Faculty Working Papers

FORMATION AND FUNDAMENTAL THEORIES
OF MARKET STRUCTURE ANALYSIS
Masahiro Hattori

#255

P. D. Converse Symposium Paper #6

College of Commerce and Business Administration
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by

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I. THE FORMATION OF MARKET STRUCTURE ANALYSIS

11. E. T. Grether vs. Harvard Group

The term "Market Structure" was first used by the Harvard Group in the discussion of early Industrial Organization. But, whereas this stream of analysis had thereafter begun to stress investigating the relationship between industrial structure and its performance, E. T. Grether had developed his original approach named Market Structure Analysis which we can distinguish from that of Harvard Group. The characteristics of his approach are, from the standpoint of view in marketing and public policy, that (1) it takes up more dimensions of market structure, (2) it concentrates on the analysis of market structure — market conduct relationship which it regards more important, and, (3) from this relationship, it extends the scope of analysis (a) to the firm and (b) to the general market system or the national economy. In this sense, his market structure analysis is sometimes called as "micro- and macro-economic, full market structure analysis", or "full market structure analysis". But this market structure analysis, as we shall see later, was related to the field of industrial organization as developed especially by the Harvard Group. Then, how does Grether's market structure analysis have relations with industrial organization of the Harvard Group? This problem could be made clear (1) by knowing Grether's academic background which he had formed before he met the writings of E. S. Mason, and (2) by knowing (a) how Grether critically adopted especially Mason's and Bain's point of view, and (b) to these points of view, how he had added his original cultivations.

First, let us see his academic background. There is a famous proverb in

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Japan: "Man takes his form in his youth". To Grether, truly his youth was his deep impressions when he met the grand and beautiful theoretical system of Alfred Marshall. Thereafter he continues to believe the superiority of economic approach to marketing study. In this approach, each conduct is related to the whole system through the equilibrium adjustment. He believes that such a strict completeness is impossible to find in any other marketing theories. And, Grether was born and educated in the historic family of ministry. This fact turned out the remote cause of his passion and sympathy with the social reforms which had streamed through Carlyle -- Ruskin -- Hobson. Especially from Hobson, he had learned two things. 

(1) By digesting the concept of economic value and cost from the point of view of humanity and organic welfare, and by being taught the importance of democracy, and the stress of consumption theory, he constructed his theory on the basis of thoughts of individualism and consumer sovereignty. 

(2) Hobson, in his explanation of the source of non-productive surplus, took the view that the artificial scarcity as well as the natural scarcity would become the source of "rent", and in such Hobson's thought Grether found a beginning of his interest in the monopolistic competition theories. Here we can find the deepest and the most important root of his thought. The market structure analysis he expounds now, is the one which was developed from this root.

In Harvard, at that time, the new field of Industrial Organization had been formed by Mason and his friends and disciples. We can find twofold relationships between industrial organization of the Harvard Group and Grether's market structure analysis: (1) There are some thoughts with which Grether had agreed, and made them as the "philosophical" foundations of his market structure analysis. (a) The

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first one is the thought of the individualism. The characteristics of Grether's individualism are the free extension of the individual will and wants, unique contribution to the society of each individual, dynamic harmony with society, but not extreme except in strong opposition to totalitarianism. On the basis of such individualism, Grether had formed the concept of "enterprise competition". We should be mindful that the enterprise competition is made as the most important theoretical core concept for elucidating the characters of dynamic developments of the U. S. market. Enterprise competition is the vital spark which generates the violent stream of the process of creative destructions. And, in Grether, the essence of consumer sovereignty cannot be grasped except on the basis of individualism. The concept of enterprise competition is applicable to any form of society but without consumer sovereignty its nature and experience will be greatly different.

Thus we can say that one of the fundamentals of Grether's thought is that he focuses sharply on the individual decision-making relating with the various competitive market factors and connections. Otherwise, he thinks, individual decision-makers, ultimate consumers or firms, would disappear into the vague social environmentalism or collective behaviorism, or would be buried under the thinking of Galbraithian subjective social performance.

