

Title	The analytical framework of advertising : economic effects and adaptive process
Sub Title	
Author	清水, 猛(Shimizu, Takeshi)
Publisher	
Publication year	1978
Jtitle	Keio business review Vol.15, (1978.) ,p.107- 123
JaLC DOI	
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Notes	
Genre	Journal Article
URL	https://koara.lib.keio.ac.jp/xoonips/modules/xoonips/detail.php?koara_id=AA00260481-19780000-03920037

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THE ANALYTICAL FRAMEWORK OF ADVERTISING:

Economic Effects and Adaptive Process

by

Takeshi Shimizu

This paper is intended to suggest a theoretical framework for analyzing the behavior of the advertising system by means of systems approach, comprising two parts, Part I of a macro-viewpoint and Part II of a micro-viewpoint. In Part I a new framework to examine economic effects of advertising is suggested, in which the need of combined use of systems approach and functional analysis is asserted. In Part II the problem of advertising tax is taken up as a change in the environment of marketing, and supposable behavior of enterprises to adapt themselves to such taxation when enforced, is analyzed focussing on advertising.

Part I. Analytical Framework of the Price Effects of Advertising

Ever since Marshall and Pigou, in particular since the birth of the theory of imperfect or monopolistic competition, arguments on the economic effects of advertising, both critical and supponent, have been incessantly presented. For such endless discussion, continuing still today, some reasons are conceivable. If the first reason is to be found in poverty of available data useful for estimating the effects, the second will be disconformity of pursuing not always the same purpose but different or even opposite interests, pursuing not always the same purpose but different or even opposite interests, it is generally impossible to set a single common goal in the whole society. As the result judgement on whether advertising is socially effective is made not in relation to the objective of the whole society but by the value objective the analyst is employing, or from a viewpoint of contribution to the objective of some specific sub-group. Thus the present opinions, both supponent and opponent, amount to a number as large as the analysts with different social value views. As the third reason the discussion is liable to be partial and one-sided because of the lack of the systems thinking. A simple way of thinking that sets a single cause for a single result is impeding recognition and correct analysis of the multi-aspect and multi-level effects of advertising.

In the below an attempt is made to exhibit a theoretical framework of systems approach to the macro-level effects of advertising, referring with the relation between advertising and prices.

Whole social system and advertising system

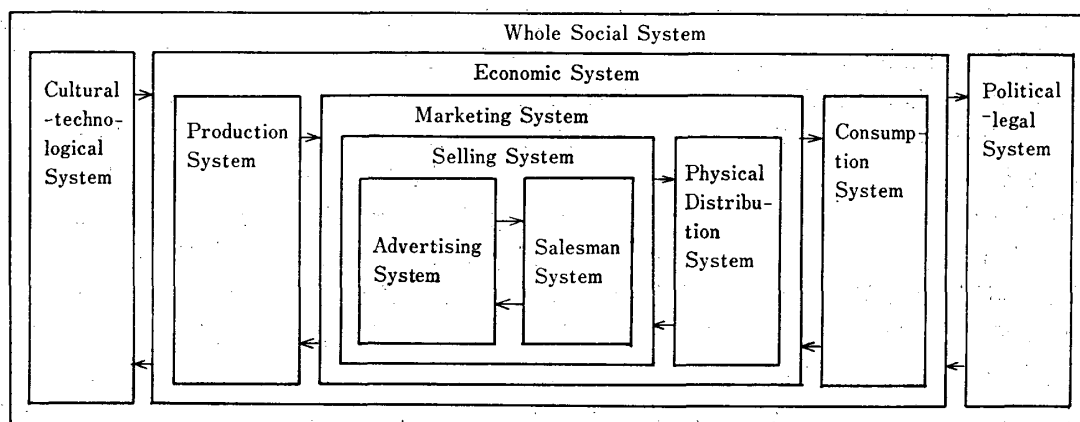
If, as Persons and Smelser have put,¹⁾ "A social system is the system generated by any process of interactions on the socio-cultural level, between two or more actors," we can regard advertising as such social system. The advertising system as a social system comprises advertisers, advertising agents and media as its action units, which hold interdependency, that is, a change in the state of a certain unit, namely action, affects the state of the whole advertising system as well as other units and their interrelation. The interaction among them contains interchanging of information, money and advertisement itself, and as the result of such interaction advertisement, in accompany with advertising outlay, flows out from the advertising system to the whole social system, the theoretically ultimate one of social systems. The whole social system has hierarchy of multi-level sub-systems, in which the advertising system is included, but not as first level system. Accordingly its output does not make direct input to the whole social system.

