ON COMPETITION

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1. THE PURPOSE OF THIS PAPER

The problem of business behavior involves price determination by firms, investment behavior, choice of technique and adoption of technical progress. Each behavior has its own goal. Price determination and choice of technique have short-term goals, while on the other hand investment behavior and adoption of technical progress have long-term goals. There is room to discuss whether or not the goal of business behavior is always equal to the profit goal. I will consider this point in another section, but the goal of behavior and the method of its accomplishment depend on the state of competition. What part does competition play in the analysis of business behavior? It is necessary to make clear how competiton fits into the theoretical framework in the history of economic doctrine up to now. Moreover, competition has some effect on technical progress and economic growth. About this, no systematically organized argument has been made. Baumol, for example, considers the behavior of the firm, that is, sales maximization, connected with high growth but does not investigate the relation between the problem of competition and growth.[1]

In order to deal with this kind of problem, we ought to re-examine the concept of competition and the treatment of competition in the present theory. In this section, I will look at the ambiguity of the concept of competition and note the main points of it. Next, I will examine these points successively; such as the concept of competition and its treatment in classical theory and neo-classical theory, and the methodological difference between the former and the latter and its relation with concept of competition, and, finally, the relation between business behavior and competition.

2. THE CONCEPT OF COMPETITION

The concept of competition involves much ambiguity in economic theories up to now. Competition is regarded generally as the opposite of monopoly. The competition itself becomes the problem in the case of oligopoly, because strategic behavior of the business firm is regarded seriously only in that situation. In perfect competition, which should be the most competitive, the problem of competitive process is regarded lightly and rather the state

[1] W. J. Baumol; Business Behavior, Value and Growth, 1959.

of equilibrium is discussed.

Sometimes the concept of competition means the process of competition and at other times it is treated as the competitive condition ; nevertheless, they have no relevance to each other.

Now, we will examine how the problem of competition is treated in each field of economic theory. First of all, the concept of competition is treated as the problem of market structure. Here, competition is regarded as the opposite of monopoly, and monopoly is regarded as the limitation of competition. In other words, competition in the problem of market structure is thought to be a degree of monopoly. There is perfect competition on one side and on the other side there is perfect monopoly, and between them there are market structures with varying degrees of competition. Market structure can be divided into many types by putting different prefixes with the suffix poly, such as monopoly, duopoly, tripoly, oligopoly and so on.

Secondly, competition is treated as a condition which brings equilibrium. Here it relates to the theoretical framework as the competitive condition. Here, perfect competition does not mean the theory of competition but a precondition in order to explain the state of equilibrium with spread of competition to the whole. It is competition that brings the equilibrium through the process of competition, but the process itself is not considered and only the equilibrium occurring as the result is under consideration. The process of competition is considered in the theory of oligopoly, not in perfect competition. Perfect competition should be said to be the same as the state without competition.

Thirdly, competition can be thought to be competitive behavior of the firm. But this aspect is less sufficient. In other words, the verb "to compete", not "competition", has not a proper position in economic theory. Therefore this very point, the concept of competition, especially the concept of perfect competition, will be examined in this section. In the classification of market structure the two extreme cases are monopoly and perfect competition, and others exist between them. "Monopoly is a market situation in which intraindustry competition has been defined away by identifing the firm as the industry. Perfect competition, on the other hand, is a market situation, which··· has evolved or progressed to the point where no further competition within the industry is possible".[2]

The concept of perfect competition is as this: "the effect of competition has reached its limit".[3] Reversely said, perfect competition cannot be

[2] P. J. McNulty; "Economic Theory and the Meaning of Competition", Quarterly Journal of Economics, Nov. 1968, p. 642.

[3] A. A. Cournot; Reserches sur les principles mathematiques de la theorie des richesses, 1838.

the very problem of process to bring any effect by competition; in other words, it is the state without competition. Knight said, "No presumption of psychological competition, emulation and rivalry".[4] This sentence means the same thing. The word, perfect competition, is a strictly defined concept of competition, and at the same time it suggests the existence of numberless firms which are forced to compete one another. Whether there are many firms in market or not is one of the most important factors in examining the character of market structure.

