VARIETIES OF AUSTRIAN PRICE THEORY: ROTHBARD REVIEWS KIRZNER

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THE MODERN REBIRTH OF AUSTRIAN ECONOMICS that seemed to spontaneously materialize in the mid-1970s was a unique episode in intellectual history. It offered a fresh perspective on a whole range of issues, including: methodology; monetary theory; capital theory; business cycle theory; the functioning of banking and financial institutions; the nature of monopoly and competition; and the essence and role of entrepreneurship. It also created, almost overnight, an intellectual movement that is still active and thriving today. Nevertheless, the reconstruction of modern economics that the Austrian revival initially promised has been greatly impeded by a serious flaw in its own theoretical foundations. For at the root of any system of economic theory is the theory of price. But while Austrian economists have put a great deal of effort and ingenuity into building up the superstructure of their discipline since the mid-1970s, they have paid scant attention to ensuring that the price theory supporting the edifice is a sound and settled doctrine.

The view that took hold among many Austrians early in the post-revival era and generally prevails today is that Austrian price theory is a "dynamic" version of neoclassical price theory. More precisely, it is Chicago price theory with a theory of entrepreneurship and of competition as a rivalrous process grafted onto it. This *ad hoc* approach to Austrian price theory thus relies heavily on the analytical tools and techniques developed particularly by Alfred Marshall, Frank Knight and Jacob Viner. George Stigler later elaborated these individual contributions into a systematic price theory.

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Unfortunately, the *ad hoc* approach almost completely ignores the fact that there exists an alternative "causal-realist" tradition of price theory that was founded by Carl Menger and developed by his followers both in Austria and abroad. These include especially Eügen von Böhm-Bawerk, J.B. Clark, Frank A. Fetter, Herbert J. Davenport, Philip Wicksteed, Lionel Robbins and Ludwig von Mises.[1] This causal-realist tradition has maintained a shadowy presence in postwar Austrian economics. But it has been only in recent years that some Austrian economists, seeking a sound price theory to shore up the foundations of their discipline, have explicitly recognized and embraced it.[2]

We may add that many of the controversies that have occurred among modern Austrians are due in no small part to unnoticed differences in their underlying price theory. These were at the root of debates about the meaning of the socialist calculation debate, the proper conception of the entrepreneur, and the roles of knowledge and calculation in the market process. Differing price-theoretic assumptions can even be detected in the disagreement over the economic effects of "free banking," i.e., unregulated, private fractional-reserve banking, particularly with respect to the implications of "sticky prices" for a change in the demand for money.

In light of these considerations the republication by Liberty Fund of a handsome new edition of *Market Theory and the Price System* by Israel M. Kirzner is an especially welcome event. Kirzner is one of the titans of modern Austrian economic theory and his book contains a systematic and comprehensive statement of his price theory.[3] Now it should be noted immediately that since original publication of this book in 1963, Kirzner's views on the nature and role of entrepreneurship and related topics have undergone considerable development. Indeed, in an interview in 1997, Kirzner mentioned *Market Theory and the Price System* as one of his three early books that ". . . were not informed by the entrepreneurial insights, which I

[1]On Menger's price theory and its development, see Joseph T. Salerno, "Carl Menger: The Founding of the Austrian School," in Randall G. Holcombe, ed., Auburn, AL: Ludwig von Mises Institute, 1999, pp. 71–100; and idem, "The Place of *Human Action* in Modern Economic Thought," *The Quarterly Journal of Austrian Economics* vol. 2, no. 1 (Spring 1999): 35–65, available at http://mises.org/journals/qjae/pdf/qjae2_1_3.pdf.

[2]See, for example, Peter G. Klein, "The Mundane Economics of the Austrian School," *The Quarterly Journal of Austrian Economics*, Vol. 11, No 3 (2008): 165–87, available at http://mises.org/journals/qjae/pdf/qjae11_3_1.pdf.

[3]Israel M. Kirzner, *Market Theory and the Price System*, ed. Peter J. Boettke and Frédéric Sautet, 2nd ed., Indianapolis: Liberty Fund, Inc., 2011.

only gained later."[4] Moreover, he characterized the book as an attempt "to translate Misesian economics, as I understood it then, into terms that would be understandable to the profession at large and usable at the undergraduate level."[5] But, in the same interview Kirzner also cited chapter 7 in the book as one he "often cited to students and colleagues" and as providing "a very useful framework" for analyzing the spread of knowledge in the market process. Thus Kirzner's statements leave us without a clear idea as to the extent to which the book represents his mature view of price theory. The more important question is to what extent did the volume represent Kirzner's view of price theory *at the time he wrote it*, given that his express purpose in writing it was to gain a hearing for Misesian economics from the mainstream economics profession? In other words, was Kirzner's use in the book of the technical apparatus of Chicago price theory a deliberate concession he may have made in order to expose a broader professional audience to Mises's more general insights about the market process?

Unfortunately the answers to these crucial questions are not forthcoming from the editors of the volume, Peter J. Boettke and Frédéric Sautet, who do not address the evolution of Kirzner's thought in this area or the tension evident in his current attitude toward this book. Nor do they attempt to probe the more difficult issue of Kirzner's rationale for drawing so heavily on the analytical techniques of an opposing school of thought. Indeed, the editors do not even seem to recognize these important issues, resting content with the bland and uninformative statement, "*Market Theory and the Price System* was his first systemic [sic] attempt to examine how the logic of action enables us to understand the workings of the market."[6]

Now this omission, while it does a serious disservice both to Kirzner and to the reader, is comparatively minor. The major problem with their Introduction involves the editors' serious misinterpretation of a crucial doctrinal matter. (I do not mean to imply that the editors are singularly culpable in this erroneous interpretation, which exemplifies the general confusion regarding Austrian price theory referred to above.) As the editors point out, Murray Rothbard, in an unpublished memo evaluating the manuscript for Kirzner's book, argued that Kirzner was attempting "to carry water on both shoulders." It was Rothbard's contention, according to the

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[4]Israel M. Kirzner, "The Kirznerian Way: An Interview with Israel M. Kirzner," *The Austrian Economics Newsletter* Vol. 17, No. 1 (Spring 1997), available at http://mises.org/journals/aen/aen17_1_1.asp.

