A COMPARISON OF THE UTILITY THEORY OF ROTHBARD AND KIRZNER

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Introduction

IN THIS ARTICLE we analyze the theories of utility put forth by Rothbard (2004) and Kirzner (1963). While both authors are strongly influenced by Mises' (1998) conception of the utility of a good being the end that must be foregone in the absence of that good (or attained in the presence of that good), we observe a tension in Kirzner's rendition. In particular, he embraces the neoclassicist framework of the consumer budget problem, in which the utility of a good is the amount of *another* good that an actor is indifferent towards (for a given level of satisfaction). Such a framework is completely absent from Rothbard's work, and we note the way in which this tension is reflected in Kirzner's view of the market process.

Austrian Utility Theory I: Mises

The Austrian view of utility holds that value is a ranking of alternatives.[1] The definitive exposition can be found in Mises (1998, p. 94):

> Acting man chooses between various opportunities offered for choice. He prefers one alternative to others.
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> It is customary to say that acting man has a scale of wants or values in his mind when he arranges his actions. On the basis of such a

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[1] It is probably unnecessary to belabor the point that for Austrians, like all modern schools of economics (*e.g.*, neoclassicism), value/utility is *subjective*, that is, it resides not in the objective properties of goods themselves, but in how those goods are *perceived* by individual human actors as suitable for attaining those actors' ends.

> scale he satisfies what is of higher value, i.e., his more urgent wants, and leaves unsatisfied what is of lower value, i.e., what is a less urgent want.

Not only does acting man rank those goods before him in light of the ends he anticipates serving with these goods, but such a ranking is inherently a *counterfactual* comparison of the state of affairs presently confronting him against a state of affairs that *could* be realized if he takes the appropriate action:[2]

> Action is an attempt to substitute a more satisfactory state of affairs for a less satisfactory one. We call such a willfully induced alteration an exchange. A less desirable condition is bartered for a more desirable. What gratifies less is abandoned in order to attain something that pleases more. That which is abandoned is called the price paid for the attainment of the end sought. The value of the price paid is called costs. Costs are equal to the value attached to the satisfaction which one must forego in order to attain the end aimed at.

> The difference between the value of the price paid (the costs incurred) and that of the goal attained is called gain or profit or net yield. Profit in this primary sense is purely subjective, it is an increase in the acting man's happiness, it is a psychical phenomenon that can be neither measured nor weighed. There is a more and a less in the removal of uneasiness felt; but how much one satisfaction surpasses another one can only be felt; it cannot be established and determined in an objective way. A judgment of value does not measure, it arranges in a scale of degrees, it grades. It is expressive of an order of preference and sequence, but not expressive of measure and weight. Only the ordinal numbers can be applied to it, but not the cardinal numbers. (Mises, 1998, p. 97.[3,4])

Similarly Mises (1998, p. 120) states that

> The assignment of orders of rank through the valuation is done only in acting and through acting. How great the portions are to which a single order of rank is assigned depends on the individual and

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[2] For more on the counterfactual essentialism of Austrian economics, see Hülsmann (1999, 2003).

[3] Also: "Action sorts and grades; originally it knows only ordinal numbers, not cardinal numbers." (Mises, 1998, p. 119.)

[4] It's worth noting the relevance of this conception of value to the socialist calculation debate: "It is vain to speak of any calculation of values. Calculation is possible only with cardinal numbers. The difference between the valuation of two states of affairs is entirely psychical and personal. It is not open to any projection into the external world. It can be sensed only by the individual. *It cannot be communicated or imparted to any fellow- man.* It is an intensive magnitude." (Mises, 1998, p. 97, emphasis added)

> unique conditions under which man acts in every case. Action does not deal with physical or metaphysical units which it values in an abstract academic way; it is always faced with alternatives between which it chooses. The choice must always be made between definite quantities of means. It is permissible to call the smallest quantity which can be the object of such a decision a unit. But one must guard oneself against the error of assuming that the valuation of the sum of such units is derived from the valuation of the units, or that it represents the sum of the valuations attached to these units.

> … Utility means in this context simply: causal relevance for the removal of felt uneasiness. Acting man believes that the services a thing can render are apt to improve his own well-being, and calls this the utility of the thing concerned. For praxeology the term utility is tantamount to importance attached to a thing on account of the belief that it can remove uneasiness.

Mises goes on to note the great marginalist upheaval of classical economic thought, where the relevant entity in terms of utility is not the entire stock of a good, but rather a particular unit associated with a *specific* end:

> If a man is faced with the alternative of giving up either one unit of his supply of a or one unit of his supply of b, he does not compare the total value of his total stock of a with the total value of his stock of b. He compares the marginal values both of a and of b. Although he may value the total supply of a higher than the total supply of b, the marginal value of b may be higher than the marginal value of a. (Mises, 1998, p. 123)

We wish to call attention here to the scenario envisioned by Mises in these different passages: that for a good to have value to an actor, it must not only be deemed capable of satisfying some end for that actor, but to do so it must also be brought under his control somehow. Either he already has the good under his control, or he does not. If he lacks the good, he must forego some end currently capable of being realized by those goods under his control in order to acquire the good he does not possess (that his, he must *choose*, and in particular choose between one thing and another).

