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FACTOR PRICES UNDER MONOPOLY FOR THEIR PRODUCTS

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I. INTRODUCTION

In his chapter in *Human Action* on work and wages, Ludwig von Mises claims that no theory of a “monopoly of demand” can successfully prove that workers could be permanently paid below their marginal value productivity (discounted by ordinary interest) in the free market. Since he focuses mainly on a defense of the free market, he does not go into much detail regarding this possibility in a hampered market economy. However, in the course of refuting the free market monopoly of demand theory, Mises (1998, pp 591-92) writes:

[entrepreneurs] are under the necessity of acquiring all factors of production at the cheapest price. But if in the pursuit of this endeavor some entrepreneurs, certain groups of entrepreneurs, or all entrepreneurs offer prices or wage rates which are too low, i.e., do not agree with the state of the unhampered market, they will succeed in acquiring what they want to acquire *only if entrance into the ranks of entrepreneurship is blocked through institutional barriers*. If the emergence of new entrepreneurs or the expansion of the activities of already operating entrepreneurs is not prevented, any drop in the prices of factors of production not consonant with the structure of the market must open new chances for the earning of profits. There will be people eager to take advantage of the margin between the prevailing wage rate and the marginal productivity of labor. Their demand for labor will bring wage rates back to the height conditioned by labor’s marginal productivity. The tacit combination among the employers to which Adam Smith referred, even if it existed, could not lower wages below the competitive market rate *unless access to entrepreneurship required not only brains and capital (the latter always available to enterprises promising the highest returns), but in addition also an institutional title, a patent, or a license, reserved to a class of privileged people*. [emphasis added]

Only privileges can hamper the bidding process that tends to equate discounted marginal productivity of factors with their prices. One can certainly say that this is what Mises considers as a necessary condition. But what other contingencies could bring such an outcome? What are the sufficient conditions? For Mises (1998, p. 593)

The employers would be in a position enabling them to lower wage rates by concerted action *only if they were to monopolize a factor indispensable for every kind of production and to restrict the employment of this factor in a monopolistic way*. As there is no single material factor indispensable for every kind of production, they would have *to monopolize all material factors of production. This condition would be present only in a socialist community*, in which there is neither a market nor prices and wage rates¹. [emphasis added]

However, Mises does not further explore the conceivable intermediate situations between a pure free market and pure socialism² regarding the possibility of an overall downward pressure on labor factors' prices (or land factors prices for that matter) under their free market levels. In Mises and Murray Rothbard's analysis of interventionism, land and labor factors typically find themselves on both sides of the distributive process implied in interventions, among the winners and the losers³. Notwithstanding, I want to show in this paper that at least one kind of intervention can make

¹ See also Rothbard (2004, pp. 717-18)

² "Socialism" is to be understood here in the sense Mises uses, as a society in which means of production are state-owned, and does not necessarily imply any kind of egalitarianism.

³ This is obviously true for the taxation and public spending process. Cf. Rothbard (2004 pp. 1152-53) for example. One could also consider the classic case of a maximum price control for a product. If it is effective, would-be buyers at the control price will have to face a shortage. What does this imply regarding factor pricing? The profitable production level is lower than without price control. If entrepreneurs correctly anticipate this, their demand schedules for factors will be lower in this industry. However, this does not automatically translate into lower prices for these factors. The frustrated demand for the product will be reshuffled elsewhere. Specific factors in the expanding sectors will certainly see their prices rise as a consequence, as well as some non-specific factors. Furthermore, depending on the cases, the factors displaced from the controlled sector may not earn less elsewhere if they can be employed in the industries where demand is reshuffled since their discounted marginal value productivity schedules will increase there.

workers and landowners gather on the side of losers while (some of) their employers would be beneficiaries of the distributive effect involved. I want to show that monopolistic grants of privileges to capitalists, insofar as they allow monopoly prices to emerge for their products, also bring about an overall relative lowering of prices for original factors, in particular labor factors (in other words, that there is no need for employers to “monopolize all factors of production” to bring about such an outcome). And I want to explain how this conclusion can be viewed as an implication of Rothbard's own work on monopoly price theory, an implication that Mises touches upon in the quote above when he stresses that the bidding process for factors can be hampered because of monopolistic grants of privilege.

In order to do so, I will first recall the basic tenets of Rothbardian monopoly theory. They will be taken for granted for the purpose of this paper. Then I will draw the implications regarding the impact of monopolistic grants on factor prices.

II. ROTHBARD'S THEORY OF MONOPOLY PRICE

The basic features of Rothbard's monopoly price theory⁴ can be summarized as follows (Rothbard 2004, pp. 661-704 and pp. 1089-1093). First, one or more persons must of course hold a “monopoly”. A monopoly is here understood as an “institution or allowance by the king, by his grant, commission, or otherwise... to any person or persons, bodies politic or corporate, for the *sole* buying, selling, making, working, or using of anything, whereby any person or persons, bodies politic or corporate, are sought to be restrained of any freedom or liberty that they had before, or hindered in their lawful trade”, in the words of seventeenth century lawyer Lord Coke⁵. However, in Rothbard's view, a monopoly simply implies that competition is hampered through violence or

⁴ This theory is a modified version of Mises' views on the topic. See Mises (1998a, pp. 354-85) and Mises (1998b). Whatever the versions considered, they must not be confused with the view on monopoly that one can find in most textbooks these days. The standard textbook view on monopoly is actually a special case of a different and more general theory, namely the so called theory of “monopolistic competition”.

