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A NOTE ON THE LIMITS TO MONOPOLY PRICING

Xavier Méra*

ABSTRACT: Ludwig von Mises and Murray Rothbard tended to emphasize the same requirement for a monopoly price to emerge, as far as the demand schedule for the monopolized good is concerned, in the long run and in the immediate run. This is problematic because, as this paper explains, their criterion of a seller or a cartel of sellers facing an "inelastic demand" above the "competitive price" (Mises) or the "free-market price" (Rothbard) is only required in the immediate run. This has consequences in regard to the question of the limits to monopoly pricing. The inelasticity of demand criterion of both authors left less room for monopoly prices in their theoretical constructs of a hampered market economy than there really is. If one wants to spare the bulk of consumers from the effects of factor misallocation, refraining from granting monopolistic privileges becomes even more urgent than what both authors suggested.

KEYWORDS: monopoly price, interventionism, elasticity of demand, economies of scale, perfect competition, monopolistic competition, price theory, Austrian microeconomics

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INTRODUCTION

Ludwig von Mises and Murray Rothbard tended to emphasize the same requirement for a monopoly price to emerge, as far as the demand schedule for the monopolized good is concerned, in the long run and in the "immediate run" (when the good is already available). This is problematic because, as I intend to explain below, their criterion of a seller or a cartel of sellers facing an "inelastic demand" above the "competitive price" (Mises) or the "free-market price" (Rothbard) is only required in the immediate run.[1]

This has consequences in regard to the question of the limits to monopoly pricing, a question that Rothbard (1962, pp. 680-681) briefly deals with in his "A World of Monopoly Prices?" section when he asks "Can all selling prices be monopoly prices?" and explains that assuming Misesian theory, "monopoly prices could not be established in more than approximately half of the economy's industries". He also provides insights outside of this section, which also have direct implications for that question. Most notably, he explains that the very concept of a monopoly price makes sense only as a byproduct of interventionism, arguably an improvement over Mises' theory. Nonetheless, Rothbard's take, as well as Mises', suffers from this issue of the inelastic demand criterion and related weaknesses that I intend to highlight and repair below.

I begin with a brief summary of Rothbard's view of monopoly prices as a hampered market phenomenon only. I interpret this modification of Mises' monopoly price theory in the following way: the limits to monopoly pricing are shown to be narrower than what Mises thought. In other words, there is less room for monopoly prices to emerge in a market economy than Rothbard's mentor considered.

Then I explain how, on the other hand, the ambiguous treatment of the inelasticity of demand criterion in Mises and Rothbard's analysis leaves less room for monopoly prices than there really is. Although in contrast the modern neoclassical theory's treatment of monopoly avoids the same ambiguity and its consequences, I show that the reason is accidental and that this should not be mistaken as a sign that it provides a superior alternative.

Finally, the main theory and policy implications of our findings are stressed: if there can be monopoly prices without inelastic demand schedules above free market prices, the price distortion potential of monopolistic privileges is more important than what Rothbard

1 The discussion below is an elaboration on remarks relative to that issue, which were confined to footnotes in Méra (2010).

envisages. It becomes then all the more urgent to refrain from granting them if one wants to spare the bulk of consumers from the effects of factor misallocation.

RE-THINKING THE LIMITS TO MONOPOLY PRICING: ROTHBARD'S CONTRIBUTION

In relation to Mises' exposition of monopoly price theory, Rothbard's central contribution is to show that the dichotomy between a competitive and a monopoly price is illusory in a free market framework. The movement from a competitive price to a monopoly price and the movement from a sub-competitive price to a competitive price are indistinguishable, for instance. The most fundamental reason is that the seller is in the same position *vis-à-vis* the demand schedule, whatever case one considers. All that we know based on Mises' praxeology is that, nonmonetary factors aside, the seller will try to obtain a price above which the demand schedule is elastic. This is true when he can obtain a monopoly price. But this is true as well as when he can only charge a competitive price. Otherwise, he would charge a higher price. In other words, both prices appear to be distinguishable only if one arbitrarily postulates that a certain price is competitive so that a higher price can be considered as a monopoly price if the seller can increase his monetary income or net revenue by selling the good at this higher price. Absent an independent criterion to conceive of this competitive price, the whole dichotomy fades away (Rothbard 1962, pp. 687-698). If one cannot distinguish between two things, they are essentially the same.[2]