Austrian Utility Theory II: Rothbard and Kirzner

Two of Mises' students, Murray Rothbard and Israel Kirzner, both wrote detailed expositions of the market process within a year of each other in the early 60's.[5] Both books could serve not only as text books for students with varying degrees of background knowledge, but as rigorous overviews of

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[5] Rothbard's *Man, Economy, and State* was originally published in 1962; Kirzner's *Market Theory and the Price System* was published in 1963.

central Austrian themes (although Rothbard's book is more aptly characterized as a treatise). On most foundational issues, both authors follow their mentor Mises very closely. Utility theory is the case that concerns us here.

For example, from Rothbard we have:

> All action involves the employment of scarce means to attain the most valued ends. Man has the choice of using the scarce means for various alternative ends, and the ends that he chooses are the ones he values most highly. The less urgent wants are those that remain unsatisfied. Actors can be interpreted as ranking their ends along a scale of values, or scale of preferences. These scales differ for each person, both in their content and in their orders of preference. Furthermore, they differ for the same individual at different times. (Rothbard, 2004, p. 17)

Also:

> *All action is an attempt to exchange a less satisfactory state of affairs for a more satisfactory one.* The actor finds himself (or expects to find himself) in a nonperfect state, and, by attempting to attain his most urgently desired ends, expects to be in a better state. He cannot measure the gain in satisfaction, but he does know which of his wants are more urgent than others, and he does know when his condition has improved. Therefore, all action involves exchange—an exchange of one state of affairs, X, for Y, which the actor anticipates will be a more satisfactory one (and therefore higher on his value scale). If his expectation turns out to be correct, the value of Y on his preference scale will be higher than the value of X, and he has made a net gain in his state of satisfaction or utility. If he has been in error, and the value of the state that he has given up—X—is higher than the value of Y, he has suffered a net loss. This psychic gain (or profit) and loss cannot be measured in terms of units, but the actor always knows whether he has experienced psychic profit or psychic loss as a result of an action-exchange. (Rothbard, 2004, p. 19; emphasis in original)

Rothbard goes on to affirm the law of marginal utility, as well as identifying the value of a good with a specific end associated with that good's presence or absence:

> The interchangeability of units in the supply of a good does not mean that the concrete units are actually valued equally. They may and will be valued differently whenever their position in the supply is different. Thus, suppose that the isolated individual successively finds one horse, then a second, then a third. Each horse may be identical and interchangeable with the others. The first horse will fulfill the most urgent wants that a horse can serve; this follows from the universal fact that action uses scarce means to satisfy the

most urgent of the not yet satisfied wants. When the second horse is found, he will be put to work satisfying the most urgent of the wants remaining. These wants, however, must be ranked lower than the wants that the previous horse has satisfied. Similarly, the third horse acquired might be capable of performing the same service as the others, but he will be put to work fulfilling the highest of the remaining wants—which, however, will yet be lower in value than the others.

… Let us now consider a supply from the point of view of a possible decrease, rather than an increase. Assume that a man has a supply of six (interchangeable) horses. They are engaged in fulfilling his wants. Suppose that he is now faced with the necessity of giving up one horse. It now follows that this smaller stock of means is not capable of rendering as much service to him as the larger supply. This stems from the very existence of the good as a means. Therefore, the utility of X units of a good is always greater than the utility of X – 1 units. Because of the impossibility of measurement, it is impossible to determine by how much greater one value is than the other. Now, the question arises: Which utility, which end, does the actor give up because he is deprived of one unit? Obviously, he gives up the least urgent of the wants which the larger stock would have satisfied. Thus, if the individual was using one horse for pleasure riding, and he considers this the least important of his wants that were fulfilled by the six horses, the loss of a horse will cause him to give up pleasure riding.

Kirzner makes essentially identical statements. We have:

Acting man, at every moment of his consciousness, is forced to choose among a number of possible courses of action. It is of the essence of action that it aims at encompassing the fulfillment of as many of the actor's desires as is possible, in the order of their urgency. That is, a man always acts to ensure that no desire is satisfied at the expense of the satisfaction of some more important want. This, after all, is only a different way of expressing the fact that man is intent on successfully achieving his goals. "Achieving one's goals" means renouncing the achievement of a specific goal should it interfere with the achievement of a goal considered more important.