(b) The second one on which Grether stands on the same footing as the Harvard Group is pragmatism. From this standpoint, it is thought that all kinds of theoretical truths in the market structure analysis are the relative ones and the theories should be tested by the practices. The theory of industrial organization is seen as a tool, to be adopted as useful for the purposes of market structure analysis, and to be adopted as necessary.

(c) The third one is "objective determinism". Grether holds that in the analysis of the relationships between structure and conduct, one should begin
with structure, but he stresses the continuing dynamic interaction between structure and conduct, especially in enterprise competition. Grether does not take at present the position of the objective determinism in its strict sense but recognizes that there are zones of discretionary conduct by firms especially in oligopolistic markets. He defines himself as in the midpoint between Caves who contends that conduct is strictly determined by structure and Galbraith who negates the objective determinism and contends that the conduct of the firm is free from the influence of the market.

(2) Let us turn to the second problem. There are three dimensions which Grether had originally developed by himself through the critical analysis of the logical framework of the Harvard Group. (a) The first one relates to the elucidation of complicated character of competition. Hence, Grether adds more elements of market structure (horizontal and vertical), tries to analyse the markets of individual firm, and sees the whole market system as constructed with countless mutual interrelated networks --- in which the oligopolistic relationships are especially important.  

(b) The second originality of Grether is, from the standpoint of market structure analysis, he is deeply concerned in the investigation of the internal (microscopic) organization and policies, of large scale enterprises especially of diversified conglomerate firms.

And (c) the third is that starting from this base, he extended the scope of market structure analysis to the competitive market in general or to the macroscopic national and world economy, in accordance with the requirements of the official national economic policy of the United States.

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3 Richard Caves, American Industry: Structure, Conduct, Performance, 1972, p. 16

1.2. Objective Determinism, Individualism, Pragmatism

Let us consider again about the relationship among Grether, Mason, and Bain.

(a) In the first place, E. S. Mason, in his article "Price and Production Policies of Large-Scale Enterprise" in 1939, suggested the classification of the firms based on the similar market structures and market conditions. He had the hope and expectation that the empirically determinable differences in market structure might explain observable differences in policies and practices. Thus he advocated the general proposition that there would be a deterministic relationship between market structure and market conduct. But this proposition was not accepted by all, for example, Mason met the powerful opponent named E. G. Nourse. The contentions of Nourse were that there is no deterministic relationship between structure and conduct, rather, the idiosyncrasy of managers or management systematically related to past occupational experiences, etc.; that the probabilities of more than one solution according to the different risk evasion propensities in managers undermine the deterministic structure - conduct relationships. Since then, however, Mason's basic assumption has been partially confirmed by the subsequent testing, but we can say that Nourse was also right in that he had pointed out the elements which were the explicable factors of the incomplete relationships between structure and conduct. And Grether is in the position to integrate these two persons.

(b) Next, Mason considered that the market structure must be defined with reference to the position of a single seller or buyer. But one of the first disciples of Mason, J. S. Bain, did not follow Mason's approach of individual firm,

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and stressed the industry approach. This industry approach became the main current in the analysis of industrial (market) organization in general. The numerous advantages of industry approach led Mason to shift his position, and he said that the market means Marshallian industry, and that unless we can use the conception of market equals industry, the field of Industrial Organization is a wilderness. Further, Mason included in the market structure, the subjective elements which influence the decision-maker.

In conclusion, Grether holds the same position as Mason's initial one, which contends that market structure approach should be based on the single seller's or buyer's position, and this Mason's view makes up Grether's methodological starting point based on individualism. But he does not adopt Mason's subjective definition of market structure which includes all the considerations which the decision-maker takes into account.

