Austrian Methodology: The Preferred Tax Type

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This article illustrates the usefulness of the methodology of the Austrian school of economics. No scientific inquiry can occur without a method, be it carefully considered or willy-nilly. Yet, mainstream economists pay little attention to the methods they use. Apparently they are satisfied to mimic the method of physics.

For economists as a whole, the Austrians stand virtually alone as students of methodology. The usefulness of the economic theory developed from their method challenges mainstream economists to reconsider their own methodology.

This article poses such a challenge by presenting an Austrian school critique to the indifference curve analysis proof that an individual prefers an income tax to an excise tax of equal amount. The first section gives a brief overview of the Austrian methodology, a theory of property rights plus the resulting market system, and, finally, the effect of invasion into the market. The second section reviews indifference curve analysis and its application to tax types. The third contains the Austrian critique of indifference curve analysis and its application to tax type. The last section provides concluding remarks.

Austrian Methodology

Austrian economists study all human action, including economics, using the axiomatic-deductive method of logic.[1] This methodology employs the rules of deductive logic to derive conclusions from basic premises. These conclusions will be true if the premises are true and the logical steps used in their derivation are valid.

The science of economics begins with the premise that each individual human acts. The existence of human action is self-evident. Furthermore, the premise rises to the status of a axiom since any attempt to refute the premise is human action. The entire body of economic theory derives from the fundamental axiom (and, as needed, ancillary premises).[2] For example:

Let us consider some of the immediate implications of the action axiom. Action implies that the individual's behavior is purposive, in short, that it is directed toward goals. Furthermore, the fact of his action implies that he has consciously chosen certain means to reach his goals. Since he wishes to attain these goals, they must be valuable to him; accordingly he must have values that govern his choices. That he employs means implies that he believes he has the technological knowledge that certain means will achieve his desired ends. Let us note that praxeology does not assume that a person's choice of values or goals is wise or proper or that he has chosen the technologically correct method of reaching them. All that praxeology asserts is that the individual actor adopts goals and believes, whether erroneously or correctly, that he can arrive at them by the employment of certain means.

All action in the real world, furthermore, must take place through time; all action takes place in some present and is directed toward the future (immediate or remote) attainment of an end. If all of a person's desires could be instantaneously realized, there would be no reason for him to act at all. Furthermore, that a man acts implies that he believes action will make a difference; in other words, that he will prefer the state of affairs resulting from action to that from no action. Action therefore implies that man does not have omniscient knowledge of the future; for if he had such knowledge, no action of his would make any difference. Hence, action implies that we live in a world of an uncertain, or not fully certain, future. Accordingly, we may amend our analysis of action to say that a man chooses to employ means according to a technological plan in the present because he expects to arrive at his goals at some future time.

The fact that people act necessarily implies that the means employed are scarce in relation to the desired ends; for, if all means were not scarce but superabundant, the ends would already have been attained, and there would be no need for action. Stated another way, resources that are superabundant no longer function as means, because they are no longer objects of action. Thus, air is indispensable to life and hence to the attainment of goals; however, air being superabundant is not an object of action and therefore cannot be considered a *means*, but rather what Mises called a "general condition of human welfare." Where air is not superabundant, it may become an object of action, for example, where cool air is desired and warm air is transformed through air conditioning. Even with the absurdly unlikely advent of Eden (or what a few years ago was considered in some quarters to be an imminent "postscarcity" world), in which all desires could be fulfilled instantaneously, there would still be at least one scarce means: the individual's time, each unit of which if allocated to one purpose is necessarily not allocated to some other goals.[3]

This scarcity implies that an individual cannot fulfill all goals but must allocate means to the most highly valued ends, leaving less valued ends unfulfilled.

Means used to accomplish ends are called goods. Conceptually, action

toward means can be either production, consumption, or exchange. Production is an act that furthers a good toward its final stage where it is consumed. Consuming a good renders service (value) to the individual consumer. Voluntary exchange of goods is an act of production that moves goods from less valuable to more valuable uses. All such voluntary trades occur in (or constitute) the market.