… It is this complete scale of values that man at once sets up and follows, whenever he is called upon to choose. Man's actions are invariably carried out under the constraint of some such value scale. Our analysis of demand theory is built on the logical consequences of the existence of such a scale—of the fact that man's desires and the means to the satisfaction of these desires are not of equal "significance." By "significance" we mean simply "importance,"

> judged by the yardstick set up by a man's value scale. The terms
> "significance," "importance," "urgency," and the like are used
> throughout demand theory to allow the idea of value ranking to
> embrace oil objects and courses of action that man considers as
> desirable or worthy of attainment. (Kirzner, 1963, p. 46-47)

Like Rothbard, Kirzner endorses a marginalist viewpoint of utility:

> The acquisition of additional units of a commodity enables the buyer
> to satisfy a successively larger number of wants. The acquisition of
> the mth unit of a commodity by one who already possesses m-1 units
> means that he will now be able to satisfy a want that, if only m-1
> units would be possessed, must have gone unsatisfied. It is clear,
> upon reflection, that this want whose satisfaction is made possible
> by the acquisition of the mth unit must rank higher on the man's
> scale of values than the want that depends for its satisfaction on the
> acquisition of the $(m+1)^{st}$ unit. For when a man acquires the mth
> unit, he will have to choose—out of all the wants that must go
> unsatisfied when only m-1 units are possessed—that particular want
> whose satisfaction the acquisition of this m^{th} unit should, in fact,
> make possible. And, of course, it will be the most important of these
> wants that will be chosen. Furthermore, of the still remaining
> unsatisfied wants, it will be the next most important one that will be
> selected for satisfaction upon acquisition of the $(m+1)^{st}$ unit.

We can certainly see that both Rothbard and Kirzner follow very closely in
Mises' footsteps in their exposition of utility theory. Before pointing out
where we believe the two follow separate paths, it is worth giving a brief
overview of the utility theory of a prominent competitor of the Austrian
school, namely mainstream neoclassicism. Although there are some
superficial similarities between the two schools on this point, as on other
issues these similarities tend to mask some important differences.

Neoclassicist Utility Theory: A Review

Neoclassical economics (*e.g.* Mas-Collel *et al.* [1995], Ch. 3, Rubenstein
[2006], Ch. 2) starts with the notion of a *preference* relationship on a set of
bundles of goods. This relationship simply formalizes the notion of
considering one set of goods *at least as good as* another set of goods. That is, if
we denote the preference relationship by $\succsim$, then the expression $x \succsim y$
indicates that the bundle x is considered at least as good as bundle y (*i.e.*
there is a possibility of indifference between the two bundles; $\succ$ might denote
strict preference and $\sim$ might denote pure indifference). Typically, certain
low-level assumptions ("axioms" if you will; "common sense" might be a
better description) are imposed, such as requiring that all bundles can be so

compared ("completeness") and that if bundle x is preferred to bundle y, which in turn is preferred to bundle z, then x is preferred to z as well ("transitivity"). Gradually, more refined (not to say arcane) assumptions are introduced, chief amongst these being "continuity"[6]. Essentially, it is supposed that for any bundles x and y such that x is strictly preferred to y, then for bundles x' and y' sufficiently close (physically) to x and y respectively, it remains the case that x' is strictly preferred to y'.

It is not our purpose here to critique the realism of some of these assumptions.[7] Rather, we wish to highlight the central feature of neoclassical value theory. This feature is *indifference*: for every bundle x, there is an associated set $[y : y \sim x]$ representing all other bundles which are equivalent in a value sense to x. Thus one can construct the familiar indifference curves from neoclassical economics. The neoclassicists are then able (along with a few more technical assumptions) to *represent* a preference relationship by a so-called utility function, expressing not only the fact of preferring one bundle over another, but also expressing the value equivalencies[8] between two individual goods (elements of a bundle) for a given "level" of satisfaction.[9]

We must stress here that this neoclassicist conception does not entail any notion of cardinal utility.[10] In this sense, the neoclassicist vision of value and utility is just as ordinal as the Austrian rendition. However, we can note an important distinction between the two schools here. For Austrians, the value of a good is the end that must be foregone in that good's absence (or the end attained in that good's presence). For neoclassicists, value is defined over *groups* ("bundles") of goods, and the value of any individual good is the amount of some *other* good that an actor is indifferent towards for some level of satisfaction. (Indeed, whereas the notions of subjectivity and ends apply to these bundles, the notion of marginalism applies to the constituent goods *within* these bundles.) Thus, for the neoclassicist, choice amounts to a calculation in value terms. We illustrate this in Figure 1, a reproduction of the standard consumer budget problem from microeconomics.

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[6] One can reasonably speculate whether the purpose of such assumptions has less to do with economic reality and more to do with the facilitation of the use of mathematics in economic analysis.

[7] For this one should consult Rothbard (2004), Hülsmann (1999), or Block (1999). A neoclassicist defense can be found in Caplan (1999).

[8] The more conventional term would be marginal rates of substitution.

[9] By "level" it is simply meant the locus of all ends that an actor is indifferent between.