⁵ Quoted in Rothbard (2004, pp. 668-69).

the threat thereof. It does not necessarily have to be an outright grant of monopoly to one firm by the state. Therefore, private Mafia-like threats of aggression⁶ against any would-be competitor as well as governmentally enforced cartels, licenses, compulsory quality standards, tariffs, patents, environmental regulations or any law, decree or tax penalizing any form of market organization will do (Rothbard 2004, pp. 1092-93).

Though Rothbard refers to a definition of monopoly that includes monopoly of buying, his focus is on monopoly of selling, which brings us to the second requirement. Preferences of people have to be such that at one or several prices higher than the free market price for a good, the market demand for this good brings more monetary income to its sellers, even if the quantity that buyers are eager to get is reduced because of the law of marginal utility.

Third, if there is only one seller or if sellers can find an agreement to centralize their decision process and act as one, they are in a position to profit from this so-called “inelasticity” of demand above the free market price by restricting their supply of the product and sell it at a higher price called a “monopoly price”⁷. Their interest is of course to sell it at the price which maximizes their monetary income⁸.

⁶ Aggression is understood here as uninvited border-crossing on someone's property acquired through the first user-first owner rule and subsequent voluntary exchanges and gifts. On the nature of property and aggression, see Rothbard (2004, pp. 84-102 and pp.169-75)

⁷ Mises (1998a, p. 359) explains that this can be the case even when all the sellers do not act as one, provided the entente owns a significant enough part of the supply. This is the “incomplete monopoly”. Another condition is that the monopolist is not in a position or not willing to discriminate among the buyers. One could add that an explicit agreement may not be necessary. All that is really indispensable once the stock has been produced is that the demand schedules to individual sellers become inelastic as a consequence of monopolistic restrictions.

⁸ For Mises, as for almost all authors who wrote on this topic, one can conceive of a monopoly price that would be distinct from a “competitive” price in the free market. In other words, the first requirement we mentioned above would not be necessary and the monopoly price theory would not be a theory of interventionism. Only inelasticity of demand and collusion would be required. The reason why Rothbard (2004, pp. 687-98) thinks the theory can be valid only in the context of a market hampered by state intervention or private coercion can be summarized as follows.

Let us postulate a purely free market society unhampered by coercion. An investor considers where to invest his money. Let us assume he finds himself as the sole seller of the kind of good he decides to produce. We are in the presence of a monopoly in the sense of a unique seller of a good but we know from Mises' theory that this is not a sufficient condition to have a monopoly price. The question is then: does he get a monopoly price or a competitive price? Rothbard's answer is definitive: whatever possibility we consider, competitive or monopoly price, the seller chooses to offer the quantity that he can sell at a point above which the demand is “elastic.” There is no higher price allowing further total revenue, which means that both situations are impossible to differentiate as the seller is in the same position *vis-à-vis* demand. If no difference is identifiable between two things, not only practically but even in principle, no conceptual distinction holds between the two. Therefore, in a free market there cannot be any

One can immediately notice here that there is no consideration of monetary expenses involved for the seller, no factor prices to worry about. This is perfectly legitimate of course. Since Carl Menger, Austrians are known to put some particular emphasis on the everyday real world pricing process, while the long run equilibrium constructs are thought of as an auxiliary tool of analysis⁹. Therefore, the theory can focus on the price of an already produced stock. Since past costs involved in the production decisions are forever gone, they are not relevant to the determination of price for this existing stock¹⁰. However, we are interested here in what happens at the production decision point, when entrepreneurs strive for the maximum net returns on their investments. This does not make a big difference for the theory of monopoly price, as far as Rothbard is concerned. The demand for the product must be anticipated and production adjusted accordingly¹¹. And a higher income for a lower supply sold must be produced with lower use of factors, with lower expenses that is, so that one can be sure net returns are higher thanks to the restriction¹²⁻¹³.

competitive or monopoly prices. There are only free market prices.

For a defense and elaboration of Mises' view, see Kirzner (1973, pp. 19-23, and pp. 88-134). For a defense and elaborations of Rothbard's views, see Armentano (1988), Armentano (1999, pp. 47-50), Block (1977), Costea (2003), and Hoppe (1989, pp. 167-86).

⁹ See on this Salerno (2003) with particular application to monopoly price theory and its development.

