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On Rothbard on the Shifting and Incidence of a General Sales Tax: A Critique

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Abstract
Rothbard takes the position that a general sales tax cannot be shifted forward onto consumers. In his view, costs of production, of which a tax is an instance, cannot determine price. Rather, the causation is in the other direction: The prices of capital and intermediate goods are derived from the value of the final or consumer goods that they create. In contrast, we take the position that the causal effects run not in only one but in both directions.

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I. Introduction

Who bears the burden of sales taxes? Is it the producer, the consumer, or some combination of the two? The traditional, mainstream, neoclassical analysis of tax shifting and incidence relies on the elasticities of demand and supply curves. Here, taxes can be shifted forward onto consumers, depending upon these elasticities. The traditional, mainstream Austrian view,[1] in sharp contrast, under the leadership of Rothbard (2004), draws the opposite conclusion. Elasticities play no role whatsoever, and for this author and those who have followed him on this matter, it is a praxeological certainty that the incidence of taxes cannot be shifted in a forward direction. The present authors also write from an Austrian perspective, but offer a criticism of this analysis. We demonstrate that Rothbard is incorrect in that the imposition of a general sales tax alters the

[1] We confess to a great partiality to this phrase.

alternatives available to sellers *and* buyers such that with unchanged subjective values the preferences of both buyers and as sellers as manifested in their actions result in the buyers paying higher prices and the sellers receiving lower prices.

In Section II we present our alternative, praxeological analysis of tax incidence. Section III is devoted to a discussion of cost-push inflation and Section IV to an attempt at a reconciliation between our views and those of Rothbard. We conclude in Section V.

II. Tax Shifting

Rothbard (2004, pp.930-931) states:

> The most popular example of a tax supposedly shifted forward is the *general sales tax*. Surely, for example, if the government imposes a uniform 20-percent tax on all retail sales, and if we can make the simplifying assumption that the tax can be equally well enforced everywhere, then business will simply "pass on" the 20-percent increase in all prices to consumers. In fact, however, there is no way for prices to increase at all! As in the case of one particular industry, prices were previously set, or approximately so, at the points of maximum net revenue for the firms. **Stocks of goods or factors have not yet changed, and neither have demand schedules**. How then could prices rise? Moreover, if we look at the general array of prices, as is proper when dealing with a general sales tax, these are determined by the supply of and the demand for money, from the goods and money sides. For the general array of prices to rise, there must be either an increase in the supply of money, a decrease in the demand schedule for money, or both. Nothing in a general sales tax causes a change in either of these determinants.[44]
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> [44] It might be objected that the firms can pass along the sales tax because it is a *general* increase for all firms. Aside from the fact that no relevant general factor (i.e., supply, demand for money) has increased, **the individual firm is still concerned only with its individual demand curve, and these curves have not shifted**. A tax increase has done nothing to make a higher price *more profitable* than it was before. (Emphasis added.)

But there is a critical assumption involved in his analysis; to wit: the individual firm is still concerned only with the individual demand curves it faces, and these curves have not shifted. Now, certainly this applies to the first point made in Rothbard's fn. 44; that individual firms are concerned only with their own demand curves is, if not apodictically true, then true as a matter of fact. However, the second part, emphasized in the footnote, is neither apodictically true nor an empirical fact. Notice that Rothbard here is analyzing the market in terms of the *stocks* of various goods.[2] Therefore, we are out of the realm of standard supply and demand curves; rather, we are in sphere of stock curves and *total* demand curves. In this latter case, upward sloping supply curves are replaced by vertical, stock curves, and the standard downward-sloping, demand curve of the (potential) buyers is replaced by a downward-sloping, total-demand curve that is the standard buyers' demand curve augmented by the sellers' reservation demand curve.[3] That is, the quantity demanded at any price is the sum of the quantities that the buyers are willing and able to buy and the quantity of their stocks that the sellers are unwilling to sell at that price.[4] Therefore, when Rothbard says that each firm's "individual demand curve" has not shifted, he is either speaking of a period of time so short as to be irrelevant, or he is mistaken. The reason is that although the buyers' valuations of each particular good may not change precisely at the point in time that the sales tax is imposed, certainly the sellers, or at least the more astute among them, realize that they are not going to be able to shift the entire tax to their

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[2] Such analysis may not even apply to the case he is considering, "a general sales tax," as a general sales tax may include services in the tax base, and there is no way that services can form part of a "stock." http://www.eoionline.org/Taxes/TaxPolicy-RetailSalesToServices.htm

[3] See, for example, Rothbard (2004, p.148).