In the aim of competitive policy, the maintenance of the number of competitors and the maintenance of competition are regarded as the same thing. But the relation between the number of competitors and competition itself is not clear in economic theory. The case of perfect competition has the most competitors, but it does not mean the occurrence of competition. Competition may occur when competitors are rather fewer. The process that the more competitors there are, the more strict the competition becomes is not appreciated in economic theory, but only considered to reduce the equilibrium of surplus profit to zero.

In the following sections I will clear the ambiguity of the concept of competition and survey historically how competition has been treated in economic theory.

3. THE CONCEPT OF COMPETITION IN CLASSICAL ECONOMICS

According to McNulty, the concept of competition has involved two different meanings. First, the competition which brings optimum resource allocation by corresponding price with marginal cost. The competition in this sense is very similar to the law of gravity in physics. Through competition resources are used most competitively and effectively. Moreover, price comes to a minimum level which is maintained in the long run through the competition. Seeing this, competition can be regarded as the factor which brings order and stability in the field of economics. Secondly, competition has been regarded as an especially idealistic state. Perfect competition, particularly, can be considered the very case. It is very similar to the concept of a perfect vacuum in physics; it also is not an ordering force but a state of affairs. Moreover, it is very unrealistic and can hardly be carried out practically, but it is a very effective analytical tool. On this point McNulty has mentioned that two meanings are the very cause of the

4) F. H. Knight; "Immutable Law in Economics: Its Reality and Limitations" American Economic Review, May 1968, pp. 639–656.

ambiguity and disorder of this concept.[5]

Now we consider this concept of competition according to McNulty's two meanings. Surely, the concept of competition in economic theory involves these two meanings in various forms. But the weight of it has been shifted in the currency from classical school to neo-classical school, which is a very serious problem to be examined.

It is the concept of competition as ordering force that Smith, Ricardo, etc. had developed in classical economics. "Wealth of nations" Chapter 7 discussed the natural price and market price of commodities.[6] There the competition could correspond the natural price to the market price. Chapter 9 of that work discussed capital and profit. Competition itself has a tendency to lower the profit. According to Adam Smith, competition is the very force which corresponds natural price with market price and at the same time lowers the profit rate to the minimum level.

In the classical school "nature" is the factor "Sein", as it is, and also "Sollen", as it ought to be. As a whole, in the classical school the competition has no difference between positive one and normative one, but acts to cause them to correspond. If competition prevails widely, the actual price will approach the natural price which can be maintained in the long run. As the lowest cost is realized there, the profit rate is the lowest. In this meaning, the equilibrium of the neoclassical school, that is, the hopeful state of judicious distribution is developed. This state itself, corresponding with general equilibrium in the neoclassical school, does not involve evaluation, differing from the concept of nature of the classical school.

Basically, however, the optimum situation is predicted as the ideal of free competition. It should be considered the idealistic and desirable one. According to Smith, competition itself is the idealistic state and one which brings the state of order as it should be; monopoly prevents that kind of competition and for that reason monopoly is undesirable. The monopoly that Smith has dealt with is not one such as market structure or market model but the lack of competition which brings ordering force. The price level derived there is not a desirable one and so the monopoly itself is undesirable.

Smith also mentioned about duopoly, that is, the price become lower through the competition of two sellers than with only one seller.[7] The more sellers there are, the less the price becomes. One of the most

5) P. J. McNulty; "Economic Theory and the Meaning of Competition", Quarterly Journal of Economics, Nov. 1968, p. 643.

6) A. Smith; Wealth of Nations, pp. 57–8.