¹⁰ Monopoly price theory can conceivably apply to some labor factors too. In that case, there would be no question of past costs in their production. However, we focus here on goods produced with the help of previously produced production factors and original factors, in a traditional capitalist firm. Capitalists rent labor and other factors (or buy other factors) in advance of the sale of the product, in exchange for their productive services in the meantime.

¹¹ There is no reason why the expectations of entrepreneurs should necessarily be successful or erroneous. However, this is always true, with or without monopoly, since success and errors are ever present possibilities of action. See on equilibration and arbitrage Hülsmann (2000, pp. 16-17). This is why we do not mention as a special requirement for the emergence of monopoly price Mises' idea of a "monopolist's ability to discover such prices", and Rothbard does not mention it anyway. There is nothing special about the monopolist trying to figure out what will be the demand for its product. Every producer-future seller has to do that, can succeed or fail and accordingly reaps profits or suffers losses.

¹² According to Rothbard (2004, p. 674, footnote 39) this holds true unless average expenses decrease enough in the relevant range of the scale of production to make the free market level of production and free market price more attractive. This proviso is highly problematic. If it was true, it would mean that the producer would deliberately sell at a price above which the demand is inelastic, a point at which total income from the sale would be lower. Therefore, in order for this point to be the most remunerative, average expenses would have to fall so much as to make total expenses diminish even more than total income. Now no actor would deliberately operate in such a region. Furthermore, even if he was choosing to produce the free market quantity, it would still not make sense to sell the entire stock while he can have a higher total income with a higher than competitive price by restricting sales.

¹³ Both Rothbard and Mises have repeatedly insisted on inelasticity of demand as a necessary requirement for a monopoly price to emerge. However, it is clear from the section on the role of increasing and decreasing average spending in Mises (1998b, pp. 6-7), that inelasticity of demand is not a necessary criterion. Mises draws a table with hypothetical figures showing increasing average expenses. There are four prices considered, 5, 6, 7 and 8 monetary

Rothbard is not very explicit regarding factor pricing under monopolistic conditions. True, he stresses that monopoly price must be understood as a catallactic phenomenon and, as such, a phenomenon which is not independent from the general pricing and resource allocation process. However, though he explains as well that the implied restriction of production releases factors for other uses and allows an expansion in other fields of production, he does not provide us with a thorough explanation of the impact on prices for factors and, as a consequence, on net income distribution among original production factors and capitalists¹⁴. The only clear-cut welfare implications he stresses are centered on people as consumers. Monopoly price implies that consumers are hurt because of the higher price they have to pay for a lower available supply of the monopolized good and because of the corresponding misallocation of factors in the economy. As far as distributive effects on incomes are concerned, Rothbard only stresses the monopoly gain accruing to the holder of the privilege. And this additional net income seems to be entirely “extracted” from people as consumers, so to speak.

units per unit of product and a higher price always implies lower proceeds: the demand is elastic on whatever range we consider. Mises decides 5 is 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& 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. See also Vernon Mund (1933, pp. 130-32) on the role of increasing and decreasing average expenses for production.

Rothbard claimed in *Power and Market* that “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 2004, p. 1090) while he omitted the “sufficiently less elastic” condition in an otherwise similarly worded passage in his previously published *Man, Economy, and State* (Rothbard 2004, p. 904). He did not explain the addition in *Power and Market* but one can certainly see that it makes perfect sense and why, in light of Mises' example above.

It should be noticed too that in the original exposition of monopoly price theory, Menger does not claim that demand should necessarily be inelastic above the competitive price for a monopoly price to emerge though the numerical example he gives focuses only on demand for the product and therefore requires inelasticity of demand. Instead, he briefly mentions production as a part of the general problem and states in this context that the relevant consideration is the “maximum profit” for the monopolist, not the highest proceeds, and that the monopolist restricts the supply produced and sold in so far as his “profits” are positively affected by such a restriction (Menger 1994, pp. 211-16). This is perfectly compatible with elasticity of demand provided average expenses fall enough when production is restricted. Confusion can be easily avoided with the help of Frank Fetter's distinction between a “crude monopoly price” and a “monopoly price”. See Fetter (1915, pp. 80-84). The crude monopoly price yields the maximum gross receipts given an already produced stock and therefore requires an inelastic demand. The monopoly price yields the maximum net benefit and therefore does not require inelasticity.

¹⁴ Rothbard (2004, p. 1091) mentions that the released factors will earn less in other occupations, with no further explanation. Presumably, this is because it is obvious that their supply schedules will rise in these occupations. However, for a proper assessment, one also needs to inquire about the impact of the monopolistic grant on the demand for these factors in these other occupations.

