

A SHORT CRITIQUE OF PERFECT COMPETITION MODEL FROM THE PERSPECTIVE OF AUSTRIAN SCHOOL OF ECONOMICS

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Abstract

The perfect competition model is not the only model which we can use in analyzing the markets. Although it is quite clear that competition laws are based on it, there are not sufficient reasons to confirm its suitability for this enterprise. We raise the question of realism implied in concepts like 'homogeneous products' and 'numerous participants', and then we try to portrait the world as it is stated in the perfect neoclassical model. The discussion has powerful insights given by the Austrian methodology which in time proved to be a strong and efficient competitor for the neoclassical paradigm. The perfect competition model is opposed to free competition model, or the competition unhindered by any violent restrictions imposed to entrepreneurs in the process of satisfying the consumers.

Keywords: perfect competition, economic calculation, money, prices, uncertainty, profits

JEL Classification: B53, D41

1. Introduction

Pure and perfect competition is similarly defined in all neoclassical literature which is relevant for this present paper. A definition which would more or less accommodate the opinions of all authors could be taken from Samuelson:

The perfect competitor is that which can sell all he wants at the current market price, but is incapable to increase or decrease in an appreciable measure the market price. And, by definition, a perfect competitive industry is one exclusively composed of many perfect competitors (Samuelson, 1958, p. 478)

This is Paul Samuelson's view on perfect competition, which is often called *pure* competition because of a so-called harmony assumed to exist between the competitors. This harmony is the result of their incapacity to alter in an significant way the market price and thus, to change their positions as sellers on the market. The

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pure and perfect competition model is the opposite of impure and imperfect competition, defined as the state of the market in which the *harmony* between competitors disappears. Neoclassical authors like Paul Samuelson, William J. Baumol, Alan S. Blinder and Harold Demsetz agree with the idea that economic reality is not comparable with the perfect competition model but with the imperfect one. As a result of this consent between neoclassical authors, we could conclude that also real economic competition belongs as a phenomenon to this imperfect economic framework.

A more generous definition we find in Baumol and Blinder (1979, pp. 420) who name the perfect competition, a market without barriers to entry (freedom of entry and exit). This implies numerous competitors with sufficiently low market shares so that they can't have any impact on prices. They produce homogeneous products, in a state of perfect information regarding all the available market conditions. This is a similar definition with that advanced by Samuelson, with the only difference that the latter assigns to the competitors a little power of impact on price¹. The problem is that the model doesn't show the *optimum* proportion in which the competitors can change the price, but we can conclude in the spirit of neoclassical competition theory, that it is most unlikely that they dispose of this power.

In the following we will explain in detail the perfect competition model assumptions, and we will try to deliver a critique of them from the perspective of the Austrian school of economics.

2. A review of the basic assumptions of the perfect competition model

With the help of a graphic representation, the perfect competitor would look like in Figure 1:

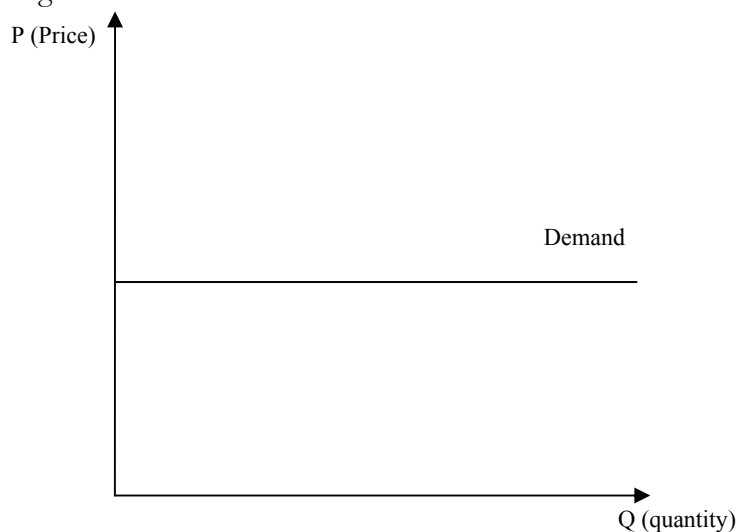


Fig. 1: The demand for the product of the competitive firm

¹ „...is incapable to increase or decrease in a appreciable measure the market price”