Property Rights. Since individuals exchange possession of goods and service (alienable property) in the market, any explanation of markets must contain a theory of ownership rights to property.[4] Briefly, the system of property rights that generates free market exchange as a by-product contains five parts: (1) Each individual owns himself, some parts of which are exchangeable (e.g., labor) and some parts of which are inalienable (e.g., free will). (2) When an individual mixes his labor with other resources, he comes to own the property created. (3) In a similar manner, the first individual to transform virgin land becomes its just owner. (4) The only other way to justly acquire ownership rights to property is voluntary exchange. (5) An individual can defend his property against aggressive violent invasion—coercion—by using a proportional amount of defensive violence to repel the invader. Finally, these rights are absolute and equal for all individuals.

The Market. Free market exchange will result from this system of property rights, with the following effects.[5] First, each voluntary exchange provides benefit for all traders. Individuals demonstrate their gain by the very act of voluntary trade. Taken together, all such acts create the greatest possible value of goods and, thus, maximize the utility of the individuals in the market. Second, harmony exists between individuals since each person's welfare depends on gaining the voluntary cooperation of others. If a person disrupted this harmony, he would injure himself. Third, man extends his power over nature to produce goods because he claims them as his own. This occurs through specialization and division of labor which the existence of trade makes possible. Fourth, individuals produce in a pattern desired, not by themselves, but by others. That is the only way to earn wealth on the market. Fifth, voluntary trading results in a set of market prices. These prices are established in accord with the values individuals place on various goods; therefore, each individual can use these prices to calculate how to effectively serve others. These activities create wealth which is reflected in the increased value of goods and the existence of profit. Finally, the market contains incentives for production and improved living standards. This is a direct consequence of ownership of produced property. The market renders mutual benefit, harmony, peace, power of man over nature, efficiency, calculation, and productivity. But what of involuntary exchange—the opposite of the market?

The next section traces the effects of placing a protection racket that engaged in such coercion within a market community.

Invasion of the Market. The protection racket will engage in several actions. First, the racket extracts payment from individuals with the use or threat of physical violence. This involuntary exchange violates the individual's property rights by establishing a hegemonic relationship of command and obedience. The racket and its favorites benefit while the victims suffer. Second, the racket provides differing amounts of protection to different individuals regardless of an individual's desire for it. Without voluntary payments, the racket cannot know the strength (if any) of the individual's demand for protection. Thus, even if it desires to, the racket cannot efficiently provide the pattern of protection services that individuals desire. Third, the racket's activity does not increase the value of goods in the community and probably decreases their value. When providing protection, the racket diverts resources from producing goods that individuals demonstrably desire on the market. Instead, these resources produce what the protection racket and its favorites desire. The preracket pattern of market production, exchange, and consumption is completely transformed into a less efficient (less valuable) pattern. These effects will hold true when any group establishes the hegemonic relationship.

Government. The effects of government activity are analogous to those of the protection racket. Taxes are involuntary payments extracted by the threat or use of force. If not, individuals would gladly make these payments voluntarily and could voluntarily withdraw them. Taxes cannot exist in the market, but are always invasions into the market. As with any other form of violence, taxes disrupt the effectiveness of voluntary activity (destroy wealth).

In the same manner as the protection racket, all government activity (i.e., taxing and spending) transfers wealth from one group to another, destroying some in the process. This misallocation occurs as government coerces individuals to give up part of their income (which was created by servicing the desires of others) and then uses these funds to bid resources away from them. Individuals are burdened and resources are reallocated from serving individual desires to satisfying the ends of government officials. The extent of the burden of this misallocation is directly proportional to the level of taxation and government expenditures compared to the level of private income. In other words, the type of tax is much less significant than the level of taxation (and expenditure).