[10] It must be acknowledged that Caplan's (1999) rebuttal of Austrianism is correct on this issue. We should also point out that the present author's previous assertions to the contrary (Mahoney [2000]) are in error.
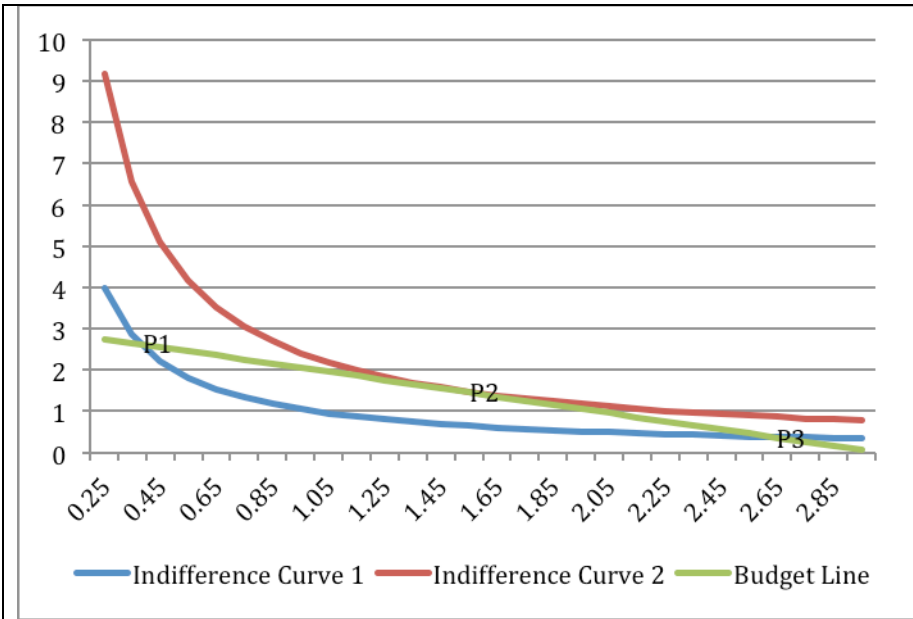
Figure 1. <u>Neoclassicist Consumer Budget Problem</u>. The horizontal axis represents some good x, the vertical axis represents another good y. The actor evaluates bundles of goods (x, y); all such bundles along the blue curve (say) are evaluated equivalently (indifference) while all bundles along the red curve are strictly preferred to all bundles on the blue curve. The green line represents the consumer's budget. In the neoclassicist conception, the actor seeks to maximize utility such that he stays on his budget line.

In this diagram, the first (blue) curve represents an indifference curve, the set of all bundles that an actor is indifferent between, such that any bundle on this curve is strictly preferred *less* than any bundle on the second (red) indifference curve. The green line represents the consumer's budget line, the constraint on his monetary purchases of the two goods. In the utility maximization problem, the consumer maximizes utility (ordinal, but its mathematical representations are equivalent economically under monotone [order-preserving] transformations) such that his allowable expenditures are not exceeded. Thus, points P1 and P3 are inferior to point P2, which is the point at which maximum utility is attained while staying within the budget constraint. Now, the budget line obviously depends on the prices of the individual goods, and for convenience in this diagram we take those two prices to be numerically equal (thus the slope of the budget line is –1). Note

the role of value equivalencies (marginal rates of substitution) here. At point P1, the value equivalent of a unit of good y is clearly less than the value equivalent of good x (because the slope of the indifference curve there is less than −1); at point P3 this relationship is reversed. Since the price ratio expresses an exchange between the two goods in the ratio of 1:1, the actor can clearly improve his situation at P1 by selling y and purchasing x. (At P3 the actor would do the reverse: sell x and buy y.) That is, money exchanges can be used to facilitate value exchanges, and the (formal) consumer utility maximization problem is essentially an arbitrage between value calculations and price calculations. At P2 the equilibrium is clearly defined by the price ratio being in the same ratio as the value equivalencies (*i.e.* the indifference curve is just tangent to the budget line).[11] We see that price calculations serve as a proxy for underlying value calculations.

We should note that already we see serious conflict between the neoclassicist approach and a central result from Austrian economics, namely the impossibility of socialist calculation. Mises' seminal argument is based precisely on the rejection of a value calculus; only calculation in terms of price is possible (see Hülsmann [2007] for a brilliant discussion of the significance of this argument in the context of value theory).[12] Now we are in a position to discuss how Kirzner is *inconsistent* in adopting this very neoclassicist approach after previously having defended the Austrian (Misesian) framework.[13]

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[11] Mathematically this condition is expressed by $\frac{U_x}{U_y} = \frac{p_x}{p_y}$, where U is a particular utility function representation of the preference relation and U_x and U_y are its partial derivatives. Note that the ratio on the left hand side of this equation is the value equivalency between the goods, and *can* be economically meaningful (to a neoclassicist, at least) *without* the numerical value of the utility function being economically meaningful. This point has confused many Austrians (including the present author) into thinking that neoclassicists are adopting (if only implicitly) a cardinal form of utility, which is false. Kirzner also makes this misinterpretation (footnote 3 on p. 66 of Kirzner [1963]).

