisal of the factor that is made by an entrepreneur who we might label "marginal."

Mises directly addressed the problem of value and cost in his section on "The Prices of the Goods of Higher Orders." He began with a discussion of what Böhm-Bawerk would have called "reckoning." First, he pointed out that in trying to explain factor prices, we are dealing with appraisement and not with valuation. The operation of the market for factors is "actuated and kept in motion by the exertion of the promoting entrepreneurs" (p. 334). "...The entrepreneurs, eager to earn profits, appear as bidders at an auction, as it were, in which the owners of the factors of production put up for sale land, capital goods, and labor" (p. 335). "The entrepreneur is the agency that prevents the persistence of a state of production unsuitable to fill the most urgent wants of the consumers in the cheapest way" (p. 335-6). Like Böhm-Bawerk, Mises referred to equilibrium (i.e. evenly rotating economy) prices.

The essential fact is that it is the competition of profit-seeking entrepreneurs that does not tolerate the preservation of false prices of the factors of production. The activities of the entrepreneurs would bring about the unrealizable state of the evenly rotating economy if no further changes were to occur. (338)

He went on to stress differences among entrepreneurs in addition to the differences that are implicit in the notion of the promoting entrepreneur:

...Each entrepreneur represents a different aspect of the consumers' wants, either a different commodity or another way of producing the same commodity. The competition among the entrepreneurs is ultimately a competition among the various possibilities open to men to remove their uneasiness as far as possible by the acquisition of consumers' goods. (338)

### Tracing Cost to Utility

Recall that Böhm-Bawerk described the Austrian theory of value and cost by tracing cost from the standpoint of a particular entrepreneur in a particular market for a first order good to the markets for higher order goods. In order to compare Böhm-Bawerk with Mises, let us employ the Misesian approach, with its focus on entrepreneurship, to do the same thing. This will enable us to clearly see the difference between the idea that prices and costs equal marginal utilities and the idea that prices and costs are phenomena of subjective evaluation and entrepreneurial appraisement. We begin by noting that the cost of producing a marketable consumer (first-order) good, as perceived by the entrepreneur who produces it, consists for the most part of the prices of the marketable factors of production needed to produce the good. Let us call this entrepreneur the first entrepreneur. The prices of the factors that he faces are determined in factor markets through entrepreneur bidding. Since the first entrepreneur must bid higher than the next highest bidding entrepreneur, we can say that the cost of a given marketable factor is equal to the highest price bid by a second, marginal entrepreneur — marginal in the sense that he is the entrepreneur who would have bid the highest price for the

factor if the first entrepreneur did not. Following the trail to this second entrepreneur, we proceed to ask what led him to attach such a high appraisal to the factor. The answer is that he anticipated that if he combined this factor with other complementary factors, he could earn a profit. Thus the cost to the first entrepreneur depends on the profit that the second entrepreneur believed he could earn with the factor.

Now we might stop here and conclude that the second entrepreneur's anticipated profit from using the factor is, in some sense, a measure of the marginal utility that would result from using the factor in that employment. We could go on to reason that costs are the same as marginal utility by assuming an equilibrium in which all profit is zero. But this surely is insufficient, if not contradictory. The cost of a factor is not equal to its marginal utility in other uses for five important reasons. The first is that the presence of entrepreneurship is incompatible with the assumption of equilibrium. We can construct an image of entrepreneurs in which some entrepreneurs' anticipated profits from using a factor enter as costs of production in the calculations of other entrepreneurs. Or we can construct an image in which there is no entrepreneurship and therefore no cost calculation. The two images cannot legitimately be mixed.

The second reason, which was recognised by Böhm-Bawerk, is the disutility of labor. The complementarity of factors prevents most workers from being employed up to the point where the marginal disutility of labor equals the wage. Thus, the entrepreneur's cost of the last minute of an employee's labor does not equal the worker's disutility of working for that minute. Third, we have the problem of "utility margins." How many additional units of the second consumer good could be produced if the second entrepreneur gained control of the factor that is now being used by the first entrepreneur to produce one more unit of his good? The inability to answer this question in a definite way for the general case is why we should conceive of cost not as based on marginal utility — as Böhm-Bawerk and Wieser were prone to do on occasion<sup>13</sup> — but on the less quantitative and less continuous idea of sacrifice, or subjective value. To be sure, some consumer gain is lost because the second entrepreneur cannot use the factor for which the first entrepreneur bids higher. But we should not pretend that the concept of marginal utility in any way helps us comprehend this loss.