[4] Is it possible to justify the use of the vertical stock curve on the ground that the sale takes place in the present, or, to use the vernacular, in the instantaneous run? The argument here might be that with no time to effect changes based upon price, we are in effect dealing with a fixed stock. This must be rejected for several reasons. First, there is always reservation demand: The ostensible seller can always hold back a part of his stock if it will not fetch a price to his liking. Second, this "instantaneous" argument holds as well for the demand side. In the immediate short run, too, demand, necessarily, cannot change either. Or, to be more accurate, the effects of a very limited time period cut in precisely the same direction (and we have no reason to suppose that the strength of this effect would be any different) for *both* demand and supply.

customers and, therefore, treat some portion of the tax as an expense of doing business, in the same way they treat resource expenses. That is, their reservation demand increases, driving up the market price cum sales tax, i.e., the buyer has to pay more money per unit of the taxed goods. Of course at these higher "prices" the purchasers buy smaller quantities, and the sellers retain title to a larger amount of the stock than they would have sans tax. What the imposition of (or increase in a preexisting) sales tax does is increase the quantity of the stock retained. But this is precisely the same result arrived at using the standard analysis that such a tax, or an increase thereof, causes upward shifts in the neoclassical supply curves, resulting in a higher price cum tax and a smaller quantity exchanged. The extent to which the price cum tax increases depends on the amount of the tax that the sellers attempt to shift to the buyers, and the buyers' reactions thereto, i.e., in standard parlance, the elasticities of supply and demand.

When one realizes that in an otherwise free market, even if hampered by a sales tax, all sales are voluntary exchanges between buyers and sellers, there is no reason to think that the entire burden of governmental intervention in the form of driving a wedge between the amount of money paid by buyers and the amount received by sellers falls entirely on individuals in their roles as owners/suppliers of original factors and of capital, and not at all on them as consumers/buyers of goods and services. That is, reductions in an individuals' utility consequent upon the tax would depend strictly upon them in their roles as producers and not at all on them in their roles as consumers. *One logical implication, then, from Rothbard's position is that someone who consumes but does not produce is unaffected by the imposition of a general sales tax.*[5]

Perhaps the key insight is that the quantity of voluntary exchanges is reduced because of the government's taxation. When that happens both sellers *and* buyers are made worse off, the buyers because they have to pay a greater amount of money per unit of the relevant goods and receive fewer units, and the sellers because they receive a lesser amount of money per unit and sell fewer units.

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[5] This statement is true as it stands, in the short run. However, in the long run, after marginal businesses have failed due to the (additional) tax, Rothbard's analysis, too, agrees with our assessment that consumers who produce nothing still end up bearing part of this tax burden.

Another way to understand the situation is to consider what a price is, and what such a tax does to prices. A price is a quantity of money.[6] In an exchange sans sales tax there is but one price in any specific exchange, to wit, the amount of money given over by the buyer to the seller. However, in an exchange cum sales tax there are two prices: the amount of money paid by the buyer and the amount of money received by the seller, which amounts are necessarily different.[7]

This leads us to another drawback in taxes. In addition to the confiscation of resources/goods of which sales taxation (as any taxation) consists, it causes informational problems such that buyers receive signals that goods are more scarce; i.e., more valuable, than they "really" are and sellers receive signals that goods are less scarce; i.e., less valuable, than they "really" are. Here "really" means in accord with individuals' presumably unchanged values. It must be remembered that peoples' preferences as manifested in their actions are choices among perceived alternatives. Such choices are affected by two factors: an individual's subjective values and the alternatives he perceives as available to him. Government, by altering his alternatives, can affect his preferences, without in any way causing a change in his (underlying) values. Thus, in the case of imposition of a general sales tax, both the buyer and the seller find themselves facing a different set of alternatives than existed prior thereto. In that case, the behavior of both may be expected to change, in that they exchange a smaller quantity of the good. And, unless either or both have an unusual set of values manifested as perfectly elastic or inelastic responses, the price paid by the buyer will increase and that received by the seller will decrease.