III. IMPLICATIONS FOR FACTOR PRICING

The key elements to understanding the factors' side of the monopolistic price issue are the following. First, when coercion bars some existing or would-be capitalists to sell a product, this *ipso facto* bars them from renting or buying the factors required in its production, and vice versa. In other words, we do not only have here a “monopoly of supply” for the product, but also a “monopoly of demand” for its factors such as the one suggested by Mises above¹⁵. These are the two sides of the same coin. Friedrich von Wieser (1927, p. 219) hinted at this when he wrote that

The demand-monopoly is at all times accompanied by a monopoly of supply. Thus, for example, the state in its tobacco-monopoly combines the two institutions. The administration of the monopoly does not admit in the home-market, other purchasers of raw tobacco; it combines with a monopoly of the supply of tobacco-products, which affects the consumers, a demand-monopoly, affecting the domestic tobacco growers. *A further illustration is found in the actual demand-monopoly of a sugar-combine by virtue of its monopoly of supply.* In this case, no other concern can make use of the sugar beets, and hence no other concern is likely to demand them.¹⁶ [emphasis added]

That monopoly of demand for factors is a counterpart of monopoly of supply for its product implies a downward pressure on factor prices in the monopolized sector, as we will see. Second, when a monopolist takes advantage of an inelastic demand for the good it sells, this implies lower spending from its buyers on other goods (Rothbard 2004, pp. 280-88) and a downward pressure on prices for

¹⁵ See Mises' first quote on page 1.

¹⁶ Wieser does not draw on this to build the integrated and unified theory of monopoly with demand-monopoly and supply-monopoly as two sides of the same coin that we propose, but he certainly enters the path toward this integration. One must realize that Wieser's point is praxeological and can therefore be considered as a part of pure economic theory, provided that one keeps in mind Rothbard's caveat that it applies only to coercive interventions in the market.

their factors. Overall, the pressure on factor prices coming from inside and outside of the monopolized sector should therefore be downward. Let us go back then to the monopoly price theory as held by Rothbard and elaborate its mirror-image in the markets for factors of production with the help of these two insights. The first sheds some light on the “microeconomic” picture of the monopolized sector, the second on the “macroeconomic” picture with all sectors considered.

a. The microeconomic picture: Focus on the monopolized sector

In the free market, original factors earn their full discounted marginal productivity (DMVP) when entrepreneurs make no mistakes. They earn more or less than their DMVP when entrepreneurs make erroneous forecasts, more or less depending on how “overpriced” or “underpriced” factors are. In any case, they command a free market price resulting from peaceful association. What happens when a grant of privilege to an entrepreneur-capitalist (or group of capitalists) is introduced? In a position to profit from a coercion-distorted demand schedule for his (or their) product, he (or they) will require and want fewer units of divisible factors than the total amount hired under free market conditions. Entrepreneurs who would otherwise rent the other units in this industry are not allowed to do so and they will have to go elsewhere. So what about the price of the remaining units of a divisible factor?

Granted, since the monopolists will employ fewer units, the discounted marginal value productivity of the factor will accordingly be higher in this use. The remaining units could then be employed profitably at an even higher price than the free market price. But the monopolist is certainly able to pay less than his maximum buying price for the restricted quantity of factors. Would he still have to pay the free market price? Each remaining unit of these lower supplies would be rented at the free market price if the supply schedules for these factors in this use were purely elastic and were not shifting. But they can only be purely elastic if they are non-specific to this

process and if we are in the neoclassical land of “pure and perfect competition.”

But as Rothbard (2004, p. 721) explained in regard to the elasticity of demand for the products of a seller, the total supply offered to the market is the addition of each seller's contribution. As a consequence, a seller adding to the supply, even a very small quantity, implies that the new total cannot be sold at the same price but at a lower price because of the law of marginal utility. There is no question that an individual firm could push or restrict its production without any impact on its price. The pure and perfect competition situation is not even a possibility among several cases. It is strictly impossible. No demand for the product of an individual seller can ever be perfectly elastic. The same goes for the supply of factors as well (Rothbard 2004, p. 718). Supply schedules are subject to the law of marginal utility too. Therefore no individual or market supply schedule can ever be perfectly elastic.

Since the supply of factors in each of their uses will necessarily be less than purely elastic, the monopolist may be able to pay the factors he uses at a lower price than the free market price in the absence of entrepreneurs who could otherwise bid them away in this industry up to the free market level^{17,18}. And the monopolist can pay them less because there is nothing implied in the

¹⁷ One could object with Fritz Machlup (1967, p. 40) to the idea of monopoly of supply for products implying monopoly of demand or “monopsony” for their factors that someone might be the sole seller of a good and be one among many buyers of the factors required in its production. However, Machlup's stricture that “there is nothing in the logic of things or in the reality of economic conditions that necessarily makes a monopolist also a monopsonist” would not follow. Machlup's point is explicitly dependent on the neo-classical framework of “pure and perfect competition”. Starting from there, imperfect competition in the product's market can conceivably be introduced while pure and perfect competition would still prevail in the factors' markets. Being a monopolist in the market for the product would not alter one's position as a “price-taker” as far as factor prices are concerned. However, once we recognize with Rothbard that pure and perfect competition and the “logic of things” are incompatible -in other words that pure and perfect competition cannot exist and that there can never be any pure price-taker in the real world- the idea of an independence of a capitalist's position as a seller and his position as a buyer vanishes. Furthermore, even in the neo-classical framework, the situation is not as clear as Machlup suggests. Since the monopolist's demand for a factor is supposed to diminish, the total demand for the factor is lowered and its market price lowered as the new total demand meets the total supply schedule at a lower price. Then each firm competing for the use of this factor in different uses must still face a perfectly elastic supply schedule but this schedule has shifted. See on this Bellante and Jackson (1983, p. 189).