In the above figure, it can be noticed a constant demand for product (Q), at a price which remains unchanged for an unlimited period of time. At this point of the discussion we raise our first question of the paper, concerning the price of the good and its formation. If we suppose that the competitors can't have any impact on the market price, how can the model still deliver a hypothetical price? Figure 1 makes the implicit assumption of a preexistent price (p) but does not explain its formation. If all competitors have *small size* that no one can change the market price, we could ask then how come that the prices still emerges on the market as monetary phenomena? Who or what is determining prices on market? By deduction, we can advance two hypotheses. The first is the **realist hypothesis** which stipulates that the initial price results naturally from the demand and supply of goods on the market. This is valid but unacceptable for the model, because it assumes an unlimited continuity of the demand curve (horizontal or perfect elasticity). The assumption of perfect elasticity neglects in this way the existence of potential fluctuations in demand and supply. The second is the **hypothesis of an imaginary construct** in which both price and demand represent a *datum* of the model, although it is quite clear that such a model cannot come close to reality.

Therefore we are put in front of two alternatives. On the one hand, choosing the realist hypothesis but neglecting the model; if a market price evolves from fluctuations then why the price from the model should be considered different in nature? Having knowledge about the inability of competitors to change the price we conclude that the price from the model is not a real market price. On the other hand, choosing a hypothesis based on an imaginary construct; which means that we are aware that such a price can't appear on a market, in the conditions of uncertainty and profits; its formation implies the abandon of two immutable economic realities and this leads to the inconsistency of the model and its inappropriateness for describing the reality.

Prices are monetary phenomena which coordinate the competitors on the market in their production decisions. In reality, prices are subjective evaluations made by both consumer and entrepreneur regarding the value of the goods. Economic calculation is impossible in the absence of real market prices and more specifically, prices in terms of money, a generally accepted medium of exchange on the market. Ludwig von Mises states that:

Economic calculation cannot comprehend things which are not sold and bought against money. (Mises, 1966, pp.214)

Monetary calculation is the main vehicle of planning and acting in the social setting of a society of free enterprise directed and controlled by the market and its prices. (Mises, 1966, pp.230)

But the existence of money implies that individuals do evaluate the other goods less marketable than theirs. The only reason for which people accept and are interested in money is their marketability.

For the money commodity is demanded and held only because it is more marketable than other commodities, i.e., because the holder is more sure of being

able to exchange it. In a world where prices and demands remain perpetually the same, such demand for money would be unnecessary (Rothbard, 2004, p.328)

For their marketability be appreciated in different grades, it is necessary the assumption that more than two goods exist. Coming back to the perfect competition model according to which the competitors must produce homogeneous goods, we can conclude that such a model is incompatible with the existence of a good such as the money, since money becomes a medium of exchange through a natural and rational process of selection on the market. Thus, it is most unlikely that within a world described by the perfect competition model, money would ever appear. This is one more reason to prove the inconsistency of the model.

The theory of free competition², as developed by the Austrian school of economics, insists, when discussing the problem of formation of prices, on the subjective evaluations of the consumers of the marginal units of a good, and on the ability of the entrepreneur to correctly forecast the needs of the consumer. In the Austrian view of the market process, prices are monetary phenomena which have as point of emergence the intersection of demand and supply, in a point called a temporary equilibrium, until

... changes in demand or supply conditions establish a new equilibrium price, toward which the market price again tends to move. (Rothbard, 2004, p. 247)

To maintain an unlimited equilibrium state in time for explaining economic phenomena such as competition can lead to serious interpretation errors.