Because of the coercive nature of government activity, two additional results come forth. First, by voluntarily purchasing an item on the market, an individual demonstrates that he values the item more than the money price. But in paying taxes, he makes no such demonstration. The government

does not know, as a business does, the value individuals place on its activity. Since government cannot obtain the information and incentive by demonstrated preferences of individuals, they cannot efficiently serve individuals. Second, the government creates a disjunction between benefit from and payment for their activities. The taxpayer pays and the benefits go to government officials and those who obtain government expenditures. This creates both a class of forced riders and a class of free riders. In Rothbard's words:

> One of the conclusions of this analysis is that the purely free market maximizes social utility, because every participant in the market benefits from his voluntary participation. On the free market, every man gains; one man's gain, in fact, is precisely the consequence of his bringing about the gain of others. When an exchange is coerced, on the other hand—when criminals or governments intervene—one group gains at the expense of others. On the free market, everyone earns according to his productive value in satisfying consumer desires. Under statist distribution, everyone earns in proportion to the amount he can plunder from the producers. The market is an interpersonal relation of peace and harmony; statism is a relation of war and caste conflict. Not only do earnings on the free market correspond to productivity, but freedom also permits a continually enlarged market, with a wider division of labor, investment to satisfy future wants, and increased living standards. Moreover, the market permits the ingenious device of capitalist calculation, a calculation necessary to the efficient and productive allocation of the factors of production. Socialism cannot calculate and hence must either shift to a market economy or revert to a barbaric standard of living after its plunder of the preexisting capital structure has been exhausted. Any and every intermixture of government ownership or interference in the market distorts the allocation of resources and introduces islands of calculational chaos into the economy. Government taxation and grants of monopolistic privilege (which take many subtle forms) all hamper market adjustments and lower general living standards. Government inflation not only must injure half the population for the benefit of the other half, but may also lead to a business-cycle depression or collapse of the currency.
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> We cannot outline here the entire analysis of this volume. Suffice it to say that in addition to the praxeological truth that (1) under a regime of freedom, everyone gains, whereas (2) under statism, some gain (X) at the expense of others (Y), we can say something else. For, in all these cases, X is not a pure gainer. The indirect long-run consequences of his statist privilege will redound to what he would generally consider his disadvantage—the lowering of living standards, capital consumption, etc. X's exploitation gain, in short, is clear and obvious to everyone. His future loss, however, can be comprehended only by praxeological reasoning.[6]

Such is the nature of government and the effects of its activity derived from the Austrian method. The next section discusses the indifference curve analysis and its application to the problem of optimal tax type.

Traditional Analysis

Methodology

The indifference curve analysis attempts to construct a model of individual behavior using the axiomatic-deductive method.[7] It begins with five premises. First, an individual can compare different market baskets (combinations) of goods. In any comparison, the individual either prefers basket *A* to basket *B*, prefers *B* to *A*, or finds *A* and *B* of equal value. Second, an individual has transitive preferences: if *A* is preferred (indifferent) to *B* and *B* is preferred (indifferent) to *C*, then *A* is preferred (indifferent) to *C*. Third, the individual prefers more of any good to less of the good. Fourth, only two goods (*X* and *Y*) exist. Fifth, an individual will trade successively smaller amounts of *X* for each additional unit of *Y* he can acquire while maintaining a fixed amount of utility.

From these premises, the following conclusions (stated in geometric terms) are derived. The first premise implies the existence of indifference curves. Each curve shows all combinations of the two goods that render equal satisfaction. From the second premise it can be inferred that indifference curves do not intersect. The third premise implies that (1) indifference curves have negative slopes and (2) the farther a curve lies from the origin, the greater the level of utility. Finally, indifference curves are convex to the origin as implied by the fifth premise.

Proof

This section reviews how various authors have used the indifference curve technique to "prove" that an excise tax makes a consumer worse off than an income tax of equal amount.[8] An individual has the choice between commodity *X* and other goods (*M*). These options plus the individual's income render the budget constraint M_OX_O in figure 3. Given a set of preferences that generate a well-behaved indifference map, the individual selects the combination at point *A* obtaining a utility level of U_o. From this initial situation, the traditional analysis seeks to show that an excise tax reduces utility more than an income tax when the two raise the same amount of tax revenue.

The proof proceeds by imposing an excise tax, then allowing the individual to adjust to the tax, then offering an income tax, and finally letting the individual select between the two posttax situations. Imposition of an excise tax on *X* increases the price of *X*, causing the budget line to rotate inward to M_OX_E. As a result, the individual adjusts to combination *B* with a utility level of U_E. After the adjustment, the government receives M_OM_I in tax revenue.