As shown in Figure 1 the whole social system is composed of sub-systems relevant to economy, politics and culture, each of which is contributing to the equilibrium in the whole social system through interactions. The economic system is to transform social resources into goods and services and fulfil consumers' desire, involving sub-systems of production, marketing and consumption. These sub-systems have production-relevant enterprises, marketing-relevant enterprises and households respectively as action unit, and are contributing to the goal of the upper-order economic system, that is, maximum satisfaction of consumers' desire. The production system generates utility of form, and the marketing system provides a means of equilibrium in the consumption system by adding utility of place, time and possession of goods. When the consumption system attains to equilibrium by goods generated by the production and marketing systems, it may be said that also the economic system is in a state of good equilibrium.

The marketing system is further differentiated into a system of physical distribution and that of selling, both being its sub-system. The former functions to create utility of time and space, and the latter that of possession through supply of information. The action units of the selling system are mainly advertising and salesmen, making its sub-systems. Thus here advertising appears on the stage as a fourth-order sub-system of the whole social system. The advertising system is an independent action system, composed of the above-mentioned sub-systems, yet for the sake of equilibrium it is necessary to execute cross-border interchanges of input and output with other equal-order

1) Persons & Smelser, *Economy and Society*, p. 8.

Figure 1. Conceptual Schema of System Hierarchy



differentiated systems and upper ones. By so doing its position as a component part of the upper system is secured. The output of the advertising system becomes the input of other systems and operates on their state directly or indirectly, with the results being fed back as input.

Now the effect of the output of advertising on other systems can be considered from a functional viewpoint, that is, what function the advertising system (subjective body) performs for other systems (objective body). The functions of the subjective body to objective body can be divided into manifest and latent ones according as any correspondence exists between the intention or motive and the result, or not. And for both of these two kinds of functions further distinction is possible into eufunction, dysfunction and null-function according as the result is positive, negative or zero to the objective body system.²⁾ Therefore estimation of the socio-economic effects of advertising implies determination of what function to what degree—that is, manifest eufunction, manifest dysfunction, manifest null-function, latent eufunction, latent dysfunction or latent null-function—is being performed by the output of advertising. In the below these functions shall be examined in line with this framework and in relation with prices.

Economic system and advertising system

The advertising system is the third level sub-system of the economic system, but to view the system hierarchy around it, there exist the salesman system as an equal-level system, the selling and physical distribution systems as first level upper-systems, the production, marketing and consumption systems as second level upper-systems, and the economic, political and cultural systems as third level upper-systems. These systems place environmental restrictions on the advertising system, at the same time holding interactions with it directly or indirectly. To observe its relation to the production, marketing and consumption upper-systems, its output firstly gives input of information to the

2) "Social Theory and social structure" by R. K. Merton.

consumption system, which turns to output of demand through internal mechanism of the consumption system, which is then fed back as input to the production and marketing systems in the form of sales. The volume of this input-sales, i.e. effect of advertising on sales, operates on the production and marketing systems within the economic system. To speak referring to prices, since these effects can be grasped as changes in the structure of costs corresponding to the scale of production, input from the consumption system operates on production and marketing costs, and so—to speak of the cost aspect alone—this result is reflected in price changes. And when information of a price change is introduced into the advertising system, new price information is given as input to the consumption system by advertising of the next period, which causes a new change in demand. This demand change next invites a change in production and marketing costs, and again a price change, say cyclical process of operation. Therefore the price change arising here can be regarded as a result of interactions between the advertising system and the production and marketing systems. Thus for the sake of knowing what function the advertising system is performing on other systems in terms of price, it is necessary to examine its function for the consumption system and function for the production and marketing systems.

Consumption system and advertising system

To look the advertising system in its intention or motive, primarily it intends to supply information to the consumption system—naturally containing an element of persuasion—and thereby to draw out demand output from it. This will become more evident by considering the fact that the importance of the role of marketing in the economic system stemmed from a historical turn of supply-demand positions in the production and consumption systems, and also the fact that advertising aims at growth-type equilibrium between production and consumption by means of connection of idea. So the primary intention of the advertising system is creation of demand through operation on the consumption system, which makes its direct objective. Its simultaneous operation or the effect on other systems than the consumption system is secondary and indirect viewed from its intention. Thus the function of the advertising system of creating demand in the consumption system is manifest, and the problem is whether it is eufunctional, dysfunctional or null-functional.

First as to the propensity to consume, true the advertising system causes changes in the relative weight between the propensity to save and to consume, that is, intensifies the latter, yet so long as income is constant this result is nothing more than changing of future demand to present one. To assume that raising of the level of consumption is a condition of improving the standard of living, and makes a contributive functional Prerequisite of the consumption system, such simple operation of pushing the propensity to consume under constant income is conceived to contribute nothing to the consumption system

in the long run, and so is null-functional or dysfunctional. On the other hand it may be eufunctional under increasing income.