[5]Ibid.

[6]Peter J. Boettke and Frédéric Sautet, Introduction to Kirzner, *Market Theory and the Price System*, p. xi.

editors, that Kirzner's manuscript "was fundamentally a Stiglerian work in the refinement of price theory infused here and there with Austrian insights and obligatory qualifications."[7] So far, so good. But then the editors proceed to make a strong, but completely unsubstantiated, claim: "Rothbard failed to see the subtle argument that was emerging from Kirzner's analysis of the market system." After quoting a passage from Kirzner's Preface to the original edition, the editors conclude: 1. "The basic idea of the book was to utilize the tools of economic reasoning to explain the market process"; and 2. "This is what Rothbard ironically misunderstood in his 'water on both shoulders' comment."[8]

Now, the reader cannot evaluate these claims because the editors provide very little substantive argumentation and no textual evidence to support them. Without directly saying so, they would have the reader believe that Rothbard's primary criticism of Kirzner's approach is that it is too dependent on the "equilibrium properties of markets." Thus, they defend Kirzner by arguing that equilibrium constructs are "vital to understanding the tendencies and direction of the processes of adjustment" and that in Kirzner's system the market economy is defined "not by a state of affairs, but by an intricate matrix of human interdependencies in the realm of exchange relations and production decisions."[9] Of course, anyone who possesses even a passing familiarity with Rothbard's work knows that he would never deny this proposition.

In the same vein, the editors also contend in a footnote that the "propositions" of the "evenly rotating economy" which Rothbard uses in *Man, Economy, and State* "serve the same intellectual purpose as the Stiglerian propositions of optimality in consumer choice and producer decision do in Kirzner's *Market Theory and the Price System*."[10] But contrary to the editors' implication, Rothbard has no problem with Kirzner's use of equilibrium constructs *per se*. Rather for Rothbard, all "tools of economic reasoning" are not created equal when analyzing the operation of the market process. Thus, in his memo, Rothbard vigorously and repeatedly objects to specific concepts, techniques, and models that Kirzner deploys in his analysis of the market economy. These include, for example: production isoquants; the horizontal demand curve; the point elasticity formula; the analysis of two goods or two factors rather than many goods and many factors; the concentration on a nebulous and hybrid "short-run equilibrium" in

[7]Ibid., p. xiii.

[8]Ibid.

[9]Ibid, p. xiv.

[10]Ibid., p. xiii, fn. 5.

production theory; the narrow analytical focus on the single firm rather than on the interdependencies between firms; the characterization of the firm as paying rather than receiving interest. The list goes on and on. Moreover, Rothbard criticizes Kirzner's price theory as incomplete and positively misleading, even on its own terms, because it is expounded in complete isolation from monetary theory and, more important, fails to integrate capital theory into production analysis. The latter shortcoming results in Kirzner's treating factor prices and production costs as "given" and not imputed backwards to the original factors of production, labor and land. Furthermore, and compounding the problem, according to Rothbard, Kirzner's analysis does not make the crucial Austrian distinction between the original factors and produced factors (i.e., capital goods) and thus does not recognize that capital goods do not earn net rents, because their entire return is resolvable into wages, land rents, and an interest return on time.

Now the preceding paragraph is not meant to deny that Kirzner infuses numerous elements of the Austrian causal-realist tradition into his analysis, especially in the areas of utility theory and monopoly theory. And Rothbard recognizes and lauds these instances.

In the end, the editors do not do justice to either Kirzner or Rothbard by glossing over and trying to reconcile very real and significant differences in their respective approaches to price theory. Fortuitously, the deficiencies of their Introduction do present a teachable moment that may lead to greater clarity and precision in identifying the unresolved issues eroding the foundations of Austrian economics. Given that the editors have cited Rothbard's unpublished memo, now is an opportune time to publish it. Not only is its publication necessary to set the record straight, but it gives Austrians a unique opportunity to evaluate the competing approaches as they are presented by the two greatest theorists of modern Austrian economics. By reading Rothbard's memo in conjunction with Kirzner's textbook, one will now be able to assess for himself the issues at stake.

Rothbard drafted his memo in December 1961 in his role as a reviewer of manuscripts for the Volcker Fund with the task of evaluating their suitability for publication with the Fund's financial assistance. When he wrote his memo Rothbard was a little over two years removed from the completion of his own manuscript for *Man, Economy and State*, which he had begun working on in 1951 and would be published the following year. Thus Rothbard was uniquely suited as a referee for Kirzner's manuscript. As a fellow participant in Mises's seminar, he naturally shared with Kirzner a general Austrian-Misesian orientation. But Rothbard was also intimately familiar with the issues that Kirzner was dealing with as well as the contemporary literature that he was drawing on, because the core chapters of his own treatise—roughly half the book—dealt with value, price, and production theory.[11]

In preparing Rothbard's memo for publication, I faced the difficult decision of whether to retain the idiosyncratic style that marked his memos or to substantially rewrite it and risk altering his meaning or emphasis in accordance with my own judgments and biases. I decided to retain the style and format of a memo and to greatly restrict my editorial interventions. I corrected obvious spelling and (unintentional) grammatical errors; however, where Rothbard, for example, deliberately wrote sentence fragments or a sentence that lacked a verb or subject, as long as the meaning is clear, as it almost always is, I did not correct it. I did supply the full word or words for *ad hoc* Rothbardian abbreviations which I believed might be misleading. Where there was little likelihood that they would be misunderstood (e.g., "K." for Kirzner") I left them in. In a few instances I used editorial insertions clearly set off within brackets beginning with my initials "JTS." Among other instances, I used this device once to clarify a point, once to note where Kirzner's discussion differed between his manuscript and the published book in response to Rothbard's criticism, and once to point out an obvious error that Rothbard made in his criticism of Kirzner. Finally, I changed the page numbers in Rothbard's comments, which obviously referred to the manuscript. The pages cited in the memo now refer to the pages in the book to which his comments apply, so that the reader may more or less easily locate the passage or section in question. I did retain Rothbard's style of pagination: for example 1, 4–5 refers to chapter 1, pp. 4–5. One stylistic change I did make was to provide a fuller and bolded citation for the first comment Rothbard made on a given chapter to alert the reader to a transition to a new chapter. Thus Rothbard's 2, 15 in the first comment on chapter 2 becomes in my notation **Chap. 2, p. 15**. Rothbard's memo follows immediately below.