Grether regards as market structure, only the small number of, objective end strategic elements. In this respect, Bain and Grether are in agreement pragmatically. But Bain's orientation is towards industry analysis and Grether's is towards the individual enterprise. When the enterprise, or any of its product lines or divisions, fit into a definable S I C or other industry grouping, Grether also uses industry analysis. This selective market structure approach is justified as it is feasible, relates directly to antitrust policies, and is relatively more objective. But on the other side, Grether maintains that we should walk up


Triffin's garden path which Mason warned against rather than to live in the world of "industry". But the path need not lead into an uncharted wilderness because most of the analysis of products and product lines "could be in relation to recognized natural industrial categories, data, and the appropriate norms of appraisal."

Thus, a pure conglomerate would break up into a series of discrete units, each subject to market structure analysis.

13. The Analysis of Large Scale Corporation

The central problems in the contemporary market analysis arise from the existence of large scale corporation and oligopoly. Considered from this standpoint, we can say that Mason's initial instincts were sound and correct. Mason found the fact that the entrepreneurs would be influenced by the internal considerations of the firm in their determinations of price and production policies.

Notwithstanding, from that time on, in the study of Industrial Organization, few attempts have been made to analyse the internal organization of the firm and decision making. An exception are the writings of Oliver E. Williamson. One of the characteristics of Grether's analysis is that he considers such internal considerations in his analysis. In oligopoly, it is considered that the clarification of conjectural interdependence can be done by following the analysis of internal organization and decision making of the competing firms. In the large scale corporation, especially in (1) the diversified enterprises and (2) the conglomerates, we can grasp the synergetic relationship and its extent only through the analysis of internal factors of the firm.

The traditional approach of industrial organization is useful only when the industry and the product line can be defined in some acceptable manner. But in

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cases of (1) oligopolies which are more complicated, and less clearly definable, (2) diversification and (3) conglomerates, we need the new approach which includes the internal investigation. However, to these cases Grether first applies the market structure analysis which does not include the internal investigation. Such a market structure analysis is quite adequate in case of pure conglomerates. But the more important problems come about in connection with managed and planned diversification, where there are so many horizontal, vertical and geographical combinations. In order to analyse them properly, we inevitably need the knowledge about the internal organizations, objectives and the results. Especially for the large corporations, there are continuous dynamic mutual interactions between market structure and the policy or decision making of the firm. Combinational analysis of market structure — internal organization and action parameters could become the major planning tool especially for the large scale diversified corporations. This is a combination of market structure analysis developed in the United States and the action parameter analysis refined in the Scandinavian countries.

But to Grether, it is confusing to bring the internal organizational variables and subjective decision variables into the same conceptualization as the more objective market structure elements. He places the internal organizational factors etc. in the market structure perspective and framework, relating the

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enterprise to the broader market systemic relationship. A series of cross-sectional views over time of the selected market structural variables provides the basis for relating them to the internal organizational and decision variables. When adequate or reasonable results are not discovered in this manner, then it is necessary to look at the internal, subjective decision variables, or group influences, but in the setting of objective factors of the market structure.

II. FUNDAMENTAL THEORIES OF MARKET STRUCTURE ANALYSIS

21. The Concept of Market Structure

The concept of market structure is a tool for providing some framework to the theories investigating the market situations. The theories of the market situations are fairly new compared with long tradition of price theories. Indeed, it is rather surprising that the price theories had been able to come along for a long period of time without them. The theories of market situations had scarcely developed before 1930. For example, in A. Marshall, according to Professor Boulding, the theory of monopoly "was an isolated appendix for the entire system of his price theory."13 As all of us know it, from the Marshallian system, two courses had been developed; one is the Keynesian Revolution, and the other is monopolistic competition theory. In the latter development, the excellent articles J. H. Clapham's in 1922 and Sraffa's in 1926 had paved the road to the E. H. Chamberlin's revolution. The theoretical foundation was placed by Chamberlin, and the actual discussions of market structure were advanced by Industrial Organizationists such as Mason and Bain. Through these and other many researches and works, the commonest three elements of market structure had been deposited; these are: the number, size, and size distribution of sellers and buyers, the degree of product differentiation, and the conditions of entry into the market. Then,

how had Grether polished and extended these market structure discussions?