However, if the advertising system does not only supply information on the physical utility of goods but also render reputation to specific brand names, and leads consumption units to recognize the utility of reputation itself, the consumption system comes to get physical plus reputation utility, which produces the same effect as a rise in the real income and hence real consumption level. In this case the advertising system is eufunctional. On the other hand consumption system exercises double interexchange with the production and marketing systems, that is, an exchange of outlay of income and acquisition of goods and another exchange of labor service and wages. Accordingly, provided in this process of exchanging the advertising system acts as investment-promoting factor and increases income, it performs eufunction on the consumption system for the reason of rises in effective demand and consumption levels.

Production system and advertising system

When the advertising functions contributively on the functional prerequisite of the consumption system—rise of the consumption level—it creates demand, and the quantity of such demand affects the production system. The functional prerequisite of the production system in relation to prices is reduction of costs. Cost reduction, however, is not an original intention of the advertising system. Its operation on the production system is indirect one by the medium of the result of its operation on the consumption system. Accordingly its role for the production system is always latent in intention, and the problem is whether its actions are latently contributive to the functional prerequisite of the production system. Here distinction is necessary on the possibilities of cost reduction: (1) reduction of production costs due to attaining to an optimal operating rate and higher efficiency and (2) reduction of overhead costs born from full and constant use of production facilities given. In the case-1, in so far as an increase in demand works to expand the operating rate up to the lowest point of average cost, and to improve efficiency regarding organization, equipment or materials purchasing, the advertising system operates functionally on the production system. However if the demand increase remains within the range of unchanged costs, it is null-functional and, as a particular case, if the expanded operating rate increases average costs, it is dysfunctional. To consider the case-2—decrease of overhead costs by stable demand and operation—the advertising system brings about stability by cultivating consumers' preference, yet the stability of demand is a fruit of the upper-level marketing system as a whole. And the realization of stable operation to lower overhead costs varies according to the weight of fixed and variable costs, too. Nevertheless, anyhow the advertising system can be eufunc-

3) N. H. Borden, *The Economic Effects of Advertising*, p. 856.

tional on the reduction of overhead costs, if to an indeterminate extent.

Marketing system and advertising system

Since the advertising system is a sub-system of the marketing system, outlay of the former makes a cost factor of the latter, and doubtless causes increases in marketing costs. At the same time, however, advertising outlay firstly affects the equal-level salesman system and through it derives changes in the inner structure of the upper-level selling system. Secondly it operates on the neighboring equal-level system of physical distribution, and thus affects the entire marketing system, increasing or decreasing its outlay, namely marketing costs. Therefore the relation between the marketing and advertising systems can be observed from a viewpoint of what function the latter performs for the sake of cost reduction in the former.

While the advertising system consists of advertisers, agents and media, the salesman system is composed of many salesmen from producers to dealers. The two systems are different in the action unit, but lies in an alternative and equal-level relation as a means of arousing demand through supply of information. Accordingly only when the advertising system is more effective than the salesman system and helps reduce the latter's costs, it can be said that it is latently eufunctional on the salesman system and contributive to the growth-type equilibrium of the selling system.

On the other hand, since the advertising and salesman systems are mutually complementary as well as alternative, their combination bears possibility of functioning on the upper-level selling system. That is, by dividing selling into six steps of 1) contact, 2) awakening of interest, 3) creation of preference, 4) presentation of merchandises, 5) order taking and 6) keep-up of customers, if the advertising system mainly takes charge of 1, 2, 3 and 6 in order to make the salesman system concentrate its efforts on 4 and 5, it helps raise efficiency and decrease costs of salesmen and selling, and so is eufunctional on the selling system. This function, however, may become dysfunction or null-function according to such conditions as the character of products, the number and geographical concentration of customers, the nature of marketing channels or the adequacy of advertising techniques.

Next the physical distribution system comprises action units in charge of physical distribution, transportation and warehousing, and makes a neighboring equal-level system of selling. Changes of state in the selling system caused by the operation of the advertising system affect the state of the physical distribution system as well as the relation between the selling and physical distribution systems. To speak of prices, when costs in the physical distribution system are reduced the advertising and hence selling systems operate functionally. When the selling system, being changed by the actions of the advertising system, invites mass-demand, economies of scale work on the physical distribution system with technical character similarly to the

production system, and average distribution costs possibly decline. Mass-distribution decreases charges of transportation and warehousing per unit, and possibility of mechanization leads to reduction of expenses for handling, clerical work and management. Such economies of scale, however, have a certain optimal point, offset by diseconomies accompanying longer distances of time and location from customers. Accordingly up to this optimal point the advertising and selling systems operate to reduce physical distribution costs and so are eufunctional on this system. The new-born relation between the selling and physical distribution systems causes a change of state in the upper-level marketing system, leading to new equilibrium. But even if this new equilibrium in the marketing system brought about by the advertising system requires a larger amount of marketing costs than in the former equilibrium, so long as it is growth-type equilibrium backed by a larger volume of distribution, advertising is socially approvable. This applies also with the economic system. That is to say, so long as new economic equilibrium produced by advertising is of growth-type on the ground of increased consumption, the action of the advertising system is acceptable.