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[11]For a comprehensive evaluation of Rothbard's treatise and its place in modern economic thought, see Joseph T. Salerno, Introduction to the Second Edition, in Murray N. Rothbard, *Man, Economy, and State: A Treatise on Economic Principles with Power and Market: Government and the Economy*, Scholar's Edition, 2nd ed., Auburn, AL: Ludwig von Mises Institute, 2009, pp. xix–l.

Dec. 1961

Comments on Israel M. Kirzner's MS,

Market Theory and the Price System

First, I think some general comments are in order on the book as a whole. In a sense, I am not too well qualified for the job of "constructive critic" of the book, because, for the bulk of the work, I am totally out of sympathy with the entire analysis. What Prof. Kirzner has done is, so to speak, to carry water on both shoulders. The preliminary, general, quasi-philosophic sections of the book (approximately from the beginning to the middle of Chapter 5) are excellent expressions of what may be called the "Austrian" position in economic analysis. Neo-classical, or "orthodox," texts on price theory have, in the United States, been dominated by the "Chicago" analysis, as typified as you stated in your letter, by Stigler's *Theory of Price*. Kirzner, after preliminary chapters promising to the reader at least an "Austrian" text in price theory, virtually abandons this position (except for a few ritualistic qualifications and sentences) for the remainder of the book—or for that bulk of the book devoted to refining and setting forth price analysis in detail. Here he presents a product which is very close to the Stiglerian position. In most respects, it is better, because of occasional infusions of "Austrian" doctrine—but this still does not relieve my disappointment in reading yet another work devoted to the old fallacies—the network of "cost curves," production isoquants, etc. that clutter up the other books in the field. This does not mean that Prof. Kirzner has, on the whole, been uniquely faulty in his analysis; it simply means that he has adopted the flaws of current "orthodoxy."

One fundamental such flaw is the artificial and even disastrous isolation of price theory from monetary and from time (and capital) phenomena. I know that questioning such isolation means bringing into question perhaps the very idea of a textbook devoted *solely* to price theory, but I'm afraid that this questioning must be done. The abstention from money is unfortunate but not fatal, but the abstention from time and capital analysis *is*, and this cannot be remedied by an appendix that Kirzner promises us on time. Problems of time, capital, interest must be *infused* into the price analysis. As a result of the failure to infuse, Kirzner ignores the vital "structure of production" analysis, which he claims makes little difference to one's view of the economy. Further, the result of abstention from capital leads to all the crucial errors of the "cost-curve" analysis. For example, it is the claim of the "cost-curve" theorists (in the ranks of which Prof. Kirzner joins) that a firm will invest funds in production up to the point where "marginal revenue" equals "marginal cost." Setting aside the equality fallacy which I will comment on below, this means, e.g. that if an output of 10 more units will bring in $100 of revenue and cost $99, the firm will produce the 10 more units. Now I submit that this is a critical fallacy. Why should the owner of the firm invest a $100 more for an expected return of (approximately) 1%, when he can invest the same $100 for, say, 8% elsewhere—or get 5% at a savings bank? Once we bring investment interest return, into the picture, we see that the whole elaborate cost-curve structure is totally faulty and should be tossed into the discard—but if that should occur, what in the world would happen to that dazzling display of quasi-mathematical pyrotechnics with which "modern" economics professors bedazzle their students?

There are broadly two areas where Kirzner differs significantly from the Stigler approach: One, to Kirzner's advantage, and the other to his disadvantage. The disadvantage is Kirzner's really grievous neglect of the pricing of factors of production, to which he devotes only a few very scanty pages. This is the biggest single omission of the work, and another chapter is needed to remedy the gap. Because the pricing of factors remains virtually undiscussed, there is no presentation of the way in which the market "imputes" consumers' goods prices (determined by utilities) back down to factor prices; there is no presentation of the marginal productivity determination of factor prices; there is no discussion of the consequent demand curves (both of individual firms and of the general market) for factors of production. I should think that at the very least, this book should not be published until a chapter has been added setting forth the analysis of the determination of factor-pricing. (I don't even discuss here the subsequent failure to distinguish between the different problems involved in the capital goods, land, and labor factors—one would scarcely believe that there are *any* economic differences between them from Kirzner's brusque dismissal of the question.) Take a look at the space properly devoted to the pricing of productive factors in Stigler, for example, to see what I mean.

The superiority to the Stigler approach comes in Kirzner's Chapter 12 on monopoly and competition which, though I disagree with it almost completely, is infinitely superior to the usual version which stresses the superiority of "pure" or "perfect" [over] "monopolistic" competition. Instead, Kirzner returns to the older "neoclassical" approach now championed almost alone by Mises; in this sense, at least this chapter is certainly "Austrian." I believe ultimately, as I have said, that this analysis is wrong as Mises and Kirzner apply it to the free market, but it is, nonetheless, a substantial and important advance over other current discussions of the monopoly question.

With these general comments and *caveats*, I now turn to a more detailed critique of the volume.

Chap. 1, p. 2: K. says: "even the most fully developed market economy…is incapable of making it advantageous for individuals to seek the satisfaction of *all* their wants exclusively through the market." Why not? What wants can be achieved—by all participants, mind you—otherwise, and how? Why must almost every book scientifically pointing out the advantages of the market have *some* ritualistic disclaimer or qualifications?

1, 4: K. speaks of the "assigned *functions* of the market system." *Who* makes this "assignment?" "Society?" Who *is* society? This contradicts K's trenchant general discussion criticizing such holistic concepts.

1, 4–5: there is too much emphasis on economic laws being arrived at by "understanding," even 'intuition." After all, these laws are also *conceived* and *deduced*. This needs clarification.

1, 4–5: the impression is given that economic cause-and-effect chains are only mere residuals after physical, psychological, and physiological explanations have done their work. Why subordinate the independent status, achievements, and subject matter of economics in this way?

1, 8: I strongly question whether the thrill of exploration, learning, suspense, etc. is a "sensation" or a "specific sensation," like hunger, thirst, etc. Technically it is better to say that the former is, like the latter, an *emotion* though not a sensation.