An equal income tax raises the same tax revenue (M_OM_I) as the excise tax, but does not alter relative prices. Graphically, the income tax shifts the

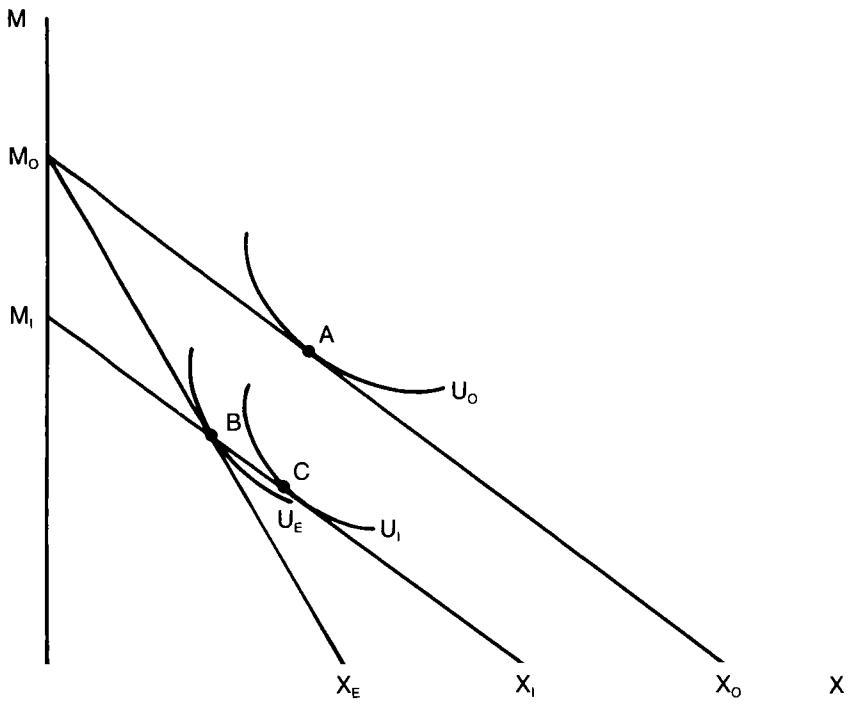

Figure 3

original budget line parallel to M_IX_I. Compared to the excise tax budget line, the individual's feasible opportunities increase by the triangle BX_IX_E. The individual responds by purchasing more X and less M, moving from point B to point C. This readjustment increases satisfaction from U_E to U_I, while allowing the government to raise the same tax revenue. Furthermore, this conclusion does not depend on the individual's relative preference for X and M. Starting at point B, there must exist a combination on BX_I that renders more utility than combination B. A well-behaved indifference map (implying the tangency of U_E at point B) insures this result.

The rationale for preferring the income tax stems from the substitution effect of the excise tax. By construction, the income effects of the two taxes are identical. Thus, the excise tax differs from the income tax by increasing the relative price of X. As a result, the individual suffers from both an income effect and a substitution effect. (The latter further restricts the individual's feasible opportunities beyond the harm done by the income tax.) Faced with fewer alternatives, the individual must endure a decline in utility.

Austrian Critique

Methodology

In the axiomatic-deductive method, a true conclusion emerges if the premises are true and the logic is valid. A false conclusion could stem from one or a combination of two types of errors: a false set of premises and/or invalid logic. For the preceding analysis, these errors are analyzed in turn beginning with the premises.[9]

Preferences are subjective to each individual. The existence of human action implies that an individual can rank different alternatives from highest valued to lowest valued. An observer can discover a small piece of this ranking only when the individual demonstrates his preferences in voluntary action. Such demonstrations only occur in choosing one alternative instead of another. Indifference never leads to choice; thus, it has no role in a value-free model of preference.

For example, examine the typical construction of an indifference curve.[10] The individual begins with some market basket, say basket *A*, in his possession. Then he is offered basket *B*. He has two alternatives: retain *A* (forgo *B*) or acquire *B* (forgo *A*). There exists no "indifference" alternative. He may *say* he is indifferent, but by choosing one alternative over the other, he *demonstrates* preference.