Grether starts from the definition and the demarcation of the market of a firm by product or region. "Unless a firm (1) has a monopoly situation, (2) is in a new, unjelled, rapidly growing field incapable of being defined -- such as the so-called "electronics" industries, or (3) is so broadly diversified in industry and function that it is unique," there should be a definable market. The setting or "place of competition to the firm" is called "market structure." The market structure "is the setting in which the enterprise receives competitive 'discipline' or through which the rule of competition is made effective." If one defines strictly, market structure involves the important, small number of strategic environmental factors affecting all basic decisions of the firm.

The concept of market structure is included in the broader concept of the environment of the enterprise. The environment of enterprise can be viewed in three overlapping parts: (1) the general environment or institutional setting (institutional environment), (2) the economic basic conditions (basic conditions), and (3) the specific environment which bears so directly upon the enterprise that it affects all important decisions (market structure). Among them, (1) institutional environment and (2) basic conditions are both environmental or other conditions relating to competition which affect generally all the competitors in the market, and (3) market structure is the environment which is different for each competitor, that is, the specific environment to that enterprise.

Thus, we can illustrate the core of market structure analysis by a diagrammatic presentation as follows:

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In this diagram, the annex of institutional environment, basic conditions, and market structure is called as the environment of enterprise. In the internal factors of the firm, the objectives, policies, strategies, decision-making, internal-organizations of the firm and so on are included.

Let us enumerate the concrete contents of the factors composing these environments and conditions.

(A) INSTITUTIONAL ENVIRONMENT

1. The relative prosperity, stability, and resources of the economy as a whole.
2. The legal system and governmental regulations.
3. Scientific and technological advance and change.
4. Mores, religious attitudes, and ethics—individual and group behavior patterns.
5. The history, the rate of growth and basic trends of the country, the economy and industry, and trade or sector of the economy in which the enterprise operates.

(B) BASIC CONDITIONS

(a) Supply Conditions

1. Raw materials, technology, product durability, etc.
2. General business attitudes, unionization, etc.

(b) Demand Conditions

1. Price elasticity, rate of growth, substitutes, etc.
2. Marketing type, purchase methods, cyclical and seasonal character, etc.
(C) MARKET STRUCTURE

(a) Elementary Characteristics

1. The degree of concentration among competing sellers, and among competing buyers.

2. The degree of product differentiation.

3. The conditions of entry into the market (which include holding of patent rights).

4. Vertical structure (channel).

5. Geographical structure.

(b) Special Factors

1. The subtle politics of business (involving personal relationships, open or sub rosa financial relationships, reciprocal selling relationships, etc.).

2. The firm's important experiences, histories, and special technologies.

By adding two of the elementary characteristics of market structure, 4. vertical structure (channel) and 5. geographical structure, to the commonest three elements mentioned before, Grether considers five elements as the market structure. (C) (b)—(special factors) is also the unique addition by Grether. So, (C) (a) 4. and 5. plus (C) (b) 1. and 2. are Grether's unique developments as he had thought that the analysis of these elements would be indispensable for understanding the market structure—market conduct relationships. Also important is his division of broader concept of economic conditions and elements into two parts comprising (B) basic conditions and (C) market structure.

2 2. Enterprise Competition and Commodity Competition

(a) The concepts of enterprise competition and commodity competition are the foundation of Grether's theoretical system. How were these concepts made up? Were there any contributors to them before Grether? What kind of important additions to them has Grether made?
To begin with, let us consider Mickwitz's concepts of commodity competition and entrepreneur competition. Two concepts of his are both different in their contents from those two of Crether's commodity competition and enterprise competition.