On the contrary, there is an identifiable criterion providing the basis for such a distinction once one contrasts actions occurring in a free market framework with actions occurring while some potential sellers are excluded from the market under threats of or outright aggression. As Rothbard (1962, p. 904) puts it:

> We have seen above that on the free market, *every* demand curve to a firm is *elastic* above the free-market price; otherwise the firm would have an incentive to raise its

2 O'Driscoll (1982, pp. 190-191) argues that "a distinctively Austrian theory of monopoly remains to be written" and more specifically that "Murray Rothbard and Dominic Armentano, present a distinctive theory with roots deep in the history of economics and with strong affinity to the common-law treatment of monopoly. Their theory is not, however, the outcome or development of any particular Austrian insight." However one might argue that Rothbard's take is distinctly Austrian in its realization that the usual dichotomy of a competitive and a monopoly price in a free market is an anomaly in the context of Mengerian price theory (as developed by Mises). After all, Rothbard's point is that the competitive price benchmark in a free market cannot be derived from the fundamentals of action. As a consequence, it appears as a foreign element forced into the theoretical edifice.

> price and increase its revenue. But the grant of monopoly privilege renders the consumer demand curve less elastic, for the consumer is deprived of substitute products from other potential competitors. Whether this lowering of elasticity will be sufficient to make the demand curve to the firm *inelastic* (so that gross revenue will be greater at a price higher than the free market price) depends on the concrete historical data of the case and is not for economic analysis to determine.

In other words, one can conceive of a monopoly price, as compared to a free market price, because the demand schedules that remaining sellers face are altered. These sellers are then not in the same position *vis-à-vis* these demand schedules than they would be when anyone has the right to compete with them. They will then be able to charge a monopoly price if the demand schedules they now face, independently or together as a cartel, are inelastic above the free market price, which is only possible if the market demand schedule is inelastic above the free market price (Rothbard 1962, p. 674)[3].

Now, these simple yet profound insights mean the following, in relation to the question of the limits to monopoly pricing. If Mises and all the writers who have claimed that monopoly prices could arise in a free market framework have been mistaken here about their nature, they have underestimated the limits to monopoly pricing in society. Rothbard's contribution - recasting the theory of monopoly price as part of a theory of interventionism- implies the claim that the scope for monopoly prices is narrower than what Mises thought[4].

THE OVERLOOKED CASE OF MONOPOLY PRICES WITH ELASTIC DEMAND SCHEDULES

Even if one endorses Rothbard's contribution, one might nevertheless argue that there is more room for monopoly prices than he thought. To understand this, one must focus on some condition required for a monopoly price to emerge that both Rothbard and Mises have repeatedly stressed in their writings on the topic. The above quote displays this condition. The demand schedule that the holder of a monopolistic privilege faces must be such that above the free market price (or the competitive price, for Mises), one or several prices bring in more

3 If the grant of privilege is given to one seller only, then the demand schedule he now faces is the market demand schedule.

4 It was quite narrow already as compared to the views of some of Mises' predecessors (Salerno 2003, pp. 60-62). Indeed there was no doubt for Mises that government is by far the main source of monopoly prices (Mises 1949, p. 363).

revenue. This is the "inelasticity of demand" criterion. The implication is that monopoly pricing in society is limited to the extent that demand schedules are elastic in the relevant ranges. For Rothbard then, the less goods there are for which people are eager to increase their expenses on above their free market prices, the less room there is for monopoly pricing, no matter how effective the grants of privilege are at hampering competition.