The main objection of Israel Kirzner to the neoclassical model of perfect competition refers to the fallacious use of a concept of equilibrium for delivering a theory of price, instead of the use of realistic-competitive framework of market process. (Costea, 2006, p. 119)

In the logic of the imaginary construct hypothesis, it is easy to observe that the only way in which the demand could be blocked at the perfect horizontal level, was to impose the condition of homogeneity. The reason is that because according to the neoclassicists, only in this way the consumer will be indifferent to what product he buys. Choosing between X and Y will not constitute a problem, because both X and Y are identical. The consumer is *indifferent* whether he chooses X or Y. But, in reality, there are no homogenous products and the problem of substitution still arises in a context where apparently that would be impossible. If a consumer is in the position to buy an apple and a bottle of water, but decides to buy only the water then this means that he values the water as a more urgent need than the apple. Thus, the demand for apples will fall and determine a decrease in their market price. This is

² Best described by Murray Rothbard: “ ‘Free competition’ is the application of liberty to the sphere of production: the freedom to buy, sell, and transform one’s property without violent interference by an external power.” (Rothbard, 2004, pp. 654)

why a model of perfect competition in which competitors are producing heterogeneous goods would not be possible, because the consumers would be free to exert their power of substitution by allocating their resources to the most urgent needs, thus destabilizing the prices of the goods. The homogeneity assumption is perfectly compatible with the model of perfect competition. But if we consistently apply this condition to the reality we would obtain a world where all the goods are drastically reduced to a single one.

Ultimately, this implies that there can be only one good in the economy; if there are any more than one, the cloven hoof of heterogeneity seeps in. (Block, Barnett and Wood, 2002)

Only in the “one good in the economy” situation the elimination of the substitution ability “is granted”. For example, on a perfect market with ten producers of apples and ten producers of water, the consumer can still apply substitution in a rational and consistent manner. In conclusion, the whole neoclassical construct based on homogeneous goods raises some logical questions and enters in contradiction with one of the fundamental laws of economic theory, which is marginal utility.

The economic law of decreasing marginal utility forces the producers to engage in differentiating their goods. Thus, a new entrant will succeed to sell a supplemental quantity from the same kind of products already offered on the market, only if he is addressing to a part of the consumers which otherwise would remain sub marginal, either because, at the current price, under the equilibrium level, a demand quantity would remain unsatisfied, or because the sum of money offered by them would be under the minimum price accepted by the other sellers. In the second case we can already speak about a different economic good through more advantageous price conditions. (Costea, 2006, pp.113-114)

The peculiar nature of the assumptions from which the theory of competitive equilibrium starts, stands out very clearly if we ask which of the activities that are commonly designated by the verb <<to compete>> would still be possible if those conditions were all satisfied. (Hayek, 1958, pp.96)

If we attempt to explain the perfect competition model using realist scenarios, we could say that the possibility of existence of only one good in the economy denies the consumer preference. The model standardizes these consumer preferences and reduces their choices virtually to a single good.

Maybe one of the most important critiques to the pretention of perfect elasticity of the demand is advanced by Murray Rothbard. The *dean* of the Austrian school of economics considers that the permanent change in number of competitors and in quantities sold on market, will always keep the demand curve at a level which can't be perfectly horizontal.

If the producers attempt to sell a larger amount, they will have to conclude their sale at a lower price in order to attract an increased demand. Even a very small increase in supply will lead to a perhaps very small lowering of price. The individual firm, no matter how small, always has a perceptible influence on the total supply. In an industry of small wheat farms (the implicit model for “pure competition”), each

small farm contributes a part of the total supply, and there can be no total without a contribution from each farm. Therefore, each farm has a perceptible, even if very small, influence. No perfectly elastic demand curve can, then, be postulated even in such a case. (Rothbard, 2004, pp. 721)

3. Maximizing profits on a perfect market

The perfect competitor, according to neoclassical perspective, is one who faces a constant price and demand for his good, or, in other words, he is a *price taker* in the sense that he can't alter the level of the market price. (Alchian and Allen, 1983, pp. 205) He can produce unlimited quantities of his goods and sell them at the same price as the other competitors on the market. But a stringent problem arises: which is the positive and negative limit to which perfect competitors can produce and, when can be profits maximized on a perfect market?