Commodity competition is the competition among different varieties of product. It is developed mainly as a consequence of buyers' needs and evaluations. So the seeds of this concept can be seen in Triffin's theory. Triffin defines only the concept of pure competition. The decisive factors of this pure competition are that a firm's proceeds are wholly dependent on the prices of all other firms, and that at the same time the firm is unable to influence by itself to the prices of other firms. Thus, the demonstrative factor of the existence of competition is the existence of cross-elasticities. The firm which has some cross-elasticities in relation to the other party is logically regarded as a competitor. If the price of a commodity would change, the proceeds of the other commodity shown in the formula of cross-elasticity would also be changed. The larger the cross-elasticity, the stronger the commodity competition. The degree of competition need not have the equal strength among commodities. While commodity A keenly compete with commodity B, sometimes B is not the powerful competitor of A. But in general, we could say that the cross-elasticities are the highest among commodities in the same industry.

In contrast to this, the entrepreneur competition is a form of conduct of the seller's side. It can not be measured by cross-elasticities. This point is found in the concept of J. M. Clark's "effective competition." Clark had

15 Gösta Mickwitz, Marketing and Competition, 1959, Ch. IV.
16 R. Triffin, Monopolistic Competition and General Equilibrium Theory, 1940.
made the excellent contribution in describing the "active" operation of competition. Competition is the entrepreneur's action having the objective to increase the profit by inducing transactions and may involve the obstruction of competitor's transactions. Clark is interested primarily in competition among entrepreneurs.

In comparison with the developments of concepts of competition by Triffin which relate only with commodity competition or by Clark which relate only with entrepreneur competition, Rasmussen and Abbot both developed the theories which relate with both concepts of competition, although Rasmussen attached more importance to commodity competition, and Abbot to entrepreneur competition.

In the first place, Rasmussen proceeds his argument by dividing two concepts of competition, one is a narrower concept, relating to the competition among entrepreneurs who are willing to sell substitutes satisfying the same needs; the other is broader one relating to the place of the product occupying in the budgets among buyers. The latter is the competition for sharing the purchasing power in the society not only among definite products or sellers, but also among all sorts of products or sellers. Rasmussen considers the competition for income distribution—general interdependence—but gives special heed to the competition for buyers' patronage carried by the products themselves. Thus, regardless of existence or non-existence of conduct of entrepreneurs, there would be competition among commodities. The competition among entrepreneurs might appear openly, or would be prohibited by the cartel. Two entrepreneurs might be the reciprocal competitors in spite of their refraining from all conscious conduct which affect competition, because the commodities compete with one another for buyers' income. Rasmussen's concept of competition is related to the opportunity to compete. In this sense, we can say that he is in the line of descent from Triffin.

Next, Abbot is regarded as he is in the middle position of two opinions taken by Triffin-Rasmussen and by Clark. Indispensable condition of his argument is that both sellers and buyers are left with fairly large freedom in their conduct and they can exercise it. Abbot stresses the active and free roles of entrepreneurs. On the other hand, he points out the fact that products interact as substitutes. He also strictly distinguishes the two concepts, "competition" and "opportunity to compete". His competition is an active one, but it may be at a standstill as well. Competition--substitution--may exist among the products belonging to the same industry, and also among the quite different types of products. Further, there is competition not only among commodities, but among entrepreneurs. His contribution worthy of special mention is distinguishing these fundamentally different concepts of competition. But, he is rather in the genealogy of Clark, and his main interest is on the competition among entrepreneurs. Still further, we should add that Machlup, like Abbot, also had distinguished the two fundamentally different concepts of competition among commodities and competition among entrepreneurs.

Before Nickwitz, the two concepts of competition had been established as discussed above. Nickwitz defines that commodity competition is a passive form of competition. This corresponds fairly closely to the concept of Abbot's "degree of opportunity to compete". On the other hand, entrepreneur competition is defined as an active concept. This is closer to Abbot's "strength of competition".