Furthermore, subjective preferences of different alternatives depend upon the individual's situation. Each time that environment changes, so can his entire preference ranking. Even if an indifference map existed, it could continually shift during the course of an analysis as the individual accepted different market baskets.

Turning to the process of logic, the indifference curve method makes an unanalyzed switch from verbal to mathematical logic between premises and conclusions. This can create error depending on the case involved. Given the premises, an indifference curve is drawn by connecting, with a smooth curve, all market baskets that render the same amount of satisfaction. The conclusions are stated as mathematical properties of this smooth curve. Yet, drawing the curve implies a level of quantification far beyond ranking. It implies that the individual's subjective values can be expressed as a functional relationship between two goods. In addition, the function is smooth and continuous and, thus, it has derivatives at each point. Yet, these characteristics cannot be derived from the premises. They have the status of unanalyzed assumptions. Since their truth is unestablished, so is the truth of any conclusion drawn from them by deduction.

This shift to mathematical logic also implies that mathematical operations can be performed on the satisfaction acquired from different goods. Utilities can be added, subtracted, multiplied, divided, differentiated, etc.

These are also conditions not contained within the premises and, thus, they are open to the criticisms just listed.

In addition, under analysis, these assumptions are false. No unit of measure exists to quantify preferences; thus, they cannot be measured. Furthermore; calculus cannot be employed since derivatives imply infinitesimal changes. But human action only occurs in perceptible discrete lumps. What is true for the derivative is true for the slope of a curve at a point.

Application

Using indifference curve analysis, authors have concluded that with a given amount to pay, an individual prefers an excise tax to an income tax. Assuming the validity of the indifference curve method, several criticisms exist regarding this application.

Return to the protection racket analogy to recreate the analysis. The racket decides to make the burden of its plunder as light as possible on the victims. (Why they or the government would want to do this is left to your imagination.) It tells each citizen the following: "You must pay x amount in tribute, but we will allow you to choose one of two payment methods. Either we will take x out of your income or we will raise the price of electricity (or some other good) that you purchase until your expenditure on electricity increases by x." When the citizen selects one or the other method, we have an answer to the question. But suppose a mainstream economist conducted an analysis and found that each citizen would always prefer the first alternative because, compared to the second, he will suffer less. The citizen's response would likely be, "Why should I suffer at all? I really prefer no protection racket." In fact, returning to figure 3, the mainstream economist's method actually shows that the individual prefers no tax (point A) to either type. To conclude that the individual is better off at point C, the mainstream economist must make a massive value judgment in favor of the protection racket's claim to take the citizen's wealth (comparable to validating the same claim by the government). He becomes an ethicist by recommending that the government should use the income tax. In turn, the hapless citizen knows what to think of this "value-free science."

It does not suffice to retort that the government provides services to the individual; so does the protection racket. The point is that the individual demonstrates that these services are not worth their opportunity cost when he chooses not to purchase them on the market. In addition, the indifference curve technique says nothing about the benefits of government activity, only about burden. This is as it should be since coercion (the method of government) divorces payment for a service from reception of the service—creating forced and free riders.[11]

Beside resting on a value judgment, the indifference curve analysis never asks and, thus, never answers the question it claims to answer. Using the protection market analogy, it proceeds as follows. First, the racket would increase the price of electricity. Second, it would allow the individual to adjust to this tax and then measure the resulting tax revenue. Third, the racket would say, "you can continue to pay x amount via the higher price (which requires buying the same amount forever) or pay x amount out of your income and we will lower the price of electricity to its original level." This is a much different situation for the victim. (Why would the racket or government create such a situation?) His selection of the income tax does not prove that he prefers an income tax to an excise tax of equal amount. It proves that he prefers lower prices to higher prices (as a buyer) and that he prefers more alternatives to choose from than fewer.

The indifference curve analysis does not take as given the amount of tax and then compare the two alternative tax types. It allows the individual to choose the amount of tax under the excise form and compares that solution to the income tax. Imposing other sequences shows why this specific sequence is used.