[12] This point is made very clear in Rothbard's consistent application of Austrian utility theory to questions of production in capital-using economies; see footnote 19.

[13] Rothbard himself recognized this inconsistency in a very critical review of Kirzner's book that has only recently been published (it in fact was unpublished at the time the present essay was written, so we cannot discuss it in great depth here). According to Boettke (2011a), "Rothbard accused Kirzner of attempting to carry water on both shoulders in his review of the work for the Volker Fund, but it is precisely this balancing act of Misesian market process theory, and Stiglerian neoclassical price theory that makes the book so intriguing to the contemporary reader." (The original review in fact touches on several other issues not discussed here; see Salerno [2011].) We argue here that Kirzner's "balancing act" is more problematic than intriguing.

Austrian Utility Theory III: Rothbard and Kirzner Divergent[14]

Having laid a common (Misesian) foundation for utility, we will now see that Rothbard and Kirzner take separate paths in their subsequent analysis. To begin, we see that Rothbard's next step is to consider interactions between more than one individual. This makes clear the counterfactual essence of the logic of action, namely the comparison of a goal not yet attainable with a goal that could be so attained:

> The major form of voluntary interaction is voluntary interpersonal exchange. A gives up a good to B in exchange for a good that B gives up to A. The essence of the exchange is that both people make it because they expect that it will benefit them; otherwise they would not have agreed to the exchange. A necessary condition for an exchange to take place is that the two goods have reverse valuations on the respective value scales of the two parties to the exchange. Thus, suppose A and B are the two exchangers, and A gives B good X in exchange for good Y. In order for this exchange to take place, the following must have been their value scales before making the exchange:
>
> | A | B |
> |---|---|
> | 1—(Good Y) | 1—(Good X) |
> | 2—Good X | 2—Good Y |
>
> (Parentheses around the good indicate that the party does not have it in his stock; absence of parentheses indicates that he has.) A possesses good X, and B possesses good Y, and each evaluates the good of the other more highly than his own. After the exchange is made, both A and B have shifted to a higher position on their respective value scales. (Rothbard, 2004, p. 85)

Rothbard goes on to explain how supply and demand schedules (for direct exchange) can be built up from such value scales of actors. The critical point here is that an actor makes an exchange for a good he does not have using a good he does have. It is precisely this sense in which action is based on means (goods) associated with specific ends, but specifically a comparison of means-ends pairs of very different natures: factual versus counterfactual.

We contrast this approach with Kirzner's. In the very next chapter after laying out a Misesian conception of utility, Kirzner adopts the neoclassicist approach described above:

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[14] Rothbard anticipated many of the points raised in this section in his review of Kirzner that had been long unpublished; see Salerno (2011).

> At the position of equilibrium for a consumer, the following conditions hold with respect to any two kinds of goods available to him. Consider the higher priced of the two goods (that is, the one whose marginal unit is of such a size that it sells at the higher price). Consider the marginal utility of one unit (to be lost by restricting expenditure on this good by the price of one unit); denote this by a. (That is, a is an ordinal number denoting the relative position of this unit on the consumer's utility scale.) Consider the marginal utility of the unit to be gained by expanding expenditure on this good by the price of one unit; denote this by b. (Of course, b will denote a position lower than a.) Consider now the number of units of the lower-priced good that can be purchased for the price of a unit of the higher-priced good. Denote by c the (ordinal) marginal utility of this number of units (of the lower-priced good) to be lost should expenditure on this lower-priced good be contracted (in favor of a unit of the higher priced good); denote by d the marginal utility of the same number of units of the lower-priced good to be gained at the expense of a unit of the higher priced good. (Again, of course, d will denote a position lower than c.) At equilibrium, for any two goods, a will be higher on the ordinal utility scale than d (so that the consumer will not give up a unit of the higher priced good in favor of a number of units of the lower-priced good), and c will rank higher on the ordinal scale than b (so that the consumer will not buy an additional unit of the higher-priced good at the expense of a number of units of the lower-priced good). (Kirzner, 1962, p. 66-67)

To illustrate, Kirzner essentially reproduces Figure 1 (his Figure 5-1 on p. 67 of Kirzner [1962]) and provides the following argument:

> The consumer must thus select a point on AB representing the allocation of this expenditure most satisfactory to him. Suppose the consumer is at point P_1; then he will act to improve his position by moving along AB either toward A or B, until he reaches the point of consumer equilibrium. A movement, for example, from P_1 to P_2 implies that P_2 is an alternative that is preferred over P_1. The point P_2 represents a bundle that contains a little more of X (CP_2 of X) and a little less of Y (CP_1 of Y) than the bundle at P1. If movement occurs from P_1 to P_2 this means that the consumer has compared the marginal utility of CP_2 of X with that of CP_1 of Y and considers the former to be higher than the latter. He considers the gain of CP_2 additional X, more than sufficient to outweigh the sacrifice of CP_1 of Y. The market enables the consumer to translate his preferences into action. He is able to sell CP_1 of Y and buy CP_2 more of X; in the diagram he has moved from P_1 to P_2.