7) A. Smith; Wealth of Nations, p. 342.

important matters is that the competition is a kind of force but not a type of market structure. Even if the number of sellers is, for example, only two, the force of competition will prevail as long as competition exists. The force will be strengthened with more sellers. On the contrary, competition as market structure depends rather on the number of firms as the condition of competition. Smith has regarded "to compete" more important than "competitive condition".

4. THE CONCEPT OF COMPETITION IN THE NEO-CLASSICAL SCHOOL

The concept of competition can be divided into two groups ; competition as ordering force and as a sort of market structure. You can easily understand that the competition of the classical school is the former one, as I have mentioned. Therefore the appearance of the concept of competition as market structure is one of the finest development of the neo-classical school. This concept of competition was offered by Cournot for the first time. It can not be said that the classical economists describe accurately the state of order. It is regarded as a desirable state in the classical school, but the neo-classical school did quantitative analysis about optimum resource allocation, or optimality, for the first time. Cournot showed accurately the effect of competition. According to him, the effect of competition will reach its limit when output of each firm in comparison with the total output of an industry is so small that we can pay no attention on it.[8] This is a state in which the output of a firm may vary without any effect on market price. This means that there are many firms. Of course in the case of duopoly the effect of competition can develop. But the effect of competition brings the optimum state when the number of firms increases and the output of a firm in comparison with total output become negligible. There, competition is regarded not as its process but as the condition which brings the optimum state.

The concept of perfect competition is a condition which inquires into the effect of competition to its limit. Clearly it is a condition and assumption, and not an ordering force itself. It shows the very state of affairs, just as a perfect vacuum. Actually, we can say that such a perfect competition cannot exist ; however, through its assumption, the effect of competition can be understood clearly, so this kind of assumption has a remarkable methodological meaning in the analytical field. This is the very same idea as the perfect vacuum in physics. Actually this kind of state can scarcely

8) A. A. Cournot ; Reserches sur les principles mathematiques de la theorie des richesses. 1938.

exist but by using this assumption we can analyze more accurately the true state. This is the state wherein the effect of competition has reached its limit as Cournot mentioned, that is, an assumption of unlimited competition, and it can be called the state without competition.

How did neo-classical school form such a concept of competition? The most remarkable difference between neoclassical and classical economics is the most accurate inquiry by quantitative analysis. In order to clarify the effects of interdependence of relationships in economic activity, assuming general equilibrium which occurs when the competition prevails completely permits making the argument more detailed.

For the first time, neo-classical economics also tried to investigate the laws which regulate the phenomenon of exchange, regarding the phenomenon of exchange as the basic characteristic of modern economic society. It can be called the law of value. The marginal utility school inquired one which regulates exchange and reached at the concept of utility, but as soon as the relation between things and a man shifted to the relation between men, they were forced to face the serious problem of immeasurability, and after that, the argument concerning the law of value dissolved from the center. Since then, the neo-classical school has been concerned only with clarifying the mechanism of interdependence among economic activities. The influence of Mach can be shown in this kind of tendency, that is, to limit the subjects of scientific analysis only to things which can be measured quantitatively. Mach thought that substance of the force itself is a very ambiguous concept, so we should limit the argument of dynamics only to measurable things, such as space, weight, speed of things, etc.

Supposing a perfect vacuum, everything cannot but fall to the ground. In that case no matter what the essence of the thing is, all things affected by gravity should fall to the ground. The concept of the force which keeps things as they are will disappear, and the analysis of the perfect vacuum has great importance. The shift of the concept of competition from classical school to neoclassical school corresponds with the approach to dynamics.

In modern economic analysis, which intends to analyze the fact objectively, a normative concept is excluded. In the classical school natural order is also norm, but in neo-classical school the concept of equilibribrium is used. Essentially, the concept of equibrium should be free from evaluation, but actually it shows nothing but the concept of "nature" in classical theory. The equilibrium which occurs as the result of competition is the optimum state and it is the equilibrium of the activities which can most satisfy all the economic factors. It is a desirable state, too. Smith said that individual acts not to increase the wealth of the nation, but for self-interest. As the result, the acquirement of self-interest increases the wealth of nations, led by an invisible hand. The function of this invisible hand is price mechanism, and it is competition that helps the function to operate.