In figure 4, the individual begins with a budget constraint of M_OX_O. Optimum purchase occurs at point A with a utility level of U_O. If the government imposes an income tax, the original budget constraint shifts inward parallel to M_IX_I. The individual selects point B with a reduction of satisfaction from U_O to U_I. As a result, the government tax revenue equals M_OM_I.

Now the government offers the individual an excise tax designed to raise the same amount of tax revenue. How can they calculate this tax? If they assume the individual will purchase combination B with either tax, the excise tax budget constraint appears as M_OX_E. Yet, under these conditions, the individual will select combination C and increase utility from U_I to U_E. The resulting government revenue equals M_OM_E. The government may react to this loss in tax revenue by increasing the excise tax rate. But the effect on tax revenue depends on individual preferences which remain hidden from government. These preferences only reveal themselves in voluntary choice; thus, no basis exists for the government to make the calculation necessary to collect equal tax revenue (as long as it does not force the individual to buy a given amount). This parenthetical effect constitutes the real "extra" burden of the excise tax, as the problem is constructed. In other words, unless the government prevents any posttax freedom of choice with the excise tax, it cannot conduct the postulated experiment.

The government's problem intensifies if the two tax types are offered simultaneously. Referring to figure 4, such an offer would render a kinked budget constraint such as M_OBX_I. An individual with a strong preference for X would select an income tax. His purchase combination would lie on the segment BX_I, resulting in a smaller tax bill than the excise tax for any point

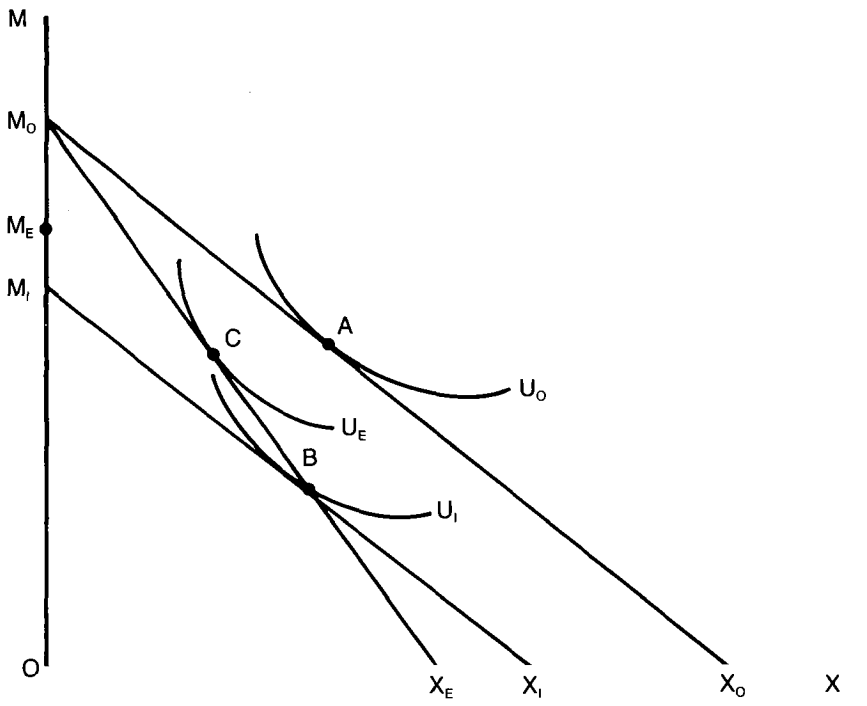

Figure 4

selected along the segment BX_E. An individual with a weak preference for X would select a point along M_OB involving less tax than any point selected along M_IB. Again, the government cannot equate tax revenues from the two types. In this case, it makes no sense to even propose such a constraint.

Only in one of three conceptual cases can the government enforce the equal–tax-revenue constraint (while allowing the individual freedom to choose quantities). The validity of the traditional proof as just rendered relies on the excise-tax–then–income-tax sequence. Yet, no justification is given for this sequence. Surely, it is not based on the observation that the government actually makes such offers. More likely, authors use this sequence because only it allows the government to conduct the postulated experiment. Yet, it does not answer the question posed by the analysis.