¹⁸ Saying that the restriction on buying allows the price to fall does not imply that this lower price is a monopoly or “monopsony” price. In the market for the product, price could rise because of a restriction on sales (a “monopoly” according to Lord Coke's definition above) without the new price being a monopoly price. Prohibition of imports in a certain area for example could bring about such an outcome, not because sellers would then be able to find an agreement and exploit an inelastic market demand but because some efficient firms would have been excluded and only “high-costs” firms would remain. We would not call such a higher price a monopoly price. In other words, even if monopoly has an impact on price, be it a monopoly of supply or demand, monopoly is not sufficient for a

monopolistic pattern of actions we analyze that would make entrepreneurs bid away these factors in other industries (that would shift factors' supply schedules in the monopolized sector in a way that counteracts the downward pressure). No tendency involved can trigger a higher demand for the factor in non restricted industries¹⁹ that would counteract the downward pressure in the monopolized sector, as we will see below in details²⁰.

In other words, the monopoly gain of the holder of privilege does not only come from the consumers but also from the factors he employs, including capital goods. However, capitalists' net returns in earlier stages of production do not have to decrease. As with a sales tax shifted backward (Rothbard 2004, pp. 1156-62), the burden must be borne by original factors to the extent that lower prices for capital goods were anticipated by the capitalists who invested in their production. The lower prices for capital goods will translate into lower demands and prices for original factors involved in their production and the margins could stay the same. Lower prices for capital goods are imputed backward to original factors of production, land and labor factors²¹.

This should not be surprising. As previously noted, for example by Salin (1996, pp.152-55), taxation and regulation are to a large extent equivalent. At the very least, both imply uninvited border crossing on some people's peacefully obtained properties. As a consequence, the same set of disincentives to acquire them through production and voluntary exchange must come into play, hence the lower demands for factors required in their production. As with taxes, monopolistic grants of privilege make entrance into the market more costly than otherwise and excluded investors retire from the bidding process on factors that they do not rent anymore on the margin.

monopoly/monopsony price to emerge.

¹⁹ This is not strictly correct. As we will see below, in some unlikely cases, the monopolist will not be able to pay lower prices for factors he uses.

²⁰ In the case of a "monopoly price" reached without an inelastic demand, this would of course not be true anymore and one would find here a result similar to what happens in the case of the maximum price control, except that the higher demands triggered in other sectors would not be high enough to entirely counteract the downward pressure. See below why this must be the case.

²¹ For this reason, from now on, we will focus exclusively on original factors' prices. However, one must keep in mind that to the extent that lower prices for capital goods were not anticipated by the capitalists who invested in their production, original factors do not suffer. Their employers make losses instead, at least in the "short run", a short run that may conceivably last for years, until they are entirely imputed backward to the original factors. On the other hand, the shift is immediate and complete when no one errs in anticipating the prices for capital goods.

b. The macroeconomic picture: All sectors and degrees of specificity of factors considered

Now it is true that the effect on factor prices employed in the monopolized sector may be spectacular or almost insignificant depending on their degree of specificity. And as we have already hinted, the demand schedules for substitutes to the monopolized goods and the demand for their factors will be altered. Therefore, the pricing of factors used in both the production of these substitutes and the monopolized industry will accordingly be affected. And even the pricing of factors that have nothing to do with the production of the monopolized good will be altered somehow. To expand on our analysis and get the complete macroeconomic picture, let's consider a hypothetical scenario where each possible case is covered and considered in turn. Say that A is the monopolized product. Their producers face an inelastic demand above its free market price.

First, the fate of factor 1 engaged in the production of A is clear. Factor 1 is purely specific to the production of A. Some units of it that would be employed in the free market will remain idle in this world since they have nowhere else to go. The other units will be paid at a somewhat lower price, depending on how high the reservation demand is, but lower in any case than the free market price. By definition of its specificity, the reservation demand has nothing to do with what units of this factor could earn elsewhere since they cannot be employed elsewhere. The price will then generally be lower than if it was non-specific. There may even be a bargaining situation between the monopolist and the most eager seller if the net revenue-maximizing level of production requires so few units of this factor that only one seller could make a deal with the buyer. In the most extreme conceivable case, the factor is made artificially superabundant and commands no price at all. One can think of an existing large supply of diamond mines for example. Say that they are normally scarce relative to needs. As a consequence, they command a price on the free market. With a monopoly in the sale of the finished product, the optimal level of production for the monopolist

could be low enough that there would always be a diamond mine available for free somewhere. This would bar anybody from trying to sell the use of a similar mine to him. Then diamond mines would not be scarce anymore²².