In the neo-classical school, competition is the very condition for activity of the invisible hand, and the presumption of a competitive condition is a desirable state for equilibrium. On the contrary monopoly prevents competition, and for this reason it is an undesirable state. In neo-classical economics, both competition and monopoly are treated as market structure, and the result under each condition is shown. The treatment of competition as market structure is quite different from its treatment in classical economics, just as McNulty pointed out. But, from the viewpoint of the thought of the treatment, the thought that competition is superior is common to both of them, in spite of the difference of method. The concept of competition is nothing but an assumption in the neo-classical school, and the concept itself is sustained with the thought that the competition is desirable. The thought to desire competition springs from political liberalism, which holds that concentration of power is undesirable and that power should be decentralized as much as possible.

5. THE CLASSICAL AND NEO-CLASSICAL SCHOOLS ON THE CONCEPT OF COMPETITION

Perfect competition is a certain criterion and at the same time it is an assumption about the market structure, as I have mentioned before. The model of perfect competition does not involve how the competition takes place. The reaction function of Cournot's duopoly is much concerned about the process of competition. It is very interesting that the process of competition is omitted in perfect competition, which should be the most competitive, and it is picked up in oligopoly. That is to say, not the process of competition but the effect is the very problem in perfect competition.

The classical school did not regard competition as market structure itself as the neo-classical school did. Surely competitive behavior itself can be a problem. However, competitive behavior was treated as the problem in the field concerned with the price. There are sales competition, technical improvement, and organizational improvement as forms of competitive behavior. Not only sales but also technical progress or improvement of the system is necessary in order to achieve the aim of the firm. They are carried out acceleratedly by competition. According to the ordinary theory, the cost curve is regarded as fixed when sales competition is discussed. Also, the main interest was with the determination of price and the volume of output, so cost function is not concerned with competition anymore. The competition which is treated as the problem of market structure in general does not have any systematic relation with the technique or systems of the firm itself.

McNulty says that commodity and service have two characters, quality and price. On the other hand, there are two basic institutions in the free economic system, namely, private enterprise and market. These two have problems with commodity and service. The detemination of output, quality, and physical form is done within the private firm, while exchange, value or price are determined in the market where the firms act practically. Though economic activity can involve both output and exchange, the concept of competition concerns only exchange. After mentioning this, McNulty says "Both the dominance of exchange, and hence of price, in economic theory generally, and the limitation of the concept of competition specifically to the firm's external relationships in the market, relate to the way in which competition entered economics and came to occupy the position of primacy which it has held in the Science ever since the work of Adam Smith."[9] McNulty suggested the importance of the relation between the problem of output and system within the firm and competition. Nevertheless, it is natural that competition has had some relation with exchange, price, and value.

The distinguishing point of capitalism is a commodity exchanging society itself. For that reason, the classical school, and the earlier marginal utility school, put the law of exchange, that is, the law of value, as the center of economic theory. Competition plays the most important role in developing the law of value. It is also a basic factor which brings a general equilibrium to the economic system. In this meaning, it is natural that the concept of competition is thought closely tied to the making of equilibrium in the market.

But when the competition among firms brings equilibrium with the precondition of the business behavior which inquires the self-interest, the business behaviour concerns with price only as a barometer. On the inquirement of self-interest there can be cost-reduction by improvement of technique; moreover, the improvement of technique involves the improvement of qualities of commodities and of the system of production.