There can be no quarrel with this as long as one takes an immediate run perspective in which the goods to be sold or withheld from the market are readily available. Matters are different however once one focuses on the production decision points, when people try to maximize net income and not necessarily gross income. Increasing one's net income by restricting one's production of a good is possible even if one faces an elastic demand schedule above the free market price, provided that one's average production expenses fall at a high enough pace (or rise slowly enough). All that is really required is that total expenses fall more than total income. The decisive consideration is not inelasticity of demand. If it remains of course a factor of emergence of monopoly prices, it is not a necessary criterion anymore. The limits to monopoly pricing are not as narrow as what Rothbard suggests.

MISES AND ROTHBARD'S CONFLATION OF THE IMMEDIATE RUN AND THE LONG RUN

Now the reader familiar with Mises and Rothbard's writings might ponder. These authors did not forget to take production expenses into account in their discussions of monopoly prices, did they? To be sure, they did not. The point is however that Mises (1944), Mises (1949) and Rothbard (1962) never explicitly recognize that the inelasticity of demand criterion needs to be qualified once production is taken into account. In these expositions, they tend to jump from an immediate run to a long run perspective and *vice versa* without saying so. As a consequence, inelasticity of demand for the product appears to be a required criterion even when the analysis focuses on the production decision point.

For instance, in the paragraph following the above quote, Rothbard (1962, p. 904) mentions the restriction on production and the inelasticity criterion in the same breath, as if maximizing gross income still was the relevant consideration for the monopolist at the production decision point:

> When the demand curve to the firm remains elastic (so that gross revenue will be lower at a higher-than-free-market price), the monopolist will not reap any *monopoly gain* from his grant. Consumers and competitors will still be injured because their

> trade is prevented, but the monopolist will not gain, because his price and income will be no higher than before. On the other hand, if his demand curve is inelastic, then he institutes a monopoly price so as to maximize his revenue. His production has to be restricted in order to command the higher price. The restriction of production and higher price for the product both injure the consumers.

Here the restriction of production comes as an afterthought, once one has considered which price would maximize gross income. Or, earlier, Rothbard (1962, p. 672) introduces the theory of monopoly price by quoting a passage of *Human Action* in which Mises focuses on the production decision point:

> If conditions are such that the monopolist can secure higher net proceeds by selling a smaller quantity of his product at a higher price than by selling a greater quantity of his supply at a lower price, there emerges a *monopoly price* higher than the potential market price would have been in the absence of monopoly

This is compatible with an elastic demand. And yet, Rothbard immediately adds, as if it was no different:

> The monopoly price doctrine may be summed up as follows: A certain quantity of a good, when produced and sold, yields a *competitive price* on the market. A monopolist or a cartel of firms can, if *the demand curve is inelastic at the competitive-price point,* restrict sales and raise the price, to arrive at the point of maximum returns. If, on the other hand, the demand curve as it presents itself to the monopolist or cartel is *elastic* at the competitive-price point, the monopolist will not restrict sales to attain a higher price. [Emphasis in the original] [5]

5 It is not without justification then, that Armentano's summary of Rothbard's position conflates the immediate run and the long run: "It has been common, of course, to speak of monopoly price as that price accomplished when output is restricted under conditions of inelastic demand, thus increasing the net income of the supplier." (Armentano 1978, p. 103). See also Armentano (1999, p. 48) and Armentano (1988, p. 8). See also Costea (2003, pp. 47-48) and Costea (2006, p. 45) describing Mises' position in the same way.

Similarly, in *Human Action*, the required condition of the inelastic demand for a monopoly price to emerge is defended, and then production considerations are added with no qualification of the criterion. The initial requirement reads as follows:

> The reaction of the buying public to the rise in prices beyond the potential competitive price, the fall in demand, is not such-as to render the proceeds resulting from total sales at any price exceeding the competitive price smaller than total proceeds resulting from total sales at the competitive price. (Mises 1949, p. 355)

Then he starts discussing the problem of resource allocation and production expenses. As a consequence, "net proceeds" (Mises 1949, pp. 357, 358, 359, 374) now become the relevant consideration, as they should. And yet, no mention is made of the fact that the previously stated requirement is not strictly valid anymore when he later refers to a "propitious configuration of demand" (Mises 1949, p. 370).