Neoclassical interpretations have lead to the following relation:

$$\text{Marginal cost (MC)} = \text{Marginal revenue (MR)} = \text{price (P)}$$

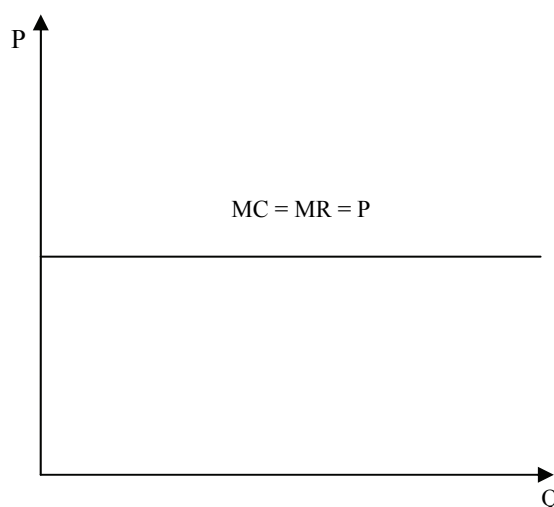


Fig. 2: Maximizing profits on a pure and perfect market

Alchian argues that:

Profits is maximized at that rate of output at which marginal cost and marginal revenue are equal – which, in the price taker's case, means they are equal to the unchanged price. (Alchian and Allen, 1983, pp. 208)

Logically, by using the theory of free competition, this problem would raise an important dilemma regarding the costs of staying in business with zero profits. In reality, any entrepreneurial activity is motivated by profit. The profit-making entrepreneurs are those who are remunerated for their correct assessment and interpretation of uncertainty. But if they have zero profits, why would they still produce anymore at all?

In this regard, the neoclassicists differentiated between two models of equilibrium for explaining the evolution to a perfect market or perfect competition model. (Baumol and Blinder, 1979, pp. 420-423; Samuelson, 1958, pp. 478-479) These are the short-term equilibrium model and the long-term equilibrium model.

Short-term equilibrium

Figure 3 places the competitive firm in equilibrium. It is a short-term equilibrium because and, as can be seen from the graph, the firm is still making profits.

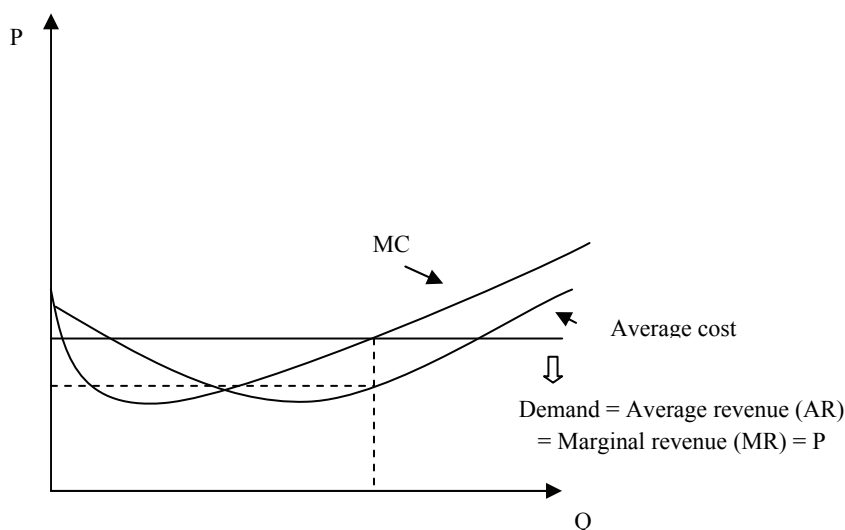


Figure 3: The competitive firm in short-term equilibrium

The firm is in equilibrium as the price equals marginal cost. The basic condition for the firm to continue activity is that average cost should always be under the marginal cost, or under the price. In other words, the firm can have profits up to the critical point (*break-even point*) where average cost is equal to marginal revenue, but also to the price. Until this break-even point, the firm can make profits equal to the difference between price and average cost ($\text{Profit} = \text{Price} - \text{Average Cost}$). This would mean that it can still differentiate itself from other firms on the market. In fact, the firm can change the consumer preferences.