The connection of competition with technique is mentioned by Smith, Marx, and Schumpeter. Smith said, for example, "Competition of products, in order to undersell another, have course to new divisions of labour and new improvements."[10] Everybody knows the words of Marx: "Heightening of organic composition of capitpl is accelerated by the competition among capitalists." Schumpeter discussed the connection of competition with pro-

9) McNulty; op. cit. p. 644.
10) A. Smith; Wealth of Nations. p. 706.

ductive technique or productive system within the firm.[11] Therefore there have been some possibilities of combining competition with the improvement of technique within the firm. Industrial system and productive technique are not fixed, but are capable of dynamic change. At the period of the industrial revolvtion, Smith had a sufficient knowledge of this, and technique was an important factor for Schumpeter.

Smith had not, of course, developed the argument enough to combine division of labour and competition. The center of his concept of competition is the effort to sell a large volume of commodities through the reduction of the market price. The division of labour and the state of technique have been treated as fixed factors after Smith. Technique was included in the assumption of ceteris paribus. But in the classical school, the competitive process of the market, for example, cost reduction, is the problem. The concept of perfect competition in the neo-classical school is not the competitive process as in the classical school, but the market structure itself. We can easily see the break in thoughts between the concepts of competition in the classical and neo-classical schools.

In the classical school, each firm's behavior involved the attempt to undersell by reducing costs, and this business activity has a tendency to keep price to the minimum level sustainable over a long period. This kind of behavior is the very process of competition. Here, no equilibrium output for the individual firm exists, but rather a state of iunbalance. On the other hand, the concept of competition in neo-classical theory is an equilibrium state, through the barometer of price, from the viewpoint of the individual firm. There is no underselling activity in the market. While classical theory considered competition as the ordering force or guiding force, it was taken as the state of affairs in the neo-classical school. These two are essentially incompatible. The perfect competition of neo-classical theory is a condition of equilibium, and that of classical theory is a behaviouristic pattern tending to reach equilibrium. In classical theory, the determination of price by each firm could be the problem under ordinary competition, not monopoly. This is impossible in the case of perfect competition.

McNulty mentioned as follows; "that perfect competition has come to be a 'rigourously defined concept'[12] is not to be denied. But the result of that rigourous definition is that the verb 'to compete' has no meaning in economic theory except in connection with activities which are also in some sense 'monopolistic'. Indeed, the perfectly competitive firm itself is

11) J. A. Schumpeter; Capitalism, Socialism and Democracy. p. 84.

12) G. J. Stigler; "Perfect Competition, Historically Contemplated." Journal of Political Economy. Feb. 1957, p. 11.

but 'a monopoly with a special environment.'"[13]

6. BUSINESS BEHAVIOR AND THE COMPETITIVE PROCESS

The concept of perfect competition does not contain the concept of competition as a business behavior. It can be understood from Cournot's view that perfect competition is the state of "the effect of competition having reached its limit".[14] Although the concept of competition in the classical school contains the same behavioristic element, it is treated as being of almost no importance, much less enough. As a fundamental weakness of the concept of competition in ordinary economic theory, the following aspect is pointed out by McNulty: the concept of competition is not to be related systematically to the cost of production. Competitive behavior, mentioned before, is regarded as the underselling competition. Here, the cost curve is given and the optimum state under the conditions of perfect competition is to be in equilibrium of price at the minimum average cost.

The classical school, including Smith, regarded the cost as the regulation of price. Shift of the cost curve depends on the business effort, in other words, competition. However, it has never been related in a systematic way to competitive behavior. On the contrary, the theory of monopolistic competition or imperfect competition in the 1930's regarded the difference between competition and monopoly as merely difference of demand curve.

In the opinions of Robinson and Chamberlin, the difference between competition and monopoly is not found in shift of the cost curve but in the fact that the demand curve is horizontal in competition and declining in monopoly.