Now under a framework as described above, what effect does the advertising system work on combined costs (production costs + marketing costs except advertising cost), what is the character of its price, viewed from costs alone, and what function does it perform on the consumption system—the goal of the economic system? As to the combined costs, as N.H. Borden suggests, three cases of 1) increase, 2) constant and 3) decrease of average combined costs are supposable corresponding to the extent of demand expansion by the advertising or upper-level selling system. In the case-1 addition of increments of advertising costs raises unit costs and hence prices much more—advertising is dysfunctional on consumption. In the case-2 increases in the volume of production and distribution due to advertising do not work to decrease the combined costs, and so unit costs and hence prices rise as much as the advertising costs per unit—again dysfunctional. The case-3 means eufunctional operation of advertising on the combined costs and cost reduced due to economies of scale. In this case according to offsetting between reduced costs and additional advertising costs we can conceive 1) only partial offsetting advertising costs, 2) just equal offsetting and 3) offsetting and surplus. In the case-1 the un-offset residuals push up prices so much in the long run—advertising is dysfunctional on consumption. In the case-2 unit costs and prices show no changes—null-functional. In the case-3 unit costs decline and prices are cut down compared with a case of no-advertising—possibly eufunctional on consumption.

However, whether such cost reduction is directly connected to price-down, in other words whether the advertising system is eufunctional or not,

4) "Advantages of the Large Firm" J. S. Bain, *Journal of Marketing*, Oct., 1955, pp. 336-346.

depends on other factors that define the direction of investment of surplus profits. Surplus profits born from reduced unit costs are feasible to various aims other than price-down—internal reserves, product improvement, re-investment in advertising, wages hike or taxes—and the selection is decided by future plans and aimed values of executives, pressure of competition system or legal regulation. Business executives act not in a vacuum but in an environment including competition and regulation from which their future plans and goal values are born. Therefore the problem of whether or not the fruit of advertising is directed to price-down is a problem of executive's behavior about competition and adaptation to environment, whose solution must be sought in the state of competition and other circumstances.

Competition system—competitive behavior—PLC model

In the traditional theory of competition it is accepted that the structure of market—comprising such factors as the number of sellers, the degree of products differentiation and the intensity of interdependence—defines the pattern of competitive behavior and affects market performances, say, a relation of structure-behavior-performance. An increase in sellers transforms the type of competition from non-price to price, and a high and low degree of product differentiation derive respectively non-price and price competition. Where both the number of sellers and the degree of differentiation are large, the interdependence is smallest, and where the situation is reverse, responses to competition are sensitive. And, in combining these factors it is argued that at one pole, where a large number of small firms make up only a small part of total sales of the industry, the pattern of competition is characterized by severe price competition and small advertising outlay, while at another pole, assumed to be oligopolistic because a small number of firms control the market, price competition is evaded and excessive outlay for advertising is made.

However, so long as competitive behavior is aggregate of decisions by executives who have freedom of choice, the base of competition—price or advertising or product—is not simply decided by market structure in the sense of economics. It is a result of synthetic and variable operation of other factors such as demand in addition to market structure. So it becomes necessary here to introduce a structural concept that synthetically shows the state of competitive behavior in the aspects of prices and advertising. It ought to be a concept that can embrace various structural factors and at the same time can clarify the places of decision-making conforming with executive's plans and goal, for the sake of explanation. A useful tool for this task is the concept of product life cycle (PLC). This PLC is a general model concerning with sales trends of a certain product class and changes in competitive behavior, and four phases of introduction, rapid growth, maturity and decline are conceived.

In the PLC model, the rate of sales growth is low in the phases of

introduction and maturity and highest in the rapid growth. Also profit margins are highest in the growth phase. This pattern of PLC can be combined with structural factors of market in terms of economics. For the state of market factors changes corresponding to the PLC phases, generating different environments of competition. The number of sellers gradually rises with shift from introduction to decline and, as described already, the pattern of competition changes from non-price to price. The degree of product differentiation gradually decreases along with the cycle through monopolistic, favored and diminishing stages until it arrives at zero, as a differentiation curve may show.⁵⁾ Thus also with respect to this factor of differentiation, competition moves from non-price to price one in accordance with the shift in PLC. To speak of interdependence, it is highest at the intersection of the curve of seller's number and that of differentiation, and low at both terminals. Accordingly the speed of response to competition and the severity of competition change with the phases of PLC, from small to great and then again to small.