Long-term equilibrium

This is a desirable state and perfect compatible with the model of perfect competition. If on short-term, the firm can still obtain profits, now, by virtue of free entrance on the market, the outside competitors, attracted by profits, enter this market, reducing them to zero. Figure 4 illustrates the zero profit firm.

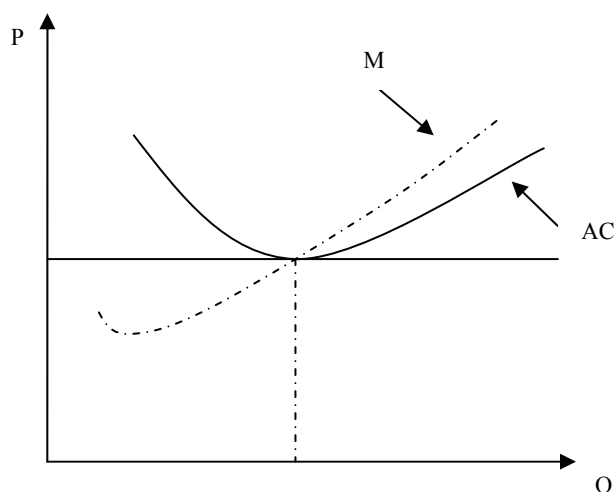


Figure 4: The competitive firm in long-term equilibrium (zero profit)

According to the neoclassical theory of perfect competition, in the long-term equilibrium under the pure competition, the firm must obtain zero economic profit (Baumol and Blinder, 1979, pp. 422) Is this assumption a realistic one? Analyzing the two above graphs, we could say that it is not impossible through the competition process for firms to have average costs up to the level of marginal costs and prices, meaning zero profits. This situation can appear as long as profits will exist (no matter how small). If on the market firms are still making profits, and if the entrance is free, then these profits will attract competitors from other markets. Once penetrating the perfect market, they will reduce the total profit for each firm. In this way, with any new entrance of a firm on the market, the individual profit of the other firms will tend to zero (because costs will reach the prices). In Figure 4, it can be noticed that the firm arrived at the point where profits are zero, in the sense that, from this point, any expansion of the supply can raise the costs above the price, leading to losses.

But what are these zero profits? According to the neoclassical theory, zero profit is a moment when for a firm is much more profitable maintaining its position on the market, than an exit. Or, at the level where average costs equals marginal costs and prices, an exit would imply a loss.

Returning to the lack of realism contained in the neoclassical model of perfect competition, we have to mention that a firm who arrives in the point of maximizing profits, where the profits are zero, from the perspective of free competition theory there are no sufficient reasons to continue activity. Also, the neoclassical theory does not bring explanations concerning the first of the competitors who will enter in the zero profit *area*. Theoretically, a firm which enters in the stages stipulated by the perfect competition model and anticipates that it is close to the zero profit *area*, will search for innovation methods like launching new products with different qualities that serve different needs, or will just reduce the price. The entrepreneurial logic is denied in the perfect competition world, and the arguments on which we base this

critique are: the impossibility of the entrepreneur to form or change the price (he is only a *price taker*), the condition of homogeneity for products (which means that from the very beginning it is canceled the possibility of differentiation and, implicitly of innovation) as well as the necessity for him to operate at zero profits.

In conclusion, if we try to explain the perfect competition model using a realist scenario, we are trapped in a situation where entrepreneurial functions disappear.

4. Perfect information as a basic condition for the perfect competition model

Ludwig von Mises defines competition as:

One of the characteristic features of the market economy...is a social phenomenon. It is not a right, guaranteed by the state and the laws that would make it possible for every individual to choose ad libitum the place in the structure of the division of labor he likes best. To assign to everybody his proper place in society is the task of the consumers. (Ludwig von Mises, 1966, pp. 275)

Mises thus assigns a critical role to consumers. They are the *corpus* of society which by virtue of their power (to choose between different alternatives) are changing both the supply structure (and implicitly the number of competitors which is suited for a specific market) and the prices structure.