Under free competition, it is usually thought that the cost of production is the criterion and price is decided by it. But what is the regulator of cost? McNulty explains the method of Leibenstein's X-inefficiency, pointing out the following: "Economic theory stresses the optimal in this equation; however, if marginal cost is higher than need be due to internal inefficiencies, and there is a reason, indeed, to suppose that the latter is not infrequently the case……The fact is that there is no explanation even in the theory of the perfectly competitive firm for the minimization of cost; the latter is merely assumed. If all firms are equally inefficient in internal administration, a perfectly competitive equilibrium could involve a welfare loss not less significant than any which might result from market imperfection."[15]

The X-inefficiency comes from the concept of two kinds of efficiency

13) McNulty; op. cit. p. 650.
14) A. A. Cournot; op. cit. p. 90.
15) McNulty; op. cit. p. 652.

classified by Leibenstein, that is, Allocative-Efficiency and X-efficiciency. The former stems from perfection in the structure of the market, the latter from whether people and organization work effectively and autonomously or not, which relates rather to problems of managerial science than to efficiency of the market.

This way of thinking differs from traditional economics. Traditional economics is analysed on the assumption of Homo Economicus, that is, if only the market mechanism works effectively, other functions such as organization and people work always rationally, on the one hand; in the way of thinking such as Leibenstein's X-efficiency, the rationality within each firm is rather more significant than the market mechanism, on the other. In such points as pursuing the rationality of organization within the firm, it is the problem of business economics or managerial science.

Not neglecting essential presumptions of economics, Marx has already shown a relationship between competition and cost of production in the way of economics and also stated that the constant effort of firms has been much promoted by competition.

The second fundamental weakness noted by McNulty concerning the concept of competition is its lack of relevance to economic growth. The most significant point of discussion in neo-classical school was not concerned with economic growth but with allocation of a given resource. The systematic relation between the state of competition and economic growth is out of consideration. It is natural that the sales effort, not a little treated in the discussion of both Chamberlin and Steindl, has been related to the cost of production. We can easily estimate that the more violent the sales competition is, the more the economic growth is accelerated, but much more needs to be done in systematically relating sales competition to economic growth.

In Marx's theory, it is competition that promotes capital accumulation; moreover, the rate of capital accumulation is interdependent with the rate of economic growth. Nevertheless, the influence of competition on economic growth is less clear theoretically. Although, according to him, the more the competitors are, the more violent the competition is, there is no theoretical relation such as the more the competitive business firms are, the higher the rate of economic growth is.

There are not a few weaknesses in the concept of competition, and one of the most significant is the ambiguity in distinguishing the concepts of "competition" and "to compete", regarding competition as the more concrete theoretical system. Specifically, the main failure of the concept of competition is how to compete; it needs to clear up the relationship between business behavior and competition. On the history of economic doctrine, we have an example of reaction function by Cournot. The very paradoxical aspect that competitive behavior of individuals to compete is meaningful not in the state of perfect competition but the state of monopolistic competition or oligopoly reveals the static feature of neo-classical theory.

The final thing to be noted concerning competition is that the individual to compete is not a person as entrepreneur but a big system, namely, a modern corporation. There may be found various differences in the concept of competition among individual firms which prevailed in 19th century and among modern corporations, diffused and systematized, in 20th century. They generate the difference not only of the goal of business behavior but the way of seeking the goal. On this way of pursuing the aim, the pattern of competition should be realized concretely. At the same time, not in the case of individual but of corporation, it would be considered whether the organization of the firm works rationally or not. Both classical school and neo-classical school regard that each factor can fulfill one's function rationally and sufficiently. This assumption has been admitted because no significant difference between personal firm and corporation was shown. But the appearance of big business instead of small has brought about the separation of ownership and management. The situation, consequently, has varied. Here, then, one more problem occurs. While, hitherto, only the market mechanism had guaranteed efficiency, nowadays the efficiency within the firm must be taken account. In other words, just as competition existed as the condition for bringing efficiency in the market, it should become a problem what influence the competition exerts on efficiency within the firm. This competition, however, is the competition among the capitals or firms, not having direct relevance within the firms. Competition is nothing but the stimulus for promoting efficiency or technical improvement within the firm. The important thing, as I stated before, is the relationship between the firm and the shift of its cost curve and competition. This point should be the problem concerning competition.