Thus the PLC model sets up the following hypotheses about competitive behavior referring to prices and advertising expenditure.⁶⁾

Introduction phase: (a) the ratio of advertising expenditure to sales is very high compared with the maturity phase. This is because with the sales being small, a large advertising expenditure is required in order to supply information of the new product to potential customers, to persuade them to trial use and to stimulate stock at retail; (b) prices are appreciably higher than in later phases because production costs are high due to small-scale of production, technological problems are not yet perfectly solved, and high margins to cover advertising costs are necessary for further growth.

Rapid growth phase: (a) advertising expenditure remain still at a high level compared with the maturity phase, but their ratio to sales begins to decline because of rapid growth of sales; (b) prices fall somewhat but present levels are maintained as far as possible in order to recover investment in the introduction phase.

Maturity phase: (a) the ratio of advertising expenditure falls sharply due to decreasing margins and lowering response of demand to stimuli of advertising; (b) due to emergence of substitute products and decrease of differentiation prices drop, to new stability.

Decline phase: (a) the ratio of advertising expenditure declines further; (b) prices also fall.

These hypotheses of the PLC model almost fully corresponds to the pattern of competitive behavior in the processed food industry at United States and Japan.

5) Marketing: Concepts and Strategy M. L. Bell, p. 292.

6) Competitive Behavior and Product Life Cycle, R. D. Buzzell, Proceedings of AMA., 1966, pp. 46-68.

Competition system—advertising system—economic system

The final functional role of the advertising system as a social system lies in its contribution to the stable growth of the whole social system, but amid this process it affects the sub-systems of the economic system, in particular giving various changes to production and marketing costs. How these changes in costs are woven into price mechanism is, for one thing, influenced by decisions of the group of executives on their behavior in the competition system, whose mainstay is market structure factors. These decisions, however, are not singularly defined by the relation of structure-behavior-performance, but rest on the state of competition system which is framed by applying the PLC concept to market factors.

Thus the state of competition system, which varies according to the phases of PLC, restricts behavior decisions, and at the same time it makes a condition that restricts the operation of the advertising system on the economic system. Corresponding to the changing state of competition system for each PLC phase, the function of advertising on production, marketing and consumption is varied. The demand creation effect of advertising on consumption is low in the introduction phase, reaches a peak in the growth phase and diminishes in the maturity phase. Such demand creation work—which changes according to the PLC phases under different effects of competition system—exerts subsequent operation on the production and marketing systems, again according to the PLC phases, and gives changes in them. The changes born here in the economic system are fed back to the competition system seen in each PLC phase and causes changes therein. It is within the competition system showing such cyclical fluctuations that decisions of competitive behavior are made. Therefore the state of competition system—environment of decision-making—and the state of the economic system—being affected by the advertising system—are in a relation of interaction, where the advertising system plays a role of medium between the two. The prices and advertising behavior borne by this intermediation may be explained by the monopoly theory for the introduction phase, and by the oligopoly theory for the growth phase, while the situations in the maturity and decay phases resemble monopolistic competition and pure competition respectively.

Part II. Advertising Tax and Marketing Adaptive Process

Taxation on advertising, now under discussing among Japanese concerned circles, is a theme that involves a possibility of creating environmental changes and at the same time require change of behavior to enterprises. In this Part II we shall study first what interrelations the advertising tax has with the whole social system, and make positioning of advertisers as its component part. Next the marketing adaptive process of advertisers against the background of this new tax will be considered, referring to its relation with

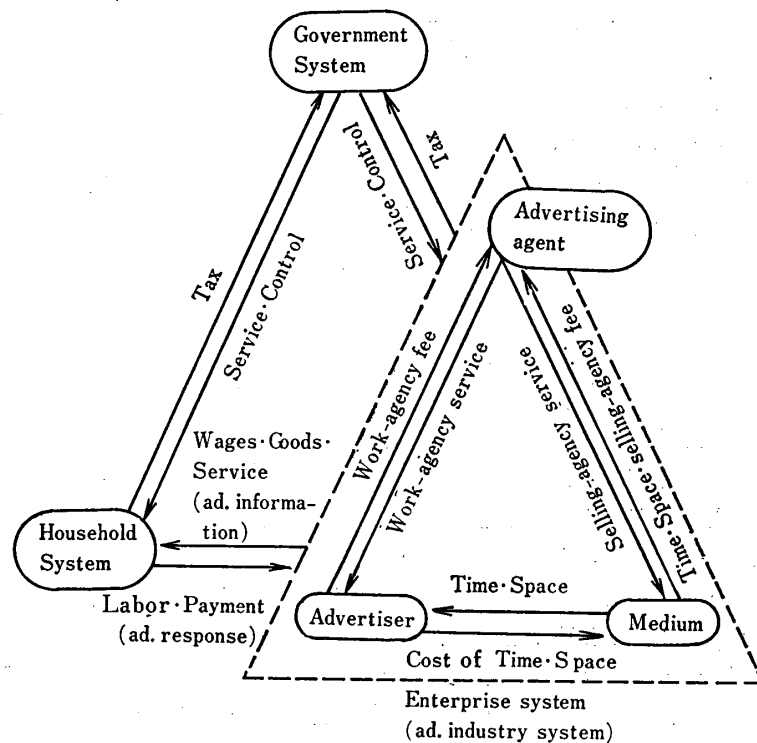
marketing mix.