Second, factor 2 is not specific to the production of A. It can be employed in the production of good B. Accordingly, its reservation demand in use A will reflect this. Under monopoly in sector A, more units will go into use B than under free market conditions. Their supply is then higher in this industry and their price everywhere is then lower. However, this is not all that can be said regarding factor 2. Rothbard's discussion on the interdependence of prices for consumers' goods comes into play. The higher spending on the monopolized good (compared to its free market level) implies lower spending elsewhere²³. Demand schedules for goods other than A will in general tend to shift toward a lower level. Say that the demand for B is lower. The DMVP schedule of factor 2 in this use as well as its general DMVP will be lower than on the free market. Accordingly, the downward pressure on its price is reinforced compared to the situation where factor 2 would simply have to suffer its exclusion from the production of A, while the monopolist may obtain a higher monopoly gain than otherwise²⁴²⁵. We then see that the non-specificity of a factor does not necessarily mitigate the impact of monopoly on its price. In this case, it amounts to a double burden.

Owners of factor 3 will only suffer a single burden because like factor 2, it is nonspecific to the production of A but cannot be employed in industry B which suffers a lower demand for its product. It is employed in the production of good C for which the demand schedule stays the same.

Factor 4 is employed in industry C too but cannot be employed in A or anywhere where the

²² I am indebted to Joseph Salerno for this point.

²³ We assume here that overall consumption stays the same. The only thing that is different between the two situations compared is free entry or hampered entry in producing and selling good A. No preferences need to be different and accordingly, neither the ratio of consumption vs. investment spending nor the relation between the money supply and the money demand need to be affected, at least to begin with.

²⁴ It should be noticed that the downward pressure in sector B translates into a higher factor supply schedule in sector A. Actually, it should be clear that in both sectors, the restrictive pressure pushes away the factor so that there might not be a transfer of units from A to B but from A and B to nowhere, unemployment that is. This is accounted for in the forward sloping nature of the general supply schedule of the factor for all its uses.

²⁵ However, if every future development was anticipated from the start, only the first owner of the grant would benefit since the monopoly gains would be capitalized into the price of the company's shares afterward.

demands for the products are lower. And it is a complementary good to factor 3 in this process. Then since production is higher than in the free market here because of the extra use of factor 3 displaced from A, its demand and price may be somewhat higher.

Owners of factor 5 will suffer though it is not employed in the production of A. It is employed in the production of B or in whatever production of goods for which the demand is lower than in the free market. As a consequence, its DMVP there and in general are lower than in the free market. No employer is able to directly extract a monopoly rent from its use however.

Factor 6 will neither suffer nor benefit. Wherever its DMVP becomes lower, a higher demand in another use guarantees that the general DMVP schedule and the price stay the same than in the free market.

The owners of factor 7 are lucky. It is employed in industry E that sees its demand increased. It is either specific to this sector or it is not, but if not, its higher DMVP schedule here more than compensates for the lower maximum buying prices in other sectors where it could be employed. Its general DMVP schedule is then higher and it receives a higher price than in the free market. How could the demand for a product increase, especially since we established that the general trend is for demands for substitutes to A to decrease and that all goods but A, strictly speaking, are substitutes for A? There are two possibilities. First, one must realize that some people may have elastic demand schedules for the monopolized product above the free market price²⁶. These people will spend more outside of the monopolized sector and may conceivably make some market demand schedules in other sectors higher. Second, the monopolist too spends, not only part of what he earns as a capitalist, but also its monopoly gain²⁷. If his additional demands for different goods come as a substitute to the lower demands for these goods by the buyers of his product and the factor owners who have a lower income to spend as a consequence of the monopolist's actions, then no higher

²⁶ I am indebted to G.P. Manish for bringing to my attention this insight. The market demand for the monopolized good is the sum of its components, the individual demand schedules. That the market demand would be inelastic above the free market price does not require that each and every individual schedule should be.

²⁷ I am indebted to Philipp Bagus for bringing to my attention this consideration.

market demand will appear. But since people from each side of the distribution effect may have different preferences regarding the composition of their spending, the monopolist as an income spender can conceivably push the demand up for one or several goods. Therefore, some factors employed there can gain from it, while demand schedules in other sectors will be lower²⁸.

The owners of factor 8 are very fortunate. They are a possible - almost miraculous - anomaly and are represented here just for the sake of completeness. The price of factor 8 is not reduced in the monopoly situation and the monopolist cannot extract from them a monopoly gain though he uses the factor. The reason is the following. It is not specific to the production of A but can be employed in the production of good E, the demand for which is higher than in the free market because of the monopolist or the people who have elastic demand schedules for the monopolized good above its free market price. Its DMVP there and its general DMVP schedule as well then compensates for the downward pressure related to the monopolist's restriction. He rents fewer units of them and earn its monopoly gain from the consumers and other factors but these units of factor 8 are employed at the free market price because of the additional spending on goods E that they produce. Conceivably, in an even more extreme case, factor 8 could even command a higher price than in the free market if its DMVP schedule in the expanded industry was even higher (say, because the monopolist spends all his monopoly income there) and if the monopolist would still have an interest to pay him such a higher price. He would have the incentive if this higher price was more than compensated by some sharp reduction in its expenses on other factors (say, because many of them would be purely specific and without reservation demand).