> If P_2 is a point preferred over all other points on the opportunity line, the consumer acts to attain P_2, thereby rejecting all the other alternatives open to him (that is, refraining from selecting any other

point on the line). At P_2 the consumer is at equilibrium. The diagram
shows how this equilibrium position differs from other positions,
say P_3 or P_1 on the line. The size of the increments of Y and X,
respectively, P_1C and CP_2 between P_1 and P_2, or P_2D and DP_3
between P_2 and P_3, are, let us suppose, the smallest that can be
exchanged for one another. At P_3 the consumer is not at
equilibrium, because he prefers the additional quantity of Y, P_2D to
the marginal quantity DP_3 of X. He will therefore shift $DP_3 \times p_x$
(=$P_2D \times p_y$) of expenditure from X to Y. Similarly, as we saw, at
point P_1 the consumer shifted $P_1C \times p_y$ (= $CP_2 \times p_x$) of expenditure
from Y to X. Only at P_2 will the consumer not act to alter his
position, because, on the one hand, the marginal utility of P_2D of Y
is higher than that of an additional DP_3 of X, while on the other
hand the marginal utility of CP_2 of X is higher than that of P_1C of Y.

See Figure 2 here. This is essentially our Figure 1, without the indifference
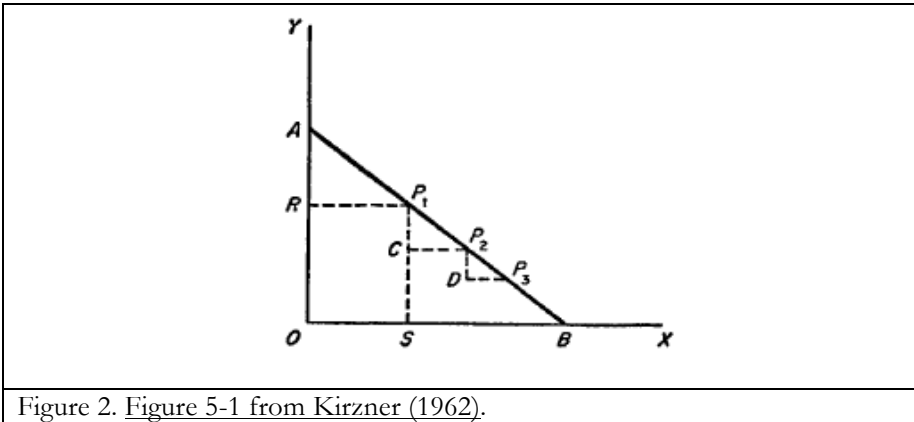curves.

Figure 2. Figure 5-1 from Kirzner (1962).

Although Kirzner does not make explicit use of indifference as such,
his analysis here parallels the ideas used by the neoclassicists, without the
formalism. In particular, he embraces the notion that the consumer uses price
calculations as a proxy for value calculations, in moving from a suboptimal
point on his budget line to an optimal point. He claims that by moving from
point P_1 to P_2 the consumer is comparing the marginal utility (an end)
foregone by selling some amount of good Y to the marginal utility (another
end) attained by buying some amount (financed by staying on the budget line)
of good X. While this appears consistent with his (Misesian) framework of
marginal utility from the previous chapter in his book, this appearance is in
fact superficial.

Rothbard's example renders this clearer. In selling the good Y and buying good X, an actor is *not* comparing the marginal utilities (properly conceived or otherwise) of these two goods. Rather, he is making *two sets* of comparisons, each involving *money*:

$$(\text{money}) > \text{good Y}$$

$$(\text{good X}) > \text{money}$$

Kirzner assumes a form of transitivity in concluding from these two relations that good X is preferred to good Y. However, this is an invalid inference because in the first relation, the actor compares good Y (which he has) to an amount of money (which he does not have). In the second relation, he compares good X (which he doesn't have) to an amount of money (that he does have). Money plays a different role in the two relations (hence the use of parentheses, as Rothbard, to signify the counterfactual status of some good in a value relation).

This is not the only problem with Kirzner's framework. Note that the consumer equilibrium (point P_2) is characterized by the fact that *the marginal utilities of goods X and Y are equal at this point*. This gives one reason to doubt Kirzner's assurances that he avoids the framework of indifference and its associated pitfalls.[15] But apart from this, it is clear that Kirzner here uses the neoclassicist notion of value equivalencies. It is at the point where the ratio of value equivalencies equals the ratio of prices that the consumer makes no more attempts to better himself. Indeed, this is the sense in which point P_1 is improved upon by selling Y and buying X: at this point, the value equivalence between X and Y exceeds the price ratio, hence the actions of buying and selling permit a superior calculation in terms of value.[16] In fact, we can note

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[15] Kirzner (1963, p 178, footnote 14) claims his approach renders an appeal to indifference "unnecessary", while explicitly acknowledging that these results can be recrafted in such a manner. Although he does in fact note that there are "some rather serious theoretical problems" with the use of indifference curves, he does not elaborate on what these issues are. The distinction between indifference as a praxeological category as opposed to a psychological category was raised in Rothbard (2004). However, as we have seen, the central feature of neoclassicist value theory is not indifference as such, but rather the notion of value equivalencies between goods, and we will subsequently see that Kirzner's approach does not at all escape this problem. For some recent Austrian discussions of indifference, see Hoppe (2005, 2009) and Block (2009). O'Neill (2010) provides an important revision to standard Austrian critiques of the use of indifference analysis.