1, 11–12: why "load the dice" by saying that the trade cycle might emerge from "market forces?" There is no discussion of the trade cycle at all in the book—why not leave *ad hoc* comments of this sort out? Why may not trade cycles emerge, instead, from non-market forces?

1, 12: the terminology is fashionable, to be sure, but *must* K. refer to economics as a "tool?" It is more than a tool; it is a body of substantive truths.

Chap. 2, p. 15: What in the world is the basis for saying that money-prices are "more or less definitely known in advance?" How known? Why are they known any more than are the real terms of exchange, or the barter terms? I would suggest ending this sentence with: "buy other goods and services."

2, 16: *must* we be subjected to the "role" jargon so fashionable in modern psychology? Surely there is jargon enough in economics now, without importing more.

2, 18: why do "we wish" the market system to have its setting in the real world of uncertainty? Why not just say that it *has* its setting there?

2, 18–19: serious omission, here and throughout the book, that the crucial group of entrepreneurs in the market are also *capitalists*: that these are capitalist-entrepreneurs, who also supply present goods in exchange for future goods, and, for this "time" – service, reap an interest return. These capitalist-entrepreneurs buy others factor-services, ultimately labor and land.

2, 22: K. is weak on the question of reversals in the structure of production. The point is that ultimately the market must work back, for any capital good, to land and labor: the mining equipment is itself resolved back to iron ore. Otherwise, the mining equipment would itself earn a special net-income—which it doesn't. The only net incomes are earned by labor and land and not by capital goods—this, by the way, being a crucial (unmentioned by Kirzner) economic difference between these classes of factor.

2, 25, para. 1: The parentheses are unnecessary and pleonastic: especially the second. If the consumer values a bottle of milk higher than 25¢, he will be willing to buy the milk.

2, 30, fn. 9: K. says that "all that exists" in equilibrium is that "no one is misled," etc. Yet K. shows in many places elsewhere that equilibrium encompasses much more than that!

Chap. 3, p. 38: Again K. neglects the role of capital. It should be added that the division of labor provides room for capital accumulation, specialized machines, etc. (and is made possible by the latter.) Also, K. neglects to add why specialization adds to productivity, and here unfortunately omits the very important Ricardian "Law of Association," also the variety of skills and resources in the world. All this needs considerably more spelling out.

3, 39: Discussion here is unsatisfactory. It is highly artificial to say that individuals, before participating in the market, "must be assured," "must be convinced," etc. that the market has a good method of assigning priorities, that firms abide by these priorities, etc. Surely all that is needed, in practice, is for the individual to seize the evident and clear benefit of engaging in exchange. The rest is far more abstract and holistic; he doesn't have to study 'priority systems,' etc.

3, 39, fn. 3: why provide, as another market function, for "growth?" Suppose that individuals will, instead, prefer "decline," i.e. the consumption of their capital—which will happen if their time preferences are high enough.

3, 42: why must K. insert an unsupported and *ad hoc* disclaimer that: "such a priority cannot lay claim to any kind of *ethical* excellence?" What basis is there for this assertion? K. has—properly—established no ethical system here, so what basis does he have for this conclusion? How does he know that this system has no ethical claim?

3, 43, fn.5: this is wrong, and of very odd construction. Since the price of a resource is determined by its productivity, the failure to obtain a positive price for *part* of a resource means that it is submarginal, i.e. that the productivity of this part is below zero. On the other hand, if the resource is really superabundant, then its price will be zero, it will be free, and hence will not be a "good" anymore: it will not be the subject of economic *action*. Best remove this footnote altogether.

Chap. 4, pp. 56–57: if, as K. properly demonstrates, utility is purely *ordinal*, then what *does it mean* to speak of "the more rapidly marginal utility declines in this manner?" This needs some further clarification.

4, 65, and *passim*: Here, and throughout the book, is Kirzner's fallacious insistence that, in final and general equilibrium, everybody's value-scales will be *identical* for all the goods they possess. That this is wrong can be seen by its clash with K.'s own proper acceptance of the "marginal pairs," more and less eager-buyers, etc. analysis. Thus: if the market price is 10 apples for 1 lb. of butter, it is true that exchanges will occur—at that price—until the value-rankings of all the people for these two items (10 apples; 1 lb. of butter) are the same; but this does *not* hold true for other quantities of the goods. Thus, in equilibrium, A and B may each rank 10 apples over 1 lb. of butter; but *what about* 5 apples? They may well differ on this ranking. Furthermore, in the monetary economy, A will, at the price of, say $10 per hat, cease buying hats at a relative hat-money ranking very different from B, or C. Thus, after A and B have made their hat purchases, [their] value-scales may look like this:

A	B
1st Hat	
$12	$12
$11	$11
$10	1st Hat
(next hat)	$10
$9	$9
	$8
	(next hat).

(parens means that hat [has] not been bought)

Both A and B, at the market price of $10 per hat, have purchased just one hat, and both are now in equilibrium. And yet, the rankings on their value-scales, between the hats in their possession, the hats not in their possession, and money are different and not identical.

Chap. 5, p. 71 and *passim*: The remainder of this chapter I hold to be virtually totally in error. Why, for example, suddenly concentrate on *two* goods and their marginal utilities? Why not concentrate on one? What are advantages or justification of considering two, and not more or less? (There are obvious advantages for fancy graphs, but this is a mathematical, not an economic, justification.) Second, what in the world is the justification for the totally illicit leap (page 72 and *passim*) from talking about marginal utility to talking about a consumer's "money-income"?? What in the world does this "income" have to do with anything, particularly utility? What has happened to the concept of the marginal utility of money??? It is completely illegitimate, in Figure 5–1 (p. 72) and the lengthy discussion stemming from it, to discuss the utilities of the two oddly-matched Goods X and Y, *without* even mentioning, or ranking, the marginal utility of the money-price along with them.

The analysis on page 70, which inaugurates this whole miasma, is virtually totally unrelated to the analysis that has preceded it.