In Mises (1944), the same ambiguity is to be found in an even more pronounced way because Mises shifts back and forth from the immediate run to the long run perspective. First, Mises (1944, p. 2) posits the inelasticity of demand criterion with a numerical example. Given an existing stock of a good, the monopolist does not restrict his sales because demand is such that the total proceeds diminish at any higher price than the competitive one: "If a rise of the price above the competitive price results in a more-than-proportional restriction of the quantity bought by the public, the total proceeds of the seller would drop." In the next paragraph, he switches to the long run perspective by considering the problem of the allocation of factors and then explains that,

> …if some special barriers prevent other people from competing with the monopolistic sellers, a restriction of the production of copper or shoes that does not comply with the demands of the consumers becomes possible. Although the consumers are ready to pay for additional quantities of copper or shoes at prices which would render an expansion of production profitable on a competitive market, the sellers, sheltered by monopoly, do not expand production if they are better off under a state of affairs which results in a higher income for them with curtailment of production. (Mises 1944, p. 2)

Notice how Mises speaks here of mere "income" and not "net proceeds", despite the fact that he is considering the production decision point. And on the next page, he comes back to the immediate run inelasticity of demand requirement. Both the immediate and long run perspectives are in effect conflated[6]. As one consequently fails to consider the case of a monopoly price with an elastic demand schedule, one narrows the limits to monopoly pricing too much (beyond Rothbard's reduction to cases of interventions).

Surprisingly enough, given the evidence of conflation that we have shown, it turns out that in one instance Mises has implicitly considered the case of a monopoly price with an elastic demand. Mises (1944, p. 7) draws a table with hypothetical figures showing slightly decreasing average expenses as production expands. There are four prices considered, 5, 6, 7 and 8 monetary units per unit of product and a higher price always implies lower proceeds: the demand is elastic on whatever range we consider above 5, which Mises declares to be the competitive price. According to the inelasticity criterion, there is therefore no room for a monopoly price. But Mises writes that "the monopoly price most favorable to the monopolist is 7" (6, 7 and 8 are monopoly prices)! The reason of course is that, given the figures he chooses, the expenses required diminish more than the proceeds when one reduces the scale of production. Nevertheless, he does not mention explicitly that this is a case of a monopoly price with an elastic demand while, as shown above, he conflates the relevant required criteria for the immediate and the long run perspectives in the same article.

Rothbard too implicitly recognizes the case of a monopoly price with an elastic demand somewhere. In *Power & Market*, he reproduces an extract from *Man, Economy, and State* which claimed that an inelastic demand schedule is required for a monopoly price to arise. It is repeated word for word except for one added qualification: "The monopolist, as a receiver of a monopoly privilege, will be able to achieve a monopoly price for the product if his demand curve is inelastic, *or sufficiently less elastic*, above the free-market price" (Rothbard 1970, p. 44, emphasis added). Inelasticity is not a necessary requirement anymore. He does

6 Klein (2008, p. 177) has noticed that in his general discussion of price determination, "Rothbard (1962) is somewhat imprecise in distinguishing among equilibrium constructs." We might add that this is true of Mises too, at least in the context of monopoly price theory, as illustrated above. On the distinctions between a "plain state of rest" (PSR), a "final state of rest" (FSR), the intermediate "Wicksteedian state of rest" (WSR) coined by Salerno (1994), and an "evenly rotating economy", as a complete set of precise equilibrium constructs, see Klein (2008, pp. 172-183). Rothbard's "immediate run" (PSR) and "long run" equilibriums (FSR) that we have been using here are sufficient for our present purpose however. It does not fundamentally alter Rothbard's discussion and our analysis here if one interprets them in terms of WSR and FSR instead, since the PSR and the WSR are both about decisions to be made regarding some already produced goods.

not explain the addition of the "sufficiently less elastic" criterion but one can certainly see that it makes perfect sense, in light of Mises' example above and our comments.