The table below recapitulates for each and every factor with the “+”, “-” and “0” signs when factors' DMVP schedules and prices are higher, lower or the same under monopoly than under free market conditions.

²⁸ Again, we assume here that the overall proportion of consumption in total spending is not affected.

Type of factors	1	2	3	4	5	6	7	8
Industrial Sector(s)	A	A B	A C	C	B	D	E	A E
Sector under monopoly	yes	yes no	yes no	no	no	no	no	yes no
Local DMVP schedule change	0	0 -	0 0	+	-	0	+	0 +
General DMVP schedule change	0	-	0	+	-	0	+	+
Factor price change	-	-	-	+	-	0	+	0

To summarize, the mirror image in original factors' markets of a monopoly price for a product with an inelastic demand schedule above the free market price is the following. Some factors will command lower prices for their services than in the free market if

1. they are specific to the monopolized industry, or
2. their general DMVP schedule is lower as a result of the overall lower position of demand schedules for the goods they help to produce, or
3. their general DMVP schedule is unchanged but the factor is under monopolistic pressure²⁹.

Some factors will command their free market prices if a downward pressure in some sectors is paralleled by an upward pressure somewhere else. Finally, some factors may command higher prices thanks to the monopolist's additional spending, thanks to additional spending of buyers who

²⁹ One must realize, as shown in the table above with factor 1 and factor 3 that a lower general DMVP schedule is not necessary to set a lower price. In the monopolized sector, the DMVP schedule for the factor -the maximum buying prices schedule for each hypothetical quantity that is- remains unaffected. The point is, absent competition, the capitalist does not have to pay his maximum buying price for the marginal unit. Conceivably, price could be lower even with a higher DMVP schedule provided it is not high enough to compensate for the downward pressure coming from the monopolized sector.

have an elastic demand schedule for the monopolized good, or if they are complementary to displaced factors in industries consequently expanding.

c. The macroeconomic picture: Aggregate impact on original factors' incomes and prices

Since some factors may command a higher price for their services while others will command the same or lower prices, it would then seem there is no systematic impact of monopoly on original factors' prices. As in most other cases of intervention covered by Mises and Rothbard, some laborers and landowners lose while others win. However, such a conclusion would overlook decisive facts. First, it should be clear that most cases above of higher prices, though conceivable, require some empirically heroic hypothesis. Second, there can hardly be any doubt about the aggregate impact on factor prices. We know that net income in the economy over a period of time equals consumption spending for this period³⁰. Given time preferences and unchanged demand and supply schedules for money, aggregate consumption spending stays the same. But then, for the monopolist to gain additional monetary revenue compared to what he would earn on the free market, other incomes have to be curtailed in the same process of production and/or elsewhere.

As we have seen, the originary interest rate and investment spending do not need to be altered³¹. Therefore interest income is not altered and land and labor factors must bear the brunt. Though some of them may gain in the process, aggregate land and labor income must be reduced as a counterpart to the existence of a monopoly gain somewhere. And since the stock of labor and land factors are the same, this implies an overall tendency toward lower prices for these

³⁰ See Rothbard (2004) for discussions of these aggregates and the description of the structure of production, in particular chap. 5, 6 and 8 of *Man, Economy, and State*.

³¹ Admittedly, they could be altered because of the redistribution implied. The beneficiaries may be more or less present-oriented than the losers. But since no systematic impact can be predicted in either way, we assume that this remains unchanged to concentrate on consequences that can be unambiguously displayed. We assume that the altered pattern of spending on investment and consumption by the monopolist is counterbalanced by a symmetric alteration in the spending pattern of the losers so that aggregate consumption and investment, as well as the originary interest rate, are the same in both worlds. And in any case, even if interest is changed, factors' incomes are still reduced compared to what they would be with an identical change in intertemporal spending that would have occurred for other reasons than monopolistic restrictions.

factors^{32:33}.

d. General impact on labor factors as compared to land factors

Finally, it is important to stress that the downward pressure on the original factors' prices is distributed throughout the economy and not limited to what happens in the monopolized sector since, as we have seen, one must take into account the interrelations between markets involved in the monopoly pattern of action. It may even be more widespread for labor factors than for land. Empirically, human beings embody the capacity of selling their services as different labor factors, of different quantities and qualities depending on the abilities of each. As Rothbard showed, such an empirical fact implies a particular connection between all labor markets:

Labor, though hardly homogeneous, is a peculiarly nonspecific factor. Therefore, higher wage rates for one set of factors will tend to stimulate other laborers to train themselves or bestir themselves to enter this particular "market." Since skills differ, this does not mean that all wages will be equalized. It does mean, however, that *general* supply curves for a labor factor will also be forward sloping." (Rothbard 2004, p. 573, emphasis in the original)

Because of this connection and taking due account of substitution effects between factors, the

³² Actually, this is true even in the case of a monopoly price reached with an elastic demand schedule above the free market price. Granted, the tendency will not be as obvious because higher demands in other sectors will trigger higher factor prices there. But they cannot rise enough to cancel a fall in aggregate land and labor income because it remains true that if a monopoly gain emerges somewhere, aggregate land and labor income have to fall, with a given net social income.