Let us try to make some sense out of the garbled morass presented on p. 71, and see more clearly what is wrong with it. Kirzner is taking one individual, and postulating two goods. The higher-priced, say Good X, is, we assume, priced at $100 on the market. By saying, "consider the marginal utility of one unit to be lost by restricting expenditure on this good by the price of one unit," K. is already in grave trouble: for he is already *assuming* that the individual, say Jones, has *already* bought, or been buying, at least one unit. If he has bought 5 units then we can speak of the marginal utility of the 5th unit (bought for $100) (which K. labels "a"). But suppose that Jones has bought *no units* of Good X? Then he cannot *restrict* his purchase by one unit, and pouf! goes K.'s analysis. But this is by no means all. K. then turns his attention to another, lower-priced good, say Good Y. He says: "consider now the number of units of …(Y)…which can be purchased for the price of a unit of…(X)." Thus, if the price of Y is $25 per unit on the market, then 4 units of Y is monetarily equivalent to 1 unit of X. In K.'s clumsy definition, "c" is "the marginal utility of this number of units (of the lower priced good) to be lost should expenditure on this lower-priced good be *contracted*." He means that: "c" equals, in our example, the marginal utility of four units of Y ($100 worth). If, for example, Jones has already bought, or been buying, 8 units of Y, then "c" equals the marginal utility of the bundle: (5th, 6th, 7th, and 8th units). "d" is the marginal utility to Jones of the next four units of Y—the bundle (9th, 10th, 11th, and 12th units.) But here we come to two very grave further snags in K.'s analysis. First, why in the world should the market oblige K. by making the prices of X and Y exactly divisible? Suppose that [the] price of X is $99 and the price of Y is $26? Where is the analysis then?

Where are the neat bundles of utility, where is "c" and "d?" And second, who is to guarantee that Jones has *already* bought *at least four units* of Y? For if Jones has only bought 3 units of Y, he can't restrict his expenditure on Y to the extent that Kirzner says he should. Thus, we see that, apart from the more general fallacies of concentrating on two goods and omitting the marginal utility of money, and even within his own terms, K.'s analysis of the consumer here is the reverse of general; instead, it is confined to several restrictive and highly artificial assumptions.

But let us assume for the moment that all these assumptions have been "cleared." *Even so*, Kirzner's conclusion does not at all follow from his assumptions! Let us again try to see more clearly what the transactions Jones has made for X and Y imply for his scale of utilities. Jones has bought, say, 5 units of X at a market price of $100. He has refrained from buying a sixth unit of X. This implies the following value-scale for X:

5th unit of X

$100

6th unit of X

Jones has demonstrated by his choices that for him, the marginal utility of the 5th unit of X is greater than the marginal utility of $100, which, in turn, is greater than the marginal utility of the 6th unit of X. In K.'s discussion, the m.u. of the 5th unit of X is his "a"; the m.u. of the 6th unit is his "b." a is greater than the utility of $100 is greater than b. Now what does Jones' actions imply for that portion of his value scale dealing with good Y? The market price is $25, he has bought 8 units, has refrained from buying a 9th unit. Hence his demonstrated value-scale for Y is:

8th unit of Y

$25

9th unit of Y

But, Kirzner is trying to arrive at a law relating a and b with "c" and "d"; "c" is the marginal utility of the bundle: 5th through 8th units of Y. "d" is the marginal utility of the bundle: 9th through 12th units of Y. Kirzner is trying to arrive at a relation between c, d, and $100. But, by Kirzner's *own* excellent discussion in Chapter 4 refuting the idea of "total utility" as a summation of marginal utilities, and showing that all utilities are marginal and cannot be summed, Kirzner has refuted his own analysis here. For there is no way of leaping from the utility of the 8th or 9th unit of X to the utilities of the various bundles represented by "c" and "d". Hence, K's conclusion, and thus his entire important page of analysis, is refuted, and contradicts his own previous general discussion.

For the remainder of Chapter 5, I would say, first, that the alleged division between the "income effect" and the "substitution effect," and the consequent "Giffen Paradox," is total nonsense. By K.'s own showing, the law of diminishing utility of any good, given any consumer, is absolute, and holds for all ranges of the good. Hence, as the price falls of any good, any given consumer will buy more—certainly not less. Second, different consumers have different value-scales, and hence a falling price will tap previously submarginal buyers, thus reinforcing the fall in the demand curve. This leaves no room for any separation of "effects" or for any "Giffen Paradox." Secondly, K.'s footnote 5 (p. 79), and the extensive analysis of "income" and "purchasing power" based upon it, is, in setting up an index number, absolutely fallacious. An index number of general prices, like this, may be roughly useful for economic *history*, but, being false and arbitrary, injects falsity and arbitrariness in the entire analysis which K. deduces upon it. I refer K. to the brilliant dissection of index numbers in his mentor Mises' *Theory of Money and Credit*, and also to Bassett Jones' trenchant little work, *Horses and Apples*.

Chap. 6, pp. 93–94, fn. 1: This is an absurd footnote, which should clearly be excised. *Of course* there are individual demand schedules for plays, concerts, etc. Further, why are concerts, plays, etc. any more "common" consumption goods than, say, autos or frozen foods. If not enough autos or frozen foods are consumed, then these products will cease to be produced also.

6, 98–99: The demand curve can *never* be perfectly elastic, so why discuss it so gravely? It can't because of the diminishing marginal utility, differences among consumers, etc., which imply falling demand curves for all products.

6, 102–103: Discussion of monopoly and competition here not only repetitious with fuller analysis of Ch. XII, but is also weak, vague, often fallacious, and contradictory with his later, superior analysis. Thus, in contradiction to his welcome repudiation of the "pure competition" theory in Ch. XII, K., here and even in the later chapter, persists in granting that a competitor will face an infinitely elastic demand curve. On 102-103, he concedes that if a firm produces the same product as several competitors, he "will find that a very small reduction in price…will increase his sales revenue from zero, to any amount that he chooses." Now really? To *any* amount!!! Will there be no point where this phenomenal increase *collides* with the realities of demand for the product? And if so, how can the elasticity be *infinite*? Does K. really believe, for example, that, say, with the price of wheat at $X a bushel, one farmer who cuts *his* offered price to $ (X-1).99 a bushel will gain an infinite sale??

[JTS: Kirzner apparently revised the passage in the manuscript that Rothbard criticized above. In the book it reads as follows: "(he) will find that a very small reduction in price…will increase his sales revenue from zero, *to very large amounts indeed*." The words that I have emphasized in this passage were substituted for "to any amount that he chooses."]