Hayek writes about competition that:

... it is essentially a process of the formation of opinion: by spreading information, it creates that unity and coherence of the economic system which we presuppose when we think of it as one market. It creates the views people have about what is best and cheapest, and it is because of it that people know at least as much about possibilities and opportunities as they in fact do. (Hayek, 1958, pp. 106)

Perfect information means the knowledge of every economic aspects of the past, present and future which have effects on the activity of competitors. To be valid, the assumption of perfect information must contain another assumption regarding uncertainty. It must be assumed that uncertainty is eliminated, because otherwise, the consumers would be in the position to choose different. The presence of uncertainty must necessarily lead to different ways in which entrepreneurs are anticipating the risks and opportunities, thus making them unequal in the eyes of the consumers. If only one speculative element would have existed on the perfect market, the entrepreneurs would surely try to gain from it, thus canceling the possibility of price and profits remaining constant.

Mises states that the uncertainty element can't be separated from human action. In his words, the idea that an individual acts in conditions of certainty would be nonsense, because:

The uncertainty of the future is already implied in the very notion of action (...) if man knew the future he would not have to choose and would not act (Mises, 1966, pp. 105)

If we analyze the assumption of perfect information with the tool of free competition theory, we arrive at the conclusion that by using this assumption, the perfect competition model abandons the principle of uncertainty – which is universal in a world of human action – and, in consequence, the idea of action. In the perfect competition model, competitors do not act anymore, but they only follow the steps of an engineering system.

As a process, competition implies the discovering through economic calculation of the least expensive way to anticipate and satisfy consumer needs, and thus, to obtain profits. This statement can totally be reduced to the idea of action. Entrepreneurs act for profit. Without action competition would be no more a causal process, in the sense that the cause (correctly anticipating the uncertainty) is completely lost. If uncertainty is abandoned we are forced (by logic) to also abandon action. And the abandonment of action, a concept naturally implied in the process of competition, leads to an inconsistent concept of competition.

5. Conclusions

As we could see, the perfect competition model describes a world where entrepreneurs and consumers (the *essential agents* of competition) don't act. This conclusion derives in the first place, from the assumption concerning the inability of entrepreneurs to have impact on price, second from the so-called indifference of consumers in buying goods (the homogeneity condition) and third from the absence of uncertainty. On a free market, the concept of action can't be separated from that of price or choice. If we operate with the principle of realism, the market is a place where "the position of the most profitable entrepreneur" is disputed. In this sense, the entrepreneurs' prices and consumer preferences are the guarantees that that market still functions according to universal scarcity condition and demonstrated preference of consumer (and not indifference). Furthermore, the concept of action can't be separated from that of uncertainty, since we accept that the former implies the latter. Moreover, we could argue that taking into consideration the natural inseparability between action and uncertainty, the assumption of perfect knowledge (equivalent with absolute certainty) mixed with elements that describe actions (the firms are competing and can eliminate each other, the profits are zero etc.) is a form of contradiction. Thus, action *qua* concept becomes operational only if the uncertainty element is a part of it, and non operational if the premise of its applicability is certainty.

The world of perfect competition is just not compatible with the real world where conditions described above (prices, heterogeneity, uncertainty etc.) induce the impulse to act. As we could see, there are alternative views by which we can judge the process of economic competition. The one chosen here is free competition theory, a model best described by the Austrian school of economics and which we think that contributes to a realistic interpretation of competition. It shows that from this perspective - which is the perspective of free competition - neoclassical perfect

competition model may not be helpful when analyzing real markets or entrepreneurial actions. But given the well known fact that the positive law concerning competition (antitrust regulations) contains explicit neoclassical assumptions, a stringent intellectual problem remains unsolved. It regards the obscure consent on the opportunity to use these assumptions when dealing with real entrepreneurs and consumers. A quick look through the academic debates concerning the issue of competition will reveal that there is no such consent, but on the contrary, a continuous strengthening of positions.

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