Commodity competition is a precondition of entrepreneur competition. For the existence of the entrepreneur competition, the products must be competing with one another, that is, there must be some degree of cross-elasticities. The

19 L. Abbot, Quality and Competition, 1955.
20 F. Machlup, The Economics of Sellers' Competition, 1952.
results of active entrepreneur competition depend on the degree of passive commodity competition, that is, degree of substitutability or cross-elasticities. On the other side, however, entrepreneur competition is not the precondition of commodity competition. The products have some forms of cross-elasticities regardless of performance or non-performance of entrepreneur's competitive policies. Though entrepreneur competition is not the precondition of commodity competition, entrepreneur's policies could affect the cross-elasticities, thus change the degree of commodity competition or substitutability. From the buyers' point of view, the more substitutable, the higher the degree of competition among products. Such a degree of competition among products is able to be altered by the entrepreneurs' competitive conducts aiming to influence the substitutability of products as seen by buyers. Thus, all the products get to constitute one medium for the entrepreneur competition, and give the entrepreneurs the opportunities for generic competition, which will be described below.

According to Mickwitz's definition, commodity competition is a passive one, and it merely represents "the state of competition". Only the entrepreneur competition is an active form of competition which could be called "real competition". On the other hand, Mickwitz has brought forth, from Rasmussen's concepts of competition, the concept of "specific competition" in which the increase of proceeds by one would accompany the decrease of proceeds by another, and the concept of "generic competition" in which the new customers could be acquired not necessarily leading to the sacrifice of other members in the industry.

In contrast to these, Grether makes no sharp distinction between specific and generic, rather attaches importance to the combination of generic-entrepreneur competition. By making it one of a more dynamic character he constructed his concept of enterprise competition.

21 Mickwitz, op. cit., p. 63.
Generic competition becomes especially important when it is linked with innovation theories. In order to include the important role of innovation in his concept, Grether attached more importance to Clark's dynamic theory and into it he fused the Hamilton's conception of vital competition and the Schumpeterian innovation theories. He believed that to construct his theory in such a way would provide a better explanation of competition in the United States. Further, Grether simplified Hickwitz's concept of commodity competition, and constructed Grether's own concept of commodity competition as the one which relates only to homogeneous products.

In parallel with these developments, the recognition and use of a variety of competitive tools provides a richer description of the world of enterprise competition. If we treat the price as the only variable, as we see in the classical and neo-classical theories, it would be possible to describe only the world of commodity competition, but impossible to arrive at more realistic theories for the enterprise competition in the important heterogeneous markets. So other tools of competition have to be brought into the theory as the systematic components.

The development of theories toward this direction has been almost imperative.

First, Chamberlin had regarded other tools as the cost elements, as the part of selling price presented mainly as the price-cost theory. Brems and Abbot after him, regarded the quality as the core in their theoretical systems. However, they both never treated in detail the various competitive tools as the simultaneous parameters with "different" characters. Frisch, who introduced the concept of action parameter, also expressed his interest only to the price and the quality. Stackelberg contributed toward the inclusion all the variables in simultaneous equations, but treated the competitive tools only in terms of cost, and handled this theme rather formally. Although Bain had also broadly treated the various aspects of non-price competition, the price still played the ruling role. In
Machlup, further developments were made and the price policy was put on the equivalent position to other competitive policies. Especially Rasmussen had made the highest contribution in his first and comprehensive treatment of competitive tools, thus he had described the mathematical, systematic, mutually interdependent system with the spirit of Walras and Zeuthen. He regarded the competitive tools as the fully related variables, considered them the simultaneous parameters in the same equation system.

In Grether, these different competitive tools, including price, are taken in as the important devices for enterprise competition. He maintains that the heterogeneity, interchangeability and the search for the best combination of the competitive devices, and the mutual action among competitors do make the dynamic enterprise competition more active and do make its expressions much more varied. But his important contribution relating this problem is that he had developed his concept of "enterprise differentiation" and put it on the center of enterprise competition.