[16] It's worth quoting Mises (1998, p. 121-22) again on the impossibility of a value calculus (equivalent statements are found throughout Rothbard's work as well): "To prefer and to set aside and the choices and decisions in which they result are not acts of measurement. Action does not measure utility or value; it chooses between alternatives.

Kirzner's viewpoint of the market as a *means* that allows the consumer to "translate his preferences into action." This is an early example of the Kirznerian focus on the *function* of prices as opposed to a more Misesian focus on the *origin* of prices (see Hülsmann [1997]).

This is quite different from how Rothbard proceeds. First, we have already noted the manner in which Rothbard presents choice (in terms of counterfactual comparisons). More importantly, Rothbard rejects the notion that money can be a means for effecting value calculations. Indeed, Rothbard properly views money as a good in its own right, and endeavors to explain precisely how money can be integrated into the marginal utility analysis that he (and initially Kirzner) establishes for non-monetary goods and direct exchange. In this way Rothbard presents a completely unified project of value and exchange (both direct and indirect; see Rothbard [2004], Chs. 3-4).[17]

This issue requires some emphasis. To incorporate money into marginal utility analysis, it must be explained how money can be placed in an actor's scale of values. However, for money to possess its quintessential feature (namely, its purchasing power) that permits it to *be* valued, it must have *already* appeared on some actor's value scale. This apparent circularity is broken via Mises' celebrated regression theorem, of which Rothbard provides a superb explanation (Rothbard, 2004, p. 268-76). This step in the analysis is critical to establishing money as a good like any other (with its own unique properties, to be sure). Yet, there is no mention of the regression theorem in Kirzner's book. It is indeed puzzling that this signature result of Austrian economics is absent here.[18] In fact, even in his first book (*The Economic Point*

There are in the sphere of values and valuations no arithmetical operations; there is no such thing as a calculation of values."

[17] We should point out that as a consequence, Rothbard is able to deduce the laws of supply and demand as *a priori* true categories of human action (that is to say, he establishes their praxeological status). This is in contrast to Kirzner (1963, p 79-82), for whom the law of demand (analyzed according to his neoclassicist allocation framework) is only *empirically* valid (although only rarely violated, *e.g.* in the case of so-called "Giffen goods" for which a drop in price leads to a *decrease* in demand).

[18] In Ch. 5 of Kirzner (1963) where the consumer allocation problem is presented, there is in fact no reference to Mises (*Human Action* is frequently referenced elsewhere in the book). There are, however, references to Hicks' classic original work (*Value and Capital*) on ordinal utility analysis via indifference curves. This is perhaps not too surprising, as this approach is also essentially Kirzner's and can be found nowhere in Mises (or Rothbard's) work. It is highly ironic that Boettke (2011b) observes that "Ludwig von Mises credits Cuhel (1907) with providing the first presentation of a strict ordinal marginal utility analysis. The confusion in choice theory that eventually lead to the purging of the human element in the economic analysis of decision making would have been avoided had Cuhel's ordinal presentation of marginal utility analysis been more widely accepted. Instead, it was for Mises (1949) and later Rothbard (1962b) to develop

of View), Kirzner portrays money, not as a good in its own right whose valuation must be explained, but as a *means* of facilitating certain "underlying" value comparisons:

> Money prices make possible a system of rational calculation in which any economic decision is influenced by all the relevant factors. The producer and the consumer are alike guided by money prices to adjust their actions in the most advantageous way to the real conditions of the market. In the discussion over the possibility of rational economic calculation of gain and cost in a socialist economy, one fact has emerged with overwhelming unanimity. It is almost universally conceded that in an economy without prices, real or "quasi," there is no means of judging the economic wisdom or folly of any action. Every prospective buyer or seller, if he is to act in a rational way, must be able to compare his prospective situation at the completion of the transaction with his present situation. This involves the comparison of innumerable "economic quantities" with one another: those actually under his control initially, those to be brought under his control through the transaction, and those possibilities of control which his initial position enables him to command through alternative transactions. The expression of market prices in terms of money is an inestimable boon to the solution of this complex problem. As a common medium of exchange for all marketable goods, money fuses all the alternatives confronting the marketer into an immeasurably simpler chain of decisions. The money price paid for one good expresses succinctly, and more convincingly than is ever conceivable in a barter transaction, a preference for this good over a definite set of alternative goods. (Kirzner, 1976, p. 103–104)