To avoid conflation, one can explicitly refer to the two decisions points and thereby disentangle the two required criteria. Kirzner's exposition comes closer to this than Mises' and Rothbard's (Kirzner 1963, pp. 265-296) and is arguably superior in this regard. Another is to call the immediate run and the long run monopoly prices differently. This is, as Salerno (2003, p. 31) notices, what Fetter (1915, pp. 80-81) does, writing of a "crude monopoly price" when the sale of an already produced stock of a good is considered, and of a mere "monopoly price" for a good when its production is considered. Then it can be more easily grasped that a crude monopoly price requires an inelastic demand schedule above the free market price, whereas a mere monopoly price does not.

THE TROUBLE WITH ROTHBARD'S FALLING COSTS *PROVISO*

The lack of a clear-cut explicit distinction in Mises and Rothbard's analysis between the immediate run and the long run can lead to some further confusion. If one ignores the case of a monopoly price with an elastic demand, it is difficult to make sense of Rothbard's *proviso*, according to which a monopoly price will arise when one is striving for maximum net proceeds, "whatever the actual configuration of money costs, unless, indeed, average money costs are falling rapidly enough in this region to make the "competitive point" the most remunerative after all" (Rothbard 1962, p.674).

The reason is the following. For the "competitive point"[7] to yield a higher net return than the restrictive alternative with an inelastic demand, it would be necessary that expenses fall in absolute terms when one increases production, not merely on average, since gross income falls when one expands until the free market point (by definition of the inelasticity of the relevant range of the demand schedule). But this is impossible, according to Rothbard. Average expenses might fall when production is increased, because of the indivisibility of one or several factors of production. Total expenses cannot however, for at least an additional

7 Rothbard speaks of a competitive point instead of a "free market point" because the context is his discussion of Mises' theory. The reader should not let himself be confused by this. This discussion is relevant in Rothbard's framework once the theory is fixed and depicts how a monopoly price actually contrasts with a free market price instead of a "competitive" price. As Rothbard (1962, p. 903) puts it in his chapter on interventionism and socialism: "In chapter 10 we buried the theory of monopoly price; we must now resurrect it. The theory of monopoly price, as developed there, is illusory when applied to the free market, but it applies fully in the case of monopoly and quasi-monopoly grants."

amount of divisible factors must be bought. And "as any firm's scale of output increases, it necessarily bids factors of production away from other firms, raising their prices in the process." (Rothbard 1962, p. 593)"[8]. If the producer-seller will face an inelastic demand for his product in the future, restriction must pay whatever the configuration of expenses is. On Rothbard's own grounds then, the *proviso* is unwarranted.

However, the *proviso* makes more sense once one recognizes the possibility of a monopoly price with an elastic demand schedule, since here an impossible decrease of total expenses, as one expands production, is not required for the free market point to be the most remunerative. For in that case, gross income rises as one expands until the free market point (by definition of the elasticity of the relevant range of the demand schedule). As long as total expenses rise at a slower pace, expansion is profitable. And the slower the rise or the sharper the fall in average expenses is in the relevant range, the more likely it is that total expenses rise at a slower pace than gross income and make the free market point the most remunerative. Rothbard is right then that falling average money costs can put some limit to monopoly pricing, but this possibility arises here only when the demand schedule is elastic above the free market price.

THE CURRENT TEXTBOOK TREATMENT AS A SUPERIOR ALTERNATIVE?

It could be argued that the orthodox take on monopoly as found in Arnold (pp. 223-258) or any microeconomics textbook is superior to Mises and Rothbard's in at least one respect: there is no risk of the sort of conflation we have pointed out here because there is no immediate run analysis to conflate with a long run perspective in its treatment of the issue. In that "neoclassical" approach, the sellers are producers too, even in the short run. There is no question of what to do with an available stock of a good. There is no reason then for inelasticity of demand to be a distinguishing criterion since monetary profit maximization - and therefore money costs- are relevant considerations in all cases.