Accordingly, the next problem is to trace the development by Grether himself, from the concept of product differentiation to that of enterprise differentiation and competition. The product differentiation as the marketing phenomenon is as old as the history of trade. It is surprising to know that the economic analysis had heeded no attention to this phenomenon until 1930's. The reason would be that the phenomenon was too complicated to be absorbed into the theoretical framework. Grether took over this difficult task, and tried to make his theories more general. He considered that by unifying some separate and individual theories into general system of monopolistic competition analysis, one would be able to leave the narrow opinions acquired from empirical research.

Product differentiation is one of the two analytical cornerstones of Chamberlin together with competition among small numbers of firms. According to Chamberlin

a general class of product would be differentiated, if any significant basis real or fancied exists for distinguishing the products which would affect buyers' preferences. The concept differentiation may be based on (1) certain characteristics of the product itself, or (2) the conditions surrounding its sale, such as convenience of seller's location, general characteristics of the establishment, the fairness of the transaction, politeness, reputation of efficiency, and personal connections with the customer are included.

The differentiation is generated by the impulse for heterogeneity which is inherent in the American competitive system. Chamberlin holds that the heterogeneity is the fundamental fact, and the homogeneity is the artificial creation. But according to Grether, in our market there is also strong force simultaneously toward homogeneity, our market is not necessarily left to the riot of the differentiation. This dual thinking influences the formation of the two concepts of enterprise competition and commodity competition. Nevertheless, especially in marketing, he thinks that the stress should be placed on differentiation and heterogeneity, these are more important than homogeneity and standardization.

Now, Grether names two leading differentiations which Chamberlin had shown, as (1) the basic product differentiation, and (2) the enterprise differentiation. The contents of (1) are: internally differentiated elements of product itself, especially its inherent characteristics, and real or fancied all the elements directly attached to the product, like design, brand, and package. The contents of (2) are: conditions surrounding its sales, like credit or the offering of parking place, and the general way of doing business.

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Thus, the analysis of product differentiation has been extended to that of the concept of enterprise differentiation. This concept is the one which Grether has maintained from 1930's. Later, this concept was reconfirmed on the basis of Triffin's theory. In Triffin, it is thought that every seller competes for the purchasing power in the buyers' hands, so the traditional classifications of industry or commodity based on the specific physical characteristics, technological factor, and the conventional usage in the trade should be completely abandoned, and the cross-elasticity of demand should be taken as the measure of relationship among commodities. Grether also questions the appropriateness of some of the traditional distinctions among commodities or among industries. He considers that product differentiation in the pure sense often merges into enterprise differentiation.

Buyers have to select among various product brands presented with various services and with various assortments by various types of firms. In his Price Control Under Fair Trade Legislation, published in 1939, Grether coined the phrase "inter type competition" for this kind of analysis. The form of analysis of the impact of product differentiation is determined by "buyer's behavior". If the buyer picks up a commodity from the total composite of differentiated elements in a firm, individual tilted demand curve analysis would be useful. In the actual world, however, the buyer often does not pick up a single commodity in his buying behavior. In those cases, the analysis of individual demand for the separate product brand would be somewhat unrealistic so this should be taken only as a first step toward more complete explanation.

Thus, Grether considers that the usual classifications of industries or commodities would not be useful for the marketing analysis, especially in the retail and wholesale trades where enterprise differentiation is sometimes more

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important than specific product differentiation. The product stocks of the firm are built up not merely by the products with separate demands and prices but by the products with some interdependence of demand influences among which the elements of enterprise differentiation are important. The trend toward one-stop buying of foods and other products, and the increasing dominance of the larger supermarkets are some examples.

In 1950's, the concept of enterprise differentiation was extended to include "external product differentiation". Thus, the differentiation may be classified under three heads: (1) Basic product differentiation (real or fancied); (2) Enterprise differentiation; (3) External product differentiation.