To condense the whole social system from a viewpoint different than in Part I, it can be conceived to consist of three component parts of enterprise, household and government, each making a sub-system of the whole social system. These component parts are expected to contribute to the whole for its maintenance and growth through interchanging of input and output. Then what makes the utmost concern is not an optimal position of specific parts, or partial optimum, but that of the whole.

Figure 2 exhibits interactions between the sub-systems of government, household and enterprise. (Here the enterprise system is exhibited as an advertising industry system, its particular form.) To observe relations between the three, most basic is that between household and enterprise. Some of household members supply labor to enterprises, engage in production and distribution of goods and services—thus participating in the activities of the enterprise system—and receive wages as compensation. Households, using wages, purchase or acquire goods and services and make payment. To speak referring to the advertising industry system, the household system accepts input of advertising information, which is output of the industry, and gives output of responses to advertising.

Next between the government and household systems, the latter receives

Figure 2. Input-output Relations within Whole Social System



various services from the former for taxes, at the same time being subject to its control. Again between the government and the enterprise similar service-control exchange is seen. To view the advertising industry system—involving advertisers, agents and advertising media—it accepts input of labor, payments and advertising responses, and makes output of wages, goods and services, and information to the household. In the relation to the government, it gives output of taxes and receives input of services and control.

To look the inner structure of the advertising industry system, advertisers, agents and media hold input-output relations as in Figure 2. (The input and output flows in the Figure show not actual but functional ones in simple forms).

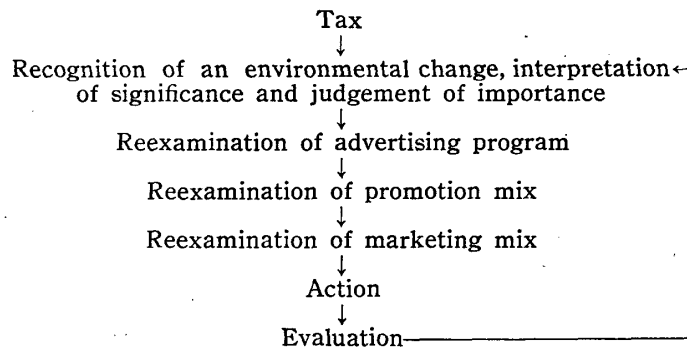
Thus the advertising industry system has its environment composed of the government and household, and hence is required to adapt itself to environmental changes, that is, changes in the input-output relation within environment. At the same time each one of its component parts is affected by the changes in other parts and is forced to take adaptive process.

By realizing the whole society as a system involving interactions, and positioning the advertising industry within it in this way, the following changes by the advertising tax are conceivable in the whole social system.

First by a change in the control output of the government system (tax control) into the advertising industry system, the tax-revenue input to the government will change. Second within the industry, receiving tax control of the government as input, the input-output relations will change between advertisers, agents and media quantitatively and qualitatively. Third as a result the output of advertising information from the industry to the household will be changed. Fourth the response output from the household to the industry will change, which will again arouse a change inside the industry. Fifth a change will arise in the tax output from the industry to the government. Sixth the change in the industry will invite a change in the wage input of the household, and consequently a change in the tax output from the household to the government. These changes are supposed to extend over the whole social system.

The advertising tax, which directly implies a change in the control output from the government to the industry, will cause not only a change in the input of the government but also changes in the industry and household systems, leading in the end to a remarkable change in the state of the whole social system. Accordingly the reasonableness of the advertising tax should be judged from a viewpoint whether the linkage of input-output changes brought about to the component parts of the whole social system can really lead to further growth of the whole.

Next to put our focus to advertisers as an element of the whole, they are required to take adaptive process amid an environment including the behavior of government and households as well as agents, media and other advertisers. To consider the process of such adaptive behavior of enterprises to

Figure 3. Marketing Adaptive Process of Advertising Taxation

be caused by the taxation, a pattern as Figure 3 is conceivable.