Note the focus on money *prices* rather than money as such. The last sentence in this passage is particularly troubling. If money is a good in its own right, then a preference for money is a preference for, well, money. But even on Kirzner's own terms here, a preference for money is not preference for other goods as such, but rather a preference for the goods *that can be purchased for money*.[19] But what *these* goods are depends on the purchasing power of money. Rothbard explains exactly how this purchasing power arises, Kirzner does not. Thus does Rothbard seek to encompass money in a general analysis of economic goods (and succeeds in doing so) through its *essence* as a medium of

that presentation and offer it as an alternative to the neoclassical theory of microeconomics that developed after John Hicks' (1939) Value and Capital." Kirzner (1963) goes unmentioned.

[19] Similarly, we might note that factors of production are valued not simply because the goods they produce are valuable, but because they are valued at a certain *price*. But then we have to specify what is meant by "valuation at a price." This is something Rothbard does in his analysis of production; see footnote 20.

exchange, while Kirzner attempts to identify money's *purpose* as proxying for value calculations in an allocative framework.[20]

Before closing, we should stress that our arguments here are emphatically *not* meant to serve as a critique of Kirzner's prodigious body of work as a whole. Rather, we merely wish to call attention to divergences that exist between two prominent and influential Austrians (Rothbard and Kirzner) on a rather fundamental issue, as developed in two foundational texts that presumably have served (and will continue to serve) as the building blocks to a greater understanding of Austrian School economics. In so doing, we hope to shed new light on various stimulating controversies that currently exist in the School.[21]

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[20] Rothbard goes on to analyze production in capital-using economies (Rothbard, 2004, Ch. 7). In this analysis, he explicitly speaks in terms of *price calculations*. For example, he identifies the marginal value product of a particular factor of production as the amount of *money* that can be obtained from the sale of that factor's product if the factor is acquired (or alternatively the amount of money foregone from product sale if the factor is removed). He thus extends the marginal utility analysis to more advanced forms of economic activity. The progression of his analysis is notable: from isolated action, to direct exchange, to indirect exchange of directly comparable (consumer) goods, to action with indirectly comparable (producer) goods. There is a unifying theme to all of these stages, namely the Misesian marginal utility analysis of value as a counterfactual ranking of ends. As the specific application demands, specialized points are introduced, but the common thread is apparent. We will simply note in passing here that Kirzner's discussion of production theory is reminiscent of the treatment found in neoclassicist treatments. In these treatments, there is a mathematical duality between consumption and production. Namely, the utility maximization problem of the consumer (subject to budget constraints) is the flip-side (in a sense) of the profit-maximization (or cost minimization) problem of the producer (subject to technological constraints). Mathematically it is shown that there exists a set of output prices such that markets clear (quantity demanded equals quantity supplied), and under certain technical conditions the resulting allocation of resources is socially optimal in some sense. We have seen how Kirzner's consumer theory has strong affinities with the neoclassicist theory. In Ch. 8 of Kirzner (1963) there is a similar appeal to neoclassicist concerns with the technical conditions of production (production functions, isoquant curves, *etc.*). Kirzner's subsequent analysis is concerned with the role of profit-seeking entrepreneurs stamping out price discrepancies in the context of action with factors of production that have myriad alternative physical uses, and his familiar theme of disequilibrium prices playing a communicative role; see Salerno (1993) and Hülsmann (1997).

[21] The notion of prices providing a knowledge disseminating role only under conditions of "proximal equilibrium" (Salerno's [1993] felicitous term) is one such example. It seems clear that such an emphasis (on informational issues) is more compatible with a neoclassicist view of prices than a Rothbardian view.

Conclusions

In this paper we have analyzed the utility theories of Rothbard and Kirzner as laid out in their respective book-length treatments of economic science. We find that although both share a common foundation of a rank-based valuation theory with its basis in Mises' work, their subsequent developments of the concept take completely different paths. In particular, Kirzner's exposition has far more in common with neoclassicism than with Mises and Rothbard's elaboration. While this argument is in no way meant to downplay Kirzner's substantial and important contributions to Austrian economics, we do intend to call into question a viewpoint common in some Austrian circles of a continuous line of development in the school, linking in particular Mises to Hayek to the present generation of Austrian scholars, with few deviations of note along the way.[22]

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[22] We are referring of course to the so-called "dehomogenizaton" debate (Salerno [1993]). We should acknowledge that Mises himself is not always consistent in his exposition of price theory, as when he commonly refers to profitable entrepreneurs satisfying consumers' most urgent needs. It is also not clear to this author the extent to which Hayek would have embraced Kirzner's neoclassicist-based consumer theory, although Hayek certainly granted formal feasibility to similar notions from neoclassicist producer theory (Hayek [2009a]). But these disclaimers emphasize the main point that whatever continuous line exists in the development of Austrian thought over the last century, there are potentially hazardous detours along the way that are still open to unwary travelers.

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