Chap 7 and subsequent chapters: General comment—no sense is obtained of imputation from consumer demand down to determining prices. As in Stigler-type analysis, prices are always *there*, given, when they are supposed to be explained, and determined. Vitiates the entire analysis.

7, 114: The definition of competition is vague and invalid. What are "comparable opportunities?" "Comparable"on what basis? Are the "opportunities" offered by A and B to be *identical* (is this what is meant by "comparability")? But if so, how can A offer *more attractive* opportunities than B? But if they are not identical, K. has already shown in the book that all goods and services, without exception, are *comparable* and compared on every consumer's value-scale. Is this what is meant by comparability? Furthermore, a self-contradiction here: for if A presents a more attractive opportunity than B, does this mean that A is competing with B? For this also *must* mean that B is presenting a less attractive opportunity than A, by definition. Does this mean, then, that while A is assuredly competing with B, B is *not* competing with A? But surely this is nonsense.

7, 122, fn. 5 and 128, fn. 6: Both footnotes unfortunate examples of mathematics taking the ball and running away from economics. It is surely absurd to believe that questions of exchange and ownership are essentially "mathematical" problems. Clearly, this is so only to a mathematician straying outside his bounds. These problems are not mathematical at all unless they are *made so* artificially.

7, 130 and after: What in the world is the point of dragging in discussion of the *ratios* of two goods? We know that the price of *each* good will be uniform. To the extent that all this analysis is not positively misleading, it is simply superfluous.

7, 140: It is clearly erroneous to say that the "monopolist is not obliged (nor is he able) to estimate a market price for the monopolized commodity. He must himself set the price." *Every* seller, whether "monopolist" or not, must (1) estimate the optimum market price for his products, and (2) "set the price." This "setting," in fact, is done *in order* to arrive at the optimum market price. The wheat farmer, too, sets his price; he is not compelled to sell to the organized wheat market—he can sell privately to another buyer, and if the buyer is ignorant, or, say, closer to the farmer, he can sell at more favorable terms. Every exchanger can "set" the price at which he will or will not be *successful* inducing someone else to buy his property at that price.

7, 141, fn. 14: By what right does K. assume straight-line AR curve? If the curve is jagged, discontinuous, etc., the smooth AR-MR conditions, etc. would no longer apply—again an example of the artificial restrictiveness of K.'s conclusions, based on the convenience of geometry rather than on economics.

7, 141: There is no reason why the elasticity of demand at the maximum-revenue point should be unitary. On the contrary, it will be elastic *upward* (less revenue at a higher price), and inelastic *downward* (less revenue at a lower price). But not only does this not imply unitary elasticity (same total revenue with change of price), it is *inconsistent* with such an assumption. It appears that, once again, mathematical concepts have been allowed to supersede sound economics. **[JTS: Rothbard is here referring to Kirzner's use of the point elasticity formula for calculating price elasticity of demand.]**

7, 141 ff.: Once again, K. discusses monopoly in a fashion inferior to his fuller discussion in Chapter 12.

What does "restriction of supply" or "holding back" mean? If the good being "held back" is producible, then the good is only produced because of an error; yet *all* goods are, in a sense, produced. The laborer exerts his effort; the landowner finds and uses the land—he brings it into production. Even for the nature given goods (land), why could not idle land be submarginal? We are blessed, in fact, by being in a world where land is so abundant relative to labor that it is often submarginal; i.e. unprofitable for the relatively scarcer labor and capital to work on all lands at once. Further, what is the difference between the process of going from an alleged "competitive price" to an alleged "monopoly price" (with supply being lowered in the process), and moving from a 'sub-competitive price' to a competitive price, (with supply being equally cut back)? What is the *theoretical*, let alone the practical, criterion for distinguishing between "competitive" and other prices? All this applies equally to Chapter 12.

Further, the "withholding monopolist" is saving the resources to be used at some later date; who is to say that he is not thereby serving consumers by allocating more of the resource to be used at a later, less at the present date? For all durable resources, there must be *some* such allocation of uses *over time*; why is this allocation "restrictive?"

Further, since the "monopolist" is, after all, the source and the *creator* of the supply, it is absurd to say that he "forces"—in some reprehensible manner—the consumer to pay higher prices for his product. All the purchases are voluntary, and due to a voluntarily high evaluation of *his* product. Are we then to condemn Israel Kirzner for (possibly) restricting his teaching hours so as to raise the total revenue to him? (If we could, which we can never do, somehow separate this from the increased *leisure* which Kirzner would then earn?) Are producers then to be *enslaved* to the consumers? We might grant that the consumers would benefit more if Israel Kirzner were to teach 70 hours a week (even if his teaching does not now earn him a "monopoly price"). But are the producers not to be considered also in all this? Kirzner may violate the "interest of consumers" by teaching 12 instead of 70 hours a week, just as Mr. Jones does the same by becoming a poorly paid actor instead of becoming a more highly paid ad man. Yet, Kirzner himself, earlier in the book, talks about the harmony of the market, the *mutual benefit* of exchange. Since all the exchangers are benefiting mutually, even though the sale is by so-called "monopolists," what is the justification for Kirzner's complaints about the operation of the free market?

Further, the consumers themselves voluntarily decide on their demand curve; if they were *really* as agitated about the so-called infringements upon them by monopoly pricing they would, long ere this, have formed associations to boycott these "monopoly prices?" Hasn't their failure to do so demonstrated their satisfaction with the situation?

7, 142: How does the monopoly element "distort?" Distort from what? On what criterion? Is Israel Kirzner's "monopoly price" distorting the market because there are not several other Israel Kirzners competing with him in the offering of economist's teaching services?

7, 141, fn. 15: An absurd footnote, which should be removed. If the good was a free good, *it wouldn't have to be produced*; it would not be produced in a "competitive market"; it would not have to be produced *at all*. In fact, this would not be a good, but what Mises calls a "general condition of human welfare," and therefore would not be a subject of action at all.

General comment: Kirzner ignores the fact that most "market agitation" is based on *recurrent* wants. Mr. Jones may value roast beef higher than its market price of $2, and, after purchasing the roast beef, value it lower—but, in a few days, his wants recur, and the valuation reverses itself again. Since, Kirzner does not refer to recurring wants, the reader is apt to become puzzled, as to why general equilibrium, and the absence of all exchanges, is not being reached fairly quickly or approximately.