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[6] "The money equivalents as used in acting and in economic calculation are money prices, i.e., exchange ratios between money and other goods and services. The prices are not measured in money; they consist in money. Prices are either prices of the past or expected prices of the future. A price is necessarily a historical fact either of the past or of the future. There is nothing in prices which permits one to liken them to the measurement of physical and chemical phenomena" (Mises, 1998, p.218).

[7] We do not dignify the amount received as taxes by the government with the term price.

III. Cost-Push Inflation

Although this can only be speculative, we now attempt to address the question of why Rothbard was led to think that the entire burden of a sales tax is borne by producers in the short run. Our tentative answer is that he was intent to reject the concept of cost-push inflation. This author wants to maintain that unions, oil sheiks, etc., cannot cause, increase, or exacerbate inflation. He (2004, pp.931-932) states: "The myth that a sales tax can be shifted forward is comparable to the myth that a general union-imposed wage increase can be shifted forward to higher prices for consumers, thereby 'causing inflation.' There is here no way that the general array of prices can rise…."

It is a staple of monetarist economics that without a monetary increase there can be no *general* price increase. From this, however, it would be a mistake to extrapolate that they (unions, oil sheiks) could not even raise prices in their own areas. Surely they can, if they change their reservation demands for leisure or oil. The view to the contrary "… necessarily implies that if the price of a factor of production changed dramatically, it would have *zero* effect on the final good which eventually encompasses it. For example, suppose that a bomb destroyed half the oil capacity of the world, ceteris paribus. Is there any doubt that gasoline prices, a final consumers' good, would rise? Or, posit that a frost ruins half of the entire orange crop? Can it really be doubted that the price of orange juice would catapult upward?" (Barnett and Block, 2005-2006, p. 206).

Government intervention in the economy changes the set of alternatives faced by both buyers and sellers, and therefore their actions. In the case of a general sales tax, it results in a broad-based, economy-wide upward revision in sellers' reservation prices, or what is the same, a broad-based, economy-wide reduction in the demand for money.[8] That is, at least insofar as a general increase in prices is concerned, all three of these phenomena – economy-wide increases in reservation demands or decreases in money demands, or an increase in the stock of money – can have this effect. Of course, the

[8] Although we use the term "the demand for money," what is really meant is "the demand*s* for money." For more on this, see Barnett and Block (2007, fn. 15) wherein the point is made that the owner of each good or service has a separate demand for money, and strictly speaking, these cannot be added since they have no common denominator.

former two are accompanied by reductions in the volume of exchanges, whereas the last is accompanied by an increase therein.

If everyone in the economy changes his reservation demand for his own possessions such that these items are now more highly valued, then there will be a *general* increase in prices. At first blush it seems difficult to reconcile this claim with monetarism, the view that what determines the price level is the amount of money in circulation. But any reasonable interpretation of this doctrine must takes into account more than merely the money stock. Surely, it also encompasses the subjective views of the market participants *toward* this selfsame money. And, this is similar to (subjective) alterations in reservation demands. So, if there were a significant change on the part of the populace in this manner it *would* impact the general level of prices, even given no change in the monetary stock.

But this is precisely, in effect, what is "accomplished" by a general sales tax. People act as if the stocks of goods and resources have decreased, thus boosting the price level. That is, although the *stocks* of goods have not decreased, they act as if they have by reducing the *supplies* (stocks less reservation demands) thereof. That is, like it or not, and we do not, "government services" are in effect *necessary* complements to everything to which the general sales tax applies; de jure, the sale of every such good involves a tied-in sale of "government services" that people are forced to buy along with the goods that are the object of the transaction. Thus, one must buy the joint product, and the joint product costs more than the product unadorned with government "services."