As just noted, the individual's preferences are unknown to the government. In addition, they may change during the analysis. For example, the individual may despise the income tax and, thus, prefer the excise tax. Allowing for such an unstable indifference map invalidates the results. Yet, a stable

indifference map reduces the individual to a robot reacting to input with an unchangeable programmed set of responses.

In addition to shifting preferences, the budget lines may shift during the analysis. For example, the individual may sell a product that competes with the good the government taxes. The excise tax would shift demand to his product, shifting his excise tax budget line outward. Such an individual may prefer an excise tax. The indifference curve analysis does not incorporate this important effect.

Finally, since the tax represents a burden to the individual, he will try to avoid paying. Thus, he may choose the excise tax, even if its initial burden is greater, in anticipation of easier avoidance in the future.

This burden has two forms: the loss of income and the distortion of resource use. The indifference curve analysis cannot measure the latter and, thus, is (even if valid) a wholly inadequate framework for this problem. As already demonstrated, the Austrian view is broad enough to incorporate both these effects.

Additional Effects

The major difference between an income tax and an excise tax is that the latter penalizes the production of certain goods.

> The excise tax . . . *in addition,* penalizes the particular industry backward to the factors working in the industry. Now, however, the tax exerts pressure on nonspecific factors and entrepreneurs to leave the taxed industry and enter other, non-taxed industries. *During the transition period,* the tax may well be added to cost. As the price, however, cannot be directly increased, the marginal firms in this industry will be driven out of business and will seek better opportunities elsewhere. The exodus of nonspecific factors, and perhaps firms, from the taxed industry *reduces the stock of the good that will be produced.* This reduction in stock, or supply, will raise the market price of the good, given the consumers' demand schedule.[12]

The major additional harm done by the excise tax relative to the income tax is the further distortion in the use of resources to satisfy consumers. The price increase (which traditional analysis focuses on as a substitution effect) is just a by-product of this distortion. Taking the Austrian view,

> Everyone in the market suffers as a result of an excise tax. Nonspecific factors must shift to fields of lower income; since the discounted marginal value product is lower there, specific factors are hit particularly hard, and consumers suffer as the allocation of factors and price structure are distorted in comparison with what would have satisfied their desires.

> In addition to these specific effects, the excise tax also has the same general effect as *all other taxes, viz.*, that the pattern of market demands is distorted from private to government or government-subsidized wants by the amount of the tax intake.[13]

Turning to the income tax, the Austrian method analyzes not only the decline in real income included in the traditional analysis, but five other effects.

First, the income tax makes work more expensive relative to leisure, tending to induce less work. Counterbalancing this effect is the increased marginal utility of money due to having less income. This effect may induce a person to work harder. In either case, the individual's living standard declines in the form of either less leisure or less income.

Second, an income tax penalizes work for money relative to work for a return in kind. This tends to reduce specialization and break down the market, resulting in lower living standards.

Third, the income tax will raise the individual's time preference, leading to an increase in consumption relative to saving. This will leave fewer funds for capital formation and, thus, lower future living standards.

Fourth, the income tax reduces saving and investment in another way. Even though some of the funds raised by taxation would have been saved, expenditure by government officials is all consumption. All funds saved by so-called transfer-payment recipients represent malinvested funds. If the transfer is discontinued, this saving/investment of nonproducing individuals will be replaced by saving/investment of producing individuals.

Fifth, the income tax taxes the interest payment on savings and, thus, lowers the net interest rate. This induces less saving and investment in marginal investments.

Conclusion

Indifference curve analysis contains several methodological errors. These are sufficient to render its applicability severely limited at best and probably nil in utility analysis. This status should not change unless authors demonstrate the truth of its implicit assumptions. Until then, any conclusions drawn from applying indifference curve analysis should be given the same useless status.

In addition, many errors are committed in the application to selecting an optimal tax type, the foremost being the prior value judgment in favor of the government's claim to an individual's wealth. Perhaps it is time for mainstream economists to reevaluate their methodology.