Under external product differentiation would be included all methods, devices, practices, influences, and other means employed to differentiate a product, but separate and distinct from the product itself or the location and special characteristics of the enterprise and the customary services or amenities associated with the sale of the product. Lotteries, free gifts of other products, prizes, contests, coupons, trading stamps are the examples of potential differentiating elements external to and unrelated to the product. The important fact is that so-called external product differentiation is in hiding behind the enterprise differentiation. So external product differentiation as well as basic product differentiation are, in the real world, merged into enterprise differentiation, and they would appear as the parts of enterprise differentiation. This synthesized, broader meaning of enterprise differentiation becomes the concrete expression of enterprise competition. This enterprise competition, so interpreted, together with commodity competition for the homogeneous undifferentiated products, represents a broader twofold division

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of the concept of competition.

Last, let us now consider the essential function of enterprise competition. Market Structure Analysis logically starts from the clarification of the essential function of enterprise competition. In this sense, enterprise competition occupies the fundamental significance in Market Structure Analysis.

Through the analysis of the behaviors of the enterprises, Grether finds the fundamental difference in terms of commodity competition and enterprise competition. "The two situations can be compared to a gravity sprinkler system and a power sprinkler system in irrigated farming in Montana. In a gravity system, nature provides the propulsion by the force of the downward pull of gravity if the source of supply of the water is high enough above the place of application (consumption). But if there is good or better land that cannot be reached by a gravity flow (consumer or buyer pull) then it may pay to use a powered pump in place of gravity or as a booster to assist it. Such an installation can be introduced anywhere in the system—at the water supply or at intermediate points. The gravity flow sprinkler system conserves the water and delivers it to use on a systematic, controlled basis. The power-driven pump expands the use and benefits of the water far beyond the capacities and range of the gravity system. In the absence of the pump a great deal of land would remain arid or semiarid and would be entirely unproductive or have much lower yield. It may not be too farfetched to think of the gravity system in marketing as a way of fulfilling known staple demands and the power booster as a way of serving new demands and uses". 26 Like a parable in the Bible, how vividly the comparison of the two is depicted here! Indeed, the water delivered under the gravity system is comparable to the commodity competitions of neo-classical theory while that delivered under the power system is comparable to the new dynamic theory of enterprise competition.

It would be impossible to depict the various conditions of production
and marketing in the contemporary market by the traditional single product-price
competition model. The emphasis of contemporary marketing study is not on the
enterprise engaging in known commodity supply on a price basis. It is far more
important to inquire into the enterprise which intends to meet the less definite
needs with a flexible policy mix. All the enterprises detect the directions which
they should follow, from the given conditional elements of the general and specific
environment. Among the environmental elements the progress of applied science
and technology is the most important, so the innovations spring out on all levels
in production and marketing. On the other side, the diversification develops through
the competitors' struggles. Under the dual impacts of innovation and diversi-
fication, the heterogeneity of the market would develop.

Enterprise competition in the heterogeneous market develops through the
active interactions among various and massive competitors. One of the innovative
firm generates the shift of demand, starting a series of moves and responses among
competitors. The independent and spontaneous shift of demand would be possible
to occur, but the continuous mutual actions between selling efforts and buying
responses are typical and much greater in number.

The decisions on the various policies and strategies in the process of the
continuous series of aggressive and defensive, moves and responses are intended
rather to improve or defend the market positions than to adjust supply to demand.
The initial and original innovative moves become the major cause for the progress,
and the defensive responses would help to diffuse the gains of the progress more
rapidly and more extensively. On the background of original innovative mechanism,
there must be the expectations and hopes that this adventure would bring forth the
profit. In order to advance this point further, it would become necessary to dis-
cuss on the Schumpeterian conditions of technological progress. The most important
thing is that enterprise competition relates with future planning. Competitive moves and responses as the dynamic process need time, perspectives and predictions. Dynamic enterprise not only relates to actual and direct competition but also with threat of potential competition. Potential competition, especially under oligopoly, may exert larger influence than actual competition.

As is clear from the above considerations, we can conclude that the essential or ideal function of enterprise competition is to promote economic progress through dynamic innovations. Even more important to Grether is the philosophy of consumer sovereignty. It follows that actions should be taken privately and publicly against any obstacles which would blur or thwart the ideal manifestation.