The fourth reason is the complementarity of factors. Although entrepreneurs attach definite appraisals to factors — in other words, although they compute a contribution of each factor to the business revenue — we cannot directly relate this computation to foregone utility because of the "insolubility of the problem of physical imputation" (Mises, p. 494). The fifth reason — and this is the most important one in the transformation of the Austrian theory of value — is that the alternative cost clearly depends not only on the entrepreneur's estimate of consumer utility but also on the assumption that there is an entrepreneur in the first place! Suppose that we take away the second entrepreneur and put the third highest bidder for the factor in his place. Then the cost to the first entrepreneur would be lower.<sup>14</sup> This is not simply a displacement problem of complementary factors of production. What is displaced is not a physical factor but one of the unique human agents, who "represents a different aspect of the consumers' wants."<sup>15</sup> The agent is someone who we assume is a maker of prices and costs.<sup>16</sup>

This example illustrates a source of prices and costs that was entirely missing from the early Austrian analysis, namely, the limited supply of unique appraising and price-setting entrepreneurship.<sup>17</sup> Thus it is that Mises transformed the old Austrian theory of value and cost, based on marginal utility, to a theory based on the appraisals and decision-making of entrepreneurship, although I am not aware of his actually making a claim that he had done so.

#### 4. Conclusion

In this paper, I have argued that Mises transformed the Austrian theory of value (price) and cost by emphasizing subjective value, as expressed in the appraisals of qualitative entrepreneurship, instead of quantitative marginal utility. One might say that in so doing, he persuaded later Austrian economists who followed his lead to define cost as it is perceived by entrepreneurship.

In adopting this perspective, one is led to recognize that the concept of cost must account for different appraisals by every unique entrepreneur who can be conceived to bid for the items that ultimately become factors of production. Cost refers to the calculations of entrepreneurs. To find the relationship between cost of a particular factor of production and consumer utility, given the assumptions described in the introduction, one must (1) identify all of the individuals whose entrepreneurship has an influence on the prices of factors, (2) recognize that the complementarity of factors does not enable an entrepreneur to precisely calculate the marginal revenue product of factors, (3) deal with the self-owned factors of the entrepreneur, (4) recognize the uniqueness of the entrepreneurship possessed by different individuals, and (5) recognize that entrepreneurship is limited. In dealing with the determinants of supply in the Marshallian demand-supply models, one must take account not only of the disutility of labor as Böhm-Bawerk did but also the sacrifices of leisure made by individuals in their capacity as entrepreneurial appraisers. One might summarize Mises's transformation by saying that he developed an entrepreneur theory of price and a theory of entrepreneur cost.

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#### Notes

- 1 In terms used by the interpreters of the Austrian theory, it is a theory of one species of objective value, as opposed to subjective value (e.g., utility) and other species of objective value (the power of a commodity to produce certain effects). (Bonar, 1888, p. 13; Endres, 1996, p. 85-86.)
- 2 See, for example, Pasour (1977) and Vaughn (1980)
- 3 The errorless economy in relation to entrepreneurship in Menger's writings has been explored by Israel Kirzner. See Kirzner, 1978.
- 4 See Kirzner, 1978, p. 33. One who is interested in Mengerian entrepreneurship should also read Martin, 1979.
- 5 Some of these papers are listed in Richard Ebeling's (1977) helpful bibliographical paper. For a more complete listing, see Gunning 1997.
- 6 See especially p. 14.
- 7 Mises's paper was written in the 1920s, I suppose, but certainly before 1933.
- 8 See Mises, 1966, Ch. 4-6.
- 9 See Mises, 1966, pp. 232-234.
- 10 Mises said: "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 theory means: acting man exclusively seen from the aspect of the uncertainty inherent in every action." (1966, pp. 252-253)  
All subsequent references to Mises are to the 1966 edition of *Human Action*.

- 11 Mises did not actually say in any single place that these are the distinct characteristics of the function of entrepreneurship. They are implied by his approach. On the other hand, he referred specifically to them at various stages in his book. Citations are provided in Gunning, 1990, Appendix 5.
- 12 The second concept refers to "the fact that various individuals do not react to a change in conditions with the same quickness and in the same way" (255).
- 13 See Davenport, 1906, chapters 17-19 for a criticism of the theory of value and cost as presented by Böhm-Bawerk and Wieser. Mises, while rejecting Menger and Böhm-Bawerk's emphasis on marginal utility (1981), gave a more charitable interpretation. See Mises, 1966, p. 123.
- 14 I am, of course, speaking loosely here. The difference between the costs in a market economy with  $n$  entrepreneurs and those in the same economy but with  $n-1$  entrepreneurs should be described in terms of a different configuration of all prices and costs. In terms of our example, instead of saying that the cost of using this factor would be "less," I should say that the cost of using many, or possibly all, factors would be different. But it is not necessary to go into such detail in order to make the essential point
- 15 Mises, 1966, p. 338.
- 16 This point has best been made by Davenport, 1908, chapter 16.
- 17 Also see Menger, 1981, p. 172.

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