To look its steps one by one, the process begins with recognition of changes in the tax environment. Of course such adaptive behavior will not emerge if enforcement of the taxation is never foreseen or, even if enforced, among firms not aware of it.

When taxation is enforced and an enterprise comes to recognize it, the process goes to the next step of construing its significance and estimating its importance. The significance and importance vary according to the positions of individual enterprises. And this position depends on what a decision-maker percepts, in other words a subjectively interpreted position rather than actual one.

As the objective condition variables that produce motives to adaptation, the following are conceivable in relation with the significance and importance of the tax.

- 1) Formula of taxation.
- 2) Internal firm factors—financial position, physical facilities, status and ability of advertising staff, connection with agents and media, managerial goals, marketing goals, advertising goals, width of product lines, and the actual state and performance of marketing and advertising programs.
- 3) Customer factors—purchasing habits and motives of target customers, attitudes to advertising, needs for advertising information, patterns of response to other marketing tools, and the geographical territory, dispersion and number of customers.
- 4) Channel factors—types, length of channel, differentiation of role, coordination, contracts, and the dispersion and number of stores.
- 5) Competition factors—targets and actual states of marketing and advertising programs of rival firms, and their responses to the tax.
- 6) Product features—category of Product, quality and differentiation of products.
- 7) Socio-economic factors—business trends, culture, moral, the standard of living, and attitudes to laws.

The result of interpretation of these objective condition variables may possibly lead decision-makers to reexamination of advertising programs. The

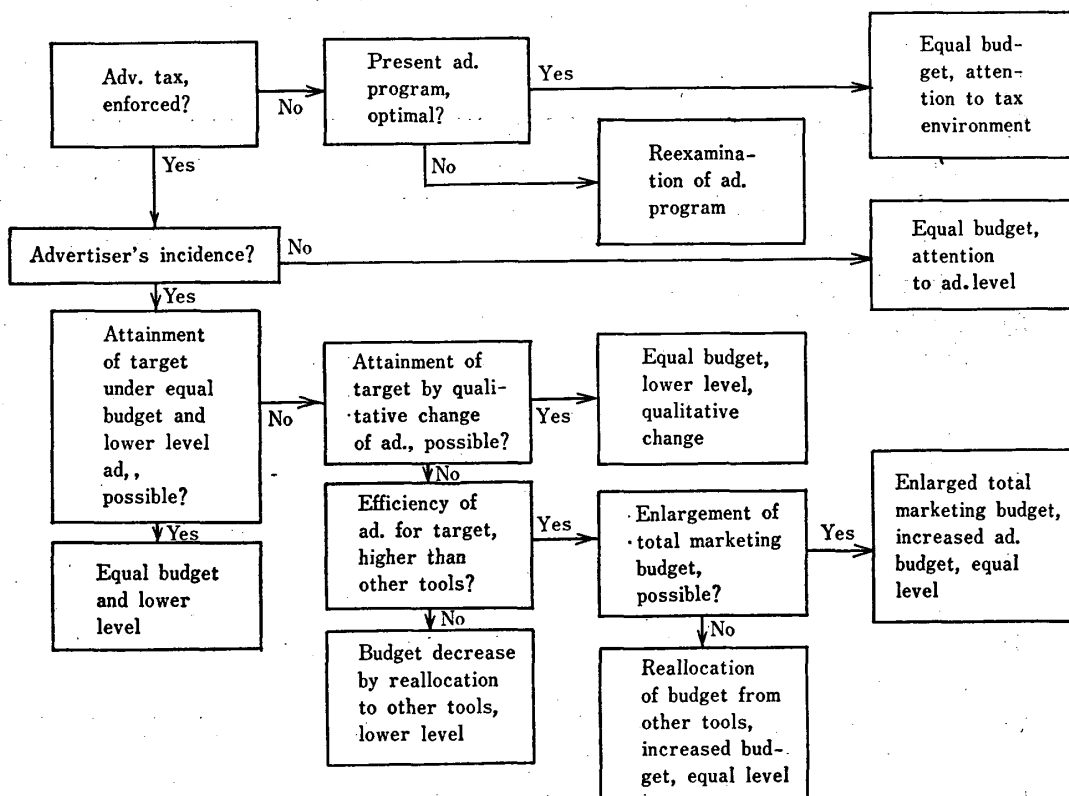
marketing adaptive process will appear first as revision of advertising programs, secondly as change of promotion programs, and thirdly as more extensive change of marketing programs as a whole.

At the step of reexamination of programs the alternatives a firm should adopt involve keeping-increasing-decreasing of budget or level (volume) of advertising and qualitative change. The pattern of program revision due to the advertising tax is summarized in a flow chart, Figure 4.