³³ Another related consequence is the following. Insofar as some units of factors will leave production as they become submarginal, overall physical production will be reduced and individuals will have to suffer such an impact as consumers. This is again an illustration of equivalence between taxation and regulation. As taxes reduce the owners of factors' incentives to put them into productive use for a market or to get them in the first place, production for the market is reduced and a mutually beneficial division of labor between members of society is forced out of existence. Taxation and monopolistic grants of privilege ultimately carry the same destructive power.

downward pressure on labor prices implied in the monopolist policy framework, though consequently mitigated³⁴, will be even more widespread in the economy than we have suggested it to be.

IV. CONCLUSION

The aim of this paper was to show that and explain how grants of monopolistic privileges to capitalists can lower labor and land factors' prices compared to what would prevail in a free market environment. We explained how monopoly gains of privileged business owners are not only “extracted” from their clients but also from factor owners. In so doing, we revisited Rothbardian monopoly price theory and extended it to the realm of factor pricing to obtain a more integrated understanding of monopoly theory. Monopolistic grants to capitalists make for market situations where both monopoly of demand for factors and monopoly of supply for their product are present and inextricably intertwined. As a consequence, we conclude that monopoly price for a product implies lower prices for its factors. Combined with established considerations regarding inelasticity of demand for the monopolized product, its impact on markets for substitutes and the interdependence of factor markets (in particular labor markets), we conclude that grants of privileges to capitalists can trigger an overall downward pressure on original factor prices.

The implications might be numerous and point out toward further researches in pure theory and history. First, it is clear that the widespread impact of monopoly would barely be existent if we only had a small monopoly island in the middle of a free market ocean. More privileges granted to capitalists in different sectors imply a greater tendency for monopoly prices to prevail and a more drastic downward pressure on factor prices. But how far can it go? Undoubtedly, the whole array of prices could not become a monopoly price structure. As Mises explains, under a system of all-

³⁴ The higher the elasticity of the supply curves, the less room there is for the employer to lower the price paid. Most economists would put it this way: in the “long run”, supply curves are more elastic than in the “short run”, so that the monopoly gain extracted from each unit of the factor is lower.

around monopolistic privileges (under corporativism or the guild system), there is nothing left of a market economy. There are no prices in the catallactic sense. Therefore, there are neither free market prices (obviously) nor monopoly prices in such a world (Mises 1998a, p. 816). But some questions remain: how far can the monopoly price scheme and the related downward pressure on factor prices conceivably be pushed before we enter the world of corporativism? And can we establish in more detail what fate is reserved for original factors beyond this limit and under corporativism or socialism?

Second, our study should make clear that insofar as Austrian criticisms of the Marxist theory of surplus value are correct, it does not follow that one should throw out the “exploitation of labor” baby with the Marxist bathwater³⁵. Under monopoly, land and especially labor can indeed be “exploited” in the sense that they can be paid under their free market level as a consequence of coercion. They can be “underpaid” either because their employers are able to underbid factors below their discounted marginal productivity level³⁶ or/and because their marginal productivity schedules are lowered as a by-product of coercion, as we have seen above. The corresponding redistribution in favor of some capitalists implies in turn a relative “proletarianization” of some workers. These are all the laborers whose lower wages are not compensated by higher incomes coming from some investments in the privileged sectors, either because their monopoly gains are not high enough, because they have no money invested in these sectors, because the gains have already been capitalized before they came, or because they are not investors at all (usually the lowest-paid workers). With a lower total monetary income, they are less likely to present themselves as investors on the time market and the distribution of catallactic functions among people tends to become more rigid. These insights may provide for a “missing link” in previous Austrian informed political economy essays such as Hoppe (2006) and Grinder & Hagel III (1977)

³⁵ See Marx (1969), Marx (1990, chap. 1) and Austrian answers in Böhm-Bawerk (1959, chap. XII) and Hoppe (2006, p. 122)

³⁶ Factors could be paid under their DMVP in a free market but this would be the consequence of entrepreneurial errors. The point here is that even without such errors, factors would not get their full DMVP under monopoly.

which intended among other things to outline a general theory of who benefits and suffers from “State Capitalism”.

Third, a thorough analysis of interactions between these monopolistic grants and other interventions in the market that may conceivably compound their effects or counteract each other to some extent would be required. Finally, based on such a big theoretical picture, one would then be able to make an empirical assessment of how far monopoly and exploitation of original factors went in the real world, past and present, here, there and everywhere.

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