The only remaining issue is that of the use by government of the funds extracted by means of the sales tax. If it hoards the funds, there are no transactions in which a price would be paid and so there are no more price effects. Suppose, alternatively, that government spends the funds on goods to which the sales tax applies, but, as is to be expected, exempts itself from the tax. That would increase the demand for those goods, thereby raising their prices even more. The reason is as follows. There would now be four prices for each good, of which two would be identical: 1) the price paid by private sector buyers, 2) the price received by the sellers[9] from the private sector buyers, 3) the price paid by the government, and 4) the price received

[9] All sellers are assumed to be members of the private sector.

by the sellers from the government, with the latter two being identical. When discussing price inflation, it is the prices paid by buyers that are relevant, not those received by sellers.[10] We have already explained why the prices paid by the private sector buyers would increase. Whether or not the government had been buyers prior to the tax is irrelevant, as in any case the government's demand for the taxable-to-the-private-sector-but-not-to-the-government goods would increase, thereby causing their prices to increase. If then the prices paid for these goods by both the private sector buyers and by the government increase, then no matter how we average the prices paid by them to different sectors, the average, as well as each of the components, must increase.

IV. A Reconciliation?

Is it possible to reconcile our views with those of Rothbard? After all, Rothbard's analysis is correct at least insofar as he reaches the same conclusions, in the long run, as we do in the short run. The tax *does* get shifted, albeit not directly. In Rothbard's view, the shifting takes the indirect route of business failure. At the higher prices, some firms that otherwise would not have succumbed, go bankrupt. This shifts the supply (stock) curve to the left. With a lesser amount thus offered to the market, the price rises. Thus, there is a sort of indirect shifting, at least in part, of the tax incidence, forward, onto the consumer. In Rothbard's (2004, p.931, fn. 45) own words: "Resources can now shift only from work into idleness (or into barter). This, of course, may and probably will happen; since, as we

[10] The key reason that prices paid are commonly employed instead of prices received is that such prices are used to try to measure the "cost of living." It should be noted that regardless of whether we are concerned with prices paid by buyers or those received by sellers, Rothbard is incorrect. In the latter case a general sales tax would result in price deflation. The key is that such a tax creates two different prices for each good, i.e., it drives a wedge between the price paid and the price received. But regardless, such a tax affects people's actions in their roles *both* as producers *and* as consumers, remembering that leisure is a consumption good, and that this is true both in the short run as well as in the long run. Rothbard's assertion is that in the short run people are only affected in their role as producers, and thus the entire burden falls on them as producers in the form of lower prices received. As we have shown, the burden is also borne by them as consumers in the form of higher prices paid. For what it is worth, the BLS includes sales (and excise) taxes in its calculations of the CPI. http://www.bls.gov/cpi/cpifaq.htm#Question_10

shall see further, a sales tax is a tax on incomes, the rise [sic[11]] in opportunity cost of leisure may push some workers into idleness and thereby lower the quantity of goods produced. To this extent, prices *will* eventually rise, although hardly in the smooth, immediate, proportionate way of 'shifting.'"

Our answer is that no, it is not possible to effect this reconciliation. For one thing, there is no stock of services. While to be sure it is possible to draw a vertical line on a price quantity axis and coherently label this as a stock, this can only be justified if we have in mind something physical, i.e., fixed capital goods such as steel mills, or intermediate goods in process, or consumers' durables. It is difficult to see how this can be done, however, with regard to services. And yet it cannot be denied that these, too, are a necessary part of our analysis. Then, too, we still do not get out of the problem of pricing being a bidirectional phenomenon.

Nor can we reconcile our views with Marshall (1936). How does our analysis differ from that of the Marshallian scissors? Although both Marshall and we adhere to a subjective value theory of demand, he maintains an objective cost of production theory, whereas we cleave to the Austrian subjective cost theory (Barnett, 1989; Buchanan, 1969; Cordato, 1989; Mises, 1949; Rothbard, 1997). Thus Marshall's analysis is an illogical combination of subjective demand with objective cost, whereas ours is a consistent integration of subjective value theory on the part of both buyers and sellers.

V. Conclusion

Although there is to be sure some overlap between our viewpoint and that of Rothbard on tax shifting (we both agree that in the long run, all parties bear the incidence of taxation), we disagree regarding the short run, and, more importantly, the analytics each of us employ are incompatible with one another. We see causation in price determination as essentially a two way street. For Rothbard, the direction is all one way: from consumer goods back onto factors of production. All economists appreciate the role of labor time in production. Perhaps had Rothbard in his analysis of this incidence issue also taken into account the role of leisure in consumption, he might have drawn the same conclusions we have.

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[11] Rothbard obviously meant decrease or decline, or some such.

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