Apart from the fact that getting rid of the immediate run is *per se* problematic since the useful and realistic concept of a crude monopoly price consequently disappears from the

[8] This holds strictly true with a given amount of factors available. In the long run, their prices might fall if the production of those factors is itself subject to economies of scale. However, that would hardly translate into lower total expenses. For if it really was cheaper to buy more factors than less, that higher quantity would be bought and underutilized at the lower scale of production. In the most extreme conceivable case then, a higher production of the good under consideration would require the same total expense on factors, not a lower expense.

picture, the most fundamental reason why inelasticity has no decisive role in that approach is that it is based on different categories than the older monopoly price theory revived by Mises. As Caplan (1997) puts it, in modern neoclassical theory,

> there is always some degree of monopolistic distortion unless firms face a horizontal demand curve. For unless firms face a horizontal demand curve, a profit-maximizing firm sets its price above its marginal cost. In the absence of perfect price discrimination, this means that there is a "deadweight loss" – or unrealized gains to trade."

In other words, the fundamental distinction here is between "pure and perfect competition" with perfectly elastic demand schedules and "imperfect" or "monopolistic competition" with downward sloping demand curves ("monopoly" being the extreme case in which only one seller would face the market demand schedule).

Turning toward this approach as an apparently more rigorous alternative brings in its whole theoretical apparatus with its weaknesses that Mises and Rothbard have identified. For although Caplan (1997) claims that he affords "all too little attention to the modern neoclassical theory", Rothbard (1962, pp. 720-722) actually demonstrates that perfect elasticity is impossible since it is not compatible with the always holding law of marginal utility. As a consequence downward sloping demand curves for individual sellers and the corresponding "failure" to equate price and marginal cost are no signs of monopolistic distortion but are normal phenomena instead.

It should be kept in mind that the older monopoly price theory does not depend on the benchmark of "pure and perfect competition", which explains why Mises and Rothbard found something of value in it whereas they entirely dismissed the newer view (Mises 1949, pp. 356-357; Rothbard 1962, pp. 720-738).

CONCLUSION: THEORY AND POLICY

Is there more to say about the maximum limits to monopoly pricing than the fact that in the immediate run, elastic demand schedules deprive monopolistic privilege holders of opportunities to charge "crude" monopoly prices? Or that demand schedules which are too elastic in relation to average production expenses deprive monopolistic privilege holders of opportunities to charge monopoly prices for their products? According to Rothbard (1962, p.

681), in the aforementioned "A World of Monopoly Prices?" section of *Man, Economy, and State*, "monopoly prices could not be established in more than approximately half of the economy's industries", among other reasons because it is impossible for every industry to face an inelastic demand schedule since buyers cannot spend more in every industry.

Now, as explained above, the inelasticity of demand criterion is only required in the immediate run perspective of deciding what to do with an available stock of a good. As a consequence, if at most half of the economy's industries could face inelastic demands above their free market prices, there could still be other monopolized industries able to charge monopoly prices provided that their total expenses fall at a rapid enough pace when they reduce production. More than half of an economy's industries might then charge monopoly prices. The limits to monopoly pricing are then larger when one focuses on the production decision points. In light of our explanations, Rothbard's neglect of this insight is attributable to his and Mises's tendency to conflate the immediate and long run perspectives in their expositions.

The implications are straightforward. As far as pure theory is concerned, Rothbard underestimated the impact of granting monopoly privileges on price formation. If monopoly prices can arise without inelastic demand schedules, factor allocation is correspondingly altered to the detriment of the bulk of consumers, beyond the already recognized alteration occurring under the condition of inelastic demand schedules. As far as policy is concerned, it becomes all the more urgent to abolish monopoly privileges, or to refrain from enacting them in the first place, if one wants to minimize factor misallocation.

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