Notes

1. For further elaboration of this method in economics, see L. Mises, *The Ultimate Foundation of Economic Science* (Kansas City, Kans.: Sheed Andrews and McMeel, 1976) or M. Rothbard, "Praxeology: the Methodology of Austrian Economics," in *The Foundations of Modern Austrian Economics,* ed. E. Dolan (Kansas City, Kans.: Sheed and Ward, 1976).

2. For excellent examples of economic science from this method, see L. Mises, *Human Action: A Treatise on Economics* (New Haven: Yale University Press, 1949) or M. Rothbard, *Man, Economy, and State: A Treatise on Economic Principles* (Los Angeles: Nash, 1970).

3. M. Rothbard, "Praxeology: The Methodology of Austrian Economics," in *The Foundations of Modern Austrian Economics,* ed. E. Dolan (Kansas City, Kans.: Sheed and Ward, 1976), pp. 20–21.

4. M. Rothbard, *For a New Liberty* (New York: Macmillan, 1978), pp. 23–44.

5. For a comparison of the effects of a market and hegemony, see M. Rothbard, *Power and Market: Government and the Economy* (Kansas City, Kans.: Sheed Andrews and McMeel, 1977) pp. 262–66.

6. Ibid., p. 261.

7. For examples of this analysis, see any intermediate microeconomic textbook, such as J. Hirshleifer, *Price Theory and Applications,* 3rd ed. (Englewood Cliffs, N.J.: Prentice-Hall, 1984), pp. 56–81; or E. Browning and J. Browning, *Microeconomic Theory and Applications* (Boston: Little, Brown, 1983), pp. 27–62.

8. The original version of the proof appears in M.F. Joseph, "The Excess Burden of Indirect Taxation," *Review of Economic Studies,* Vol. 6 (June 1939), pp. 226–31. Subsequent versions occur in J.R. Hicks, *Value and Capital* (London: Oxford, 1939), pp. 41–45; G.J. Stigler, *Theory of Price* (New York: Macmillan, 1946), pp. 81–82; E.D. Allen and O.H. Brownlee, *Economics of Public Finance* (New York: Prentice-Hall, 1974), pp. 343–45; M.W. Reder, "Welfare Economics and Rationing," *Quarterly Journal of Economics,* Vol. 59 (August 1945), pp. 577–97; A. Henderson, "The Case for Indirect Taxation," *Economic Journal,* Vol. 58 (December 1948), pp. 538–53; K.E. Boulding, *Economic Analysis,* 2nd ed., (New York: Harper & Row, 1984); and E. Schwartz and D.A. Moore, "The Disturbing Effects of Direct Taxation: A Re-evaluation," *American Economic Review,* Vol. 41 (March 1951), pp. 139–48. More recent versions include: E. Browning and J. Browning, *Microeconomic Theory and Applications* (Boston: Little, Brown, 1983), pp. 104–05; L. Truitt and D. Truitt, *Intermediate Microeconomics* (New York: West, 1984), pp. 76–77; D. Watson, *Price Theory and Its Uses,* 3rd ed. (Boston: Houghton Mifflin, 1972), pp. 109–111; D. Kamerschen and L. Valentine, *Intermediate Microeconomic Theory,* 2nd ed. (Cincinnati: South-Western, 1981), pp. 141–43; H. Kohler, *Intermediate Microeconomics* (Glenview, Ill.: Scott Foresman, 1982), pp. 64–66.

9. For a more complete critique, see M. Rothbard, "Toward a Reconstruction of Utility and Welfare Economics," in *Center for Libertarian Studies: Occasional Papers Series* 3 (New York: Center for Libertarian Studies, 1977), pp. 9–15.

10. For examples of this construction see the last five entries of note 8.

11. When the government offers the good at a zero (or very low) price, it creates free riders—those who are not excluded based on their lack of willingness to pay. In turn, when the government raises tax funds to gain the revenue to provide the service, it creates forced riders—those who pay taxes in excess of the benefit they receive from the service.

12. M. Rothbard, *Power and Market,* p. 93 (emphasis added).

13. Ibid., pp. 93–94 (emphasis added).