7: Much of the analysis of this chapter is vitiated by the fact that in order for a consumer good to exist and be exchanged, *it must first be produced.* And yet, Kirzner's analysis is based explicitly on the absence of production, rendering it invalid. Production then comes in, in Chapter 8, as an element *additional* to exchange, whereas it is necessary to, and precedes, the latter.

Chap. 8, 158: Once again, the widening of the division of labor can't be accomplished without capital investment.

8, 158: The society of self-sufficient farmers is not as remote from reality as K. seems to think. It was roughly the system in the Middle Ages. For, it might not be profitable to trade, even with varying resources, because of the high cost of production *and transportation*.

8, 161 ff.: It is, as I have indicated above, a big mistake for Kirzner to join with modern orthodoxy to concentrate on *the firm*, in his analysis, instead of the interrelations between firms. While an entrepreneur may be committed to a certain line of production, it is paradoxical but true that, while in recent years, this "commitment" has been less and less true, it has more and more come to dominate economic analysis. For (1) there has been a great increase in "multi-product firms," firms which move easily in and out of different areas of production. And, more important (2) on the capital market, corporate stockholders can readily shift their capital back and forth to wildly different areas of production. The very growth of specialization of management *vis a vis* capitalists, of which so much erroneous has been made in recent years, means a decrease in immobile commitment to one firm or industry, and a vast increase in the *mobility* of capital. Hence, the even greater need to concentrate on interrelations instead of on "the firm."

8, 161–162: As I've indicated above, it is not true that the original goods-producers' goods dichotomy is obsolete. On the contrary, the producers of capital goods only receive gross income from them; the owners of land and labor resources receive *net* income. (A glance at the national income statistics, for example, will reveal this.) One reason why K. can ignore this is because he has unfortunately ignored *structure of production* analysis throughout; such analysis would have shown this clearly.

(General Comment for Book: why has there been no discussion of the important influence of "speculation" on price determination?)

8, 164: A specialized factor does not necessarily involve *no* opportunity cost in its use. On the contrary, a use *now* precludes (except for a permanent resource like land) its use later; it must be allocated to its best time-dimension uses. (See, for example, the excellent article by G.F. Thirlby, "Permanent Resources," *Economica*, August, 1943.)

8, 164: Since K. is deliberately not discussing government or public finance in this book, why must he drag in the comment on taxes? Further, the comment is incorrect. Since there are several firms, a tax on the owners of a specialized factor will reduce or eliminate their incentive to allocate the specialized factor properly to the most deserving and productive firms; and the specialized factor *itself* has to be produced, and this production will fall. If it is an original factor, labor will shift into leisure, and land will not be well-allocated, and also will not be maintained, found, etc.

8, 166 ff: Once again, why spend so much time on an arbitrary and false schema of two-factor analysis? What is basis for extending 2-factor conclusion to all factors? Why not concentrate on one (each) factor, and then interrelate all? (Again, geometry flourishes at the expense of economics.)

8, 167, fn. 3: It is precisely because of the false assumption of *divisibility* of inputs and outputs that K.'s production theory should be tossed out, and replaced by a more realistic one. (One test of whether a false assumption is simply auxiliary and expository or whether it is essential, is whether it gets removed later in the analysis. Divisibility, and the other false assumptions of K. I have detailed, *never* get removed, since they are crucial to his analysis. If he had not made them, his analyses would be very different.)

Where is marginal productivity theory?

Furthermore, why waste so much time on analysis (e.g., "production isoquants") which is not economic, but purely technologic? This concentration on technology—and on "the firm"—is again characteristic of the Chicago, as contrast to the Austrian, approach, which concentrates on the economic, on value and its imputation, and on interrelations between firms.

Further still, the case of purely technologically fixed proportions of factors is pure poppycock, and deserves no treatment whatever. K. would see this clearly if he had concentrated on *n* factors, instead of 2 factors, where the case of fixed proportion is seemingly more plausible. In any production process, for example, a firm could add or subtract one more office-boy or janitor. And pouf! goes the case of fixed proportions.

Also, ignored is the fact—in these cost curves, etc.—that hiring a larger scale of factors, producing more product, requires more capital investment—and not just in the "long run" (when plant is being considered), but *right away*.

If a firm raises its output from 100 to 150 units, it must *immediately* invest more capital in "variable" factors.

8, 178: Contrary to K. it *is* an *a priori* generalization that "returns to scale" *must be* constant. (*If*, of course, the roster of enumerated factors is *complete*, and if they are really homogeneous). This is a priori true because of the nature of the law of cause-and-effect. For, if: 2A + 3B + C would yield 10 P (where A, B, and C are factors, and P is the product), then, by simple addition, and law of cause-and-effect, 4A + 6B + 2C will yield 20P.

8. Why no discussion of demand curve for a factor? – Analog of demand curve for a product.

8 [178 ff.]: Why doesn't K. make clear that the "Laws of Variable Proportions" follow immediately from the *necessary fact* that more than one factor of production exists for each product.

8 [180–188]. Being unclear about the truth that production will always tend to be set in the range of diminishing marginal product to a factor, K. doesn't realize (1) that the average product must always be below the marginal product while the m.p. is diminishing (his table [p. 185] belies this—for proof, see Stigler or Boulding's *Economic Analysis*) ; and (2) no modern economists contrary to K. have confused diminishing m.p., with diminishing a.p. (it did not require the mathematician K. Menger to teach economists this) *and* (3) economists have not believed that *all* ranges of the marginal product schedule diminish—just that production will always be set in the diminishing ranges. (There was, hence, good sense in the old name "law of diminishing returns.")

[JTS: Rothbard's criticism (1) as it is written is clearly erroneous. The *marginal product* must always be below the *average product* while the *average* product is diminishing. For a proof of this, in addition to the sources cited by Rothbard above, see Rothbard, *Man, Economy and State: A Treatise on Economic Principles with Power and Market: Government and the Economy*, Scholar's Edition, pp. 468-75. But even when the criticism is correctly restated, both Kirzner's verbal and tabular presentation show no trace of error. Regarding Rothbard's point (3), Kirzner is (p. 186) careful to state that none of the formulations of the law of variable proportions "assert that these variables will always be decreasing." Whether Kirzner inserted this statement as a response to Rothbard's objection or Rothbard simply overlooked Kirzner's statement is impossible to ascertain because Rothbard does not quote a specific passage from Kirzner's manuscript.]

8, etc. [189 ff.]: Where do these eternally "given" factor prices come from?

Chap 9 [pp. 198–99]. The taxicab firm may not weigh the usefulness of its employees working as truck drivers. But why must an *economist* confine his horizons to the point of view of the taxicab firm? The *taxi driver* will certainly weigh the alternative advantages of truck driving, *and* the investors in taxi firms will weigh the alternative advantages of investing in truck firms and completely different firms. K. recognizers the opportunity costs of the drivers, but *not* of the investors.

9 [203]: The capitalist-entrepreneur does not, basically, *pay interest*: he *earns it*. This is another great insight of Austrian economics which K. ignores, on behalf of the Chicagoans. The "payment" of interest only occurs in those non-fundamental cases when a firm acquires some of its capital by borrowing: in that case, some capitalist-entrepreneurs in the firm are stockholders-owners; others are lenders. This is just a division, two legal forms of sharing entrepreneurship. *Both* parties earn "natural interest."

9 [206–207]. K. recognizes part of the artificiality and fallacy of the long-run-short-run dichotomy, but doesn't make the proper conclusion of dropping the whole analysis. Further, the *important* "runs" for price determination are the "immediate run" (*given* production, how much will be sold?) which determines day-to-day market prices; and the "long run," which determines the equilibrium prices toward which the day-to-day prices are tending. There is no point to a vague, artificial, intermediate "short-run" analysis—aside from its other flaws—and *this* is what Kirzner (along with Stigler, etc.) spend almost all of their time on in their analysis of production!

Also, see other strictures on this "cost-curve" analysis above.

9, 223–224: Analysis weak. Point is that the increased output of *any firm* will have *some* increased impact on factor prices, since demand for the factor has increased. Therefore, costs will increase from this fact—and, since, as Kirzner should know, economic laws are not quantitative but qualitative, what difference does it make *how much*? The law has been established and the horizontal assumption should be eliminated.

Chap. 10, p. 231: These conditions described do *not* set the state of equilibrium; for a crucial condition has been omitted: the aggregate volume of investment and its distribution. There can be no "given plant," without a given monetary investment.

10, 246: An error here. Surely it is not the marginal increment of "product" which should just exceed the price of the factor-unit, but the marginal increment of *revenue*. How can a product-unit be compared to a price?

10: No discussion of the pricing of durable factors, the capitalization involved of discounted expected future net incomes from the resource, etc.

11, 258: A product is only the bundle of resources going into it, *plus time*.

11, 269 ff.: These are absurd portrayals of the state of general equilibrium. If total revenue equaled total costs everywhere, who would remain an entrepreneur? Why would not the entrepreneurs *consume their capital*, not maintain their equipment, etc.? Since products are resources *plus* time, the capitalist-entrepreneurs (in equilibrium, now *only* "capitalists, with the disappearance of entrepreneurship) will now only earn *interest*, the "price of time." Further, K. does not, again, seem to realize that *all* incomes would go to *original* factors: land and labor, since the produced factors (capital goods) are accounted for by land, labor, and time (interest.)

Chap. 12: For a critique of K.'s monopoly theory approach, see my comments above, on an earlier chapter.

12, 297, fn. 12: How does K. propose to "measure" cross-elasticities?

12, 318: Correction: Not *all* of consumer's surpluses will be tapped by price discrimination, since each consumer will *still* benefit by his purchases, and thereby will still reap some "surplus" of benefit from his exchange.

Chap 13, p. 322, fn. 1: Why oh why make this absurd concession to the mathematicians? Best to drop this footnote.

13 [322–23 and *passim*]: K. rather tends to over-evaluate the beneficence of the condition of general equilibrium. If he had integrated his analysis, at least to a brief extent, with monetary theory, he would have seen that general equilibrium *could not* function because the monetary and therefore the exchange system would break down. (No one would hold cash balances—money—in a state of certainty.)

13, 331: Again, utter fallacy to say that monopolist "defies the market process." How? By not selling his goods as low as consumers would like? In that case, let everybody sell all their goods at zero, for obviously consumers would *like* all buying prices to be as low as possible.

13, 331: Even on K.'s own terms, as seen in Chapter 12, the monopolist cannot achieve the monopoly profit he credits the monopolist with here. K. himself has shown that the monopoly gain will accrue to higher incomes—monopoly gain—to some resource, which is the source of the "monopoly." But then this is not profit to the producer, the firm.

13, 331–32: Why make the ritualistic utilitarian concession about economic policy? ("the advantages expected to follow from the imposition of any controls upon the market system, must be compared with the consequent loss in allocative efficiency.") Here again, K. is loading the dice in his disclaimer. Why drag in the alleged "advantages"? *What* advantages? What about the other possible *dis*advantages of government controls? Don't *they* exist (the non-allocative disadvantages?) If not, why not? K. has offered no ethical system to discuss this. Moreover, the concept of "weighing" advantages and disadvantages of policy is by no means self-evident either; it is, in fact, the slipping in, unjustified, of a utilitarian political philosophy, which has not been established by K. as valid.

13, 313: Once again, K. "loads the dice" in his treatment of the "non-economic" aspects of government intervention and control in the market. *What* set of "special purposes" might "override" the inefficiency: Such special purposes as: the building up of dictatorial power, the expansion of the State bureaucracy, the increased expropriation of the producers, etc.? Why, when mentioning the "non-market" aspects of politics, does Kirzner always mention the possible *advantages* of government intervention, and never its *dis*advantages?

Further, in this last section, Kirzner speaks of the people "deciding" through the political process? This is exceedingly dubious, and worth much more careful analysis than this "throwaway" phrase. *Who* decides? *Which* people? Do "representatives" represent? Etc. Since Kirzner has, perfectly properly, not presumed to discuss non-market matters of ethical or political philosophy in this book, let him please excise his occasional *ad hoc* statements which drag these in (which I have detailed in my report). Thus, in this paragraph, this final sentence of the book could easily be omitted, at least after "through such interference."

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