In Figure 4, if the tax is not yet enforced, so long as the present program is optimal in fulfilling both enterprise's target and customer's needs for information, the budget will be maintained as it is and attention will be paid to future possible changes in the tax environment. If such an optimal state is lacking, the growing voice of advertising taxation will drive decision-makers to realize the necessity of reexamining budgets, media and creative contents of advertising.

In case the taxation is enforced the concern of enterprises lies first in its formula. In the below we assume that the tax becomes direct incidence to advertisers and the budget must include real expenses of advertising plus an amount equivalent to the tax. Accordingly if the formula is different, that is, no burdens are charged on advertisers, the budget will remain unchanged (provided the present advertising level is optimal). Even in this case, however,

Figure 4. Advertising Tax and Revision Process of Advertising Program



there may be some rise in the cost of medium and hence decline in the real level of advertising. Therefore attention will be drawn to the possible changes in the real level.

On the other hand, in the case of advertiser's incidence an equal amount of budget causes a fall in the level, and it will be questioned whether such a lowered level can attain the target. If it is difficult, it will be investigated whether some qualitative changing, namely change of the media mix or creative contents of advertising might be more effective. If attainment of the goal is possible under such a lowered level, the budget will be kept and the lowering of level is covered by qualitative adjustment.

If such covering by qualitative adjustment is unexpectable, the efficiency of advertising in attaining the target will be examined by comparing with other marketing tools. If the efficiency of advertising is higher than other tools—price-down or new products—the budget must be enlarged. If enlargement of the total marketing budget is possible, the appropriation for advertising is increased and the level is held as it has been.

If enlargement of the total marketing budget is impossible, reallocation from other marketing tools is made in order to increase the advertising budget by the amount of tax and the level is maintained.

If the efficiency of advertising is lower than other tools, reallocation to other tools will be conducted, causing a decline in the budget and level of advertising. On the other hand if the same budget and hence a lower level are enough to attain the target, the same budget is kept and the level will decline as much as the tax.

The secondary-step revision of the marketing adaptive process is performed at the level of promotion mix. This implies reexamination of budget reallocation among promotion tools, in relation with the "Efficiency of advertising for target, higher than other tools?" shown in Figure 4. Advertising, in supplying information, lies in a complementary and at the same time in an alternative relation with activities of salesmen, sales promotion in a narrow sense and publicity. Therefore the advertising tax may derive revision of a promotion mix. However, the relative weight between these complementary and alternative relations depends on the state of condition variables of individual enterprises as listed in the preceding step, and hence positioning of advertising in a promotion mix varies from firm to firm according to the different variables. However, to speak focusing on the relation between advertising and salesman, more emphasis will be placed on the latter under the following conditions: 1) concentrated market, 2) high unit price, 3) need of demonstration, technical advice and trade-in, 4) small frequency of purchase, 5) producer's goods, 6) introduction stage of life cycle of an industry, and 7) importance of dealer promotion.

Contrastively greater emphasis will be with advertising under: 1) large advertising opportunities (growing demand, existence of differentiation,

presense of hidden quality, emotional buying motive and substantial advertising fund),⁷⁾ 2) greater size and dispersion of market, 3) daily-use convenience goods, 4) wide product line, 5) need of speedy supply of information to the mass and 6) introductory stage of selective demand for a new product.

However, the task in an advertising-salesman mix is attainment of total optimum including both advertising and salesman activities, rather partial optimum for either one. In this sense the problem is the effect of advertising on the total cost and market reaction of the two, side by side with examination of relative efficiency.

Next the third-step revision is performed on a wider level of marketing mix. This is a step where allocation of budget is reexamined in relation with all marketing tools. Advertising has an alternative and a complementary relation with the product-price mix and the channel mix. The result of the advertising tax may affect to cause not only alteration of the promotion mix but also change of the marketing mix and, for instance, derive reallocation of budget from advertising to development of products, cultivation of channels or raising of prices. What weight and position are attached to advertising on the level of the marketing mix is again determined by the condition variables of individual enterprises.

How an advertising program is revised on this level and what final mix is formed may rest on the following conditions to be born from interpretation of condition variables, that is, 1) functional relation between expenditures to each marketing tool and market responses, 2) time lag necessary to draw market responses for each tool, 3) possible degree of alternation and complementation between one tool and another in the marketing mix and 4) forecast on action and reaction of rival firms.

In this way an adjusted marketing mix is finally decided, a marketing program is carried out, its result is evaluated, and feed-back to the recognition of environmental changes is made again.

Summary

In Part I a conceptional framework to analyze the economic effects of advertising, in particular macro-effects on prices, has been presented. Since advertising lies in complicated relations with many sectors of society, systems approach must be employed, by which its relation to prices should be analyzed as multi-level and interrelative one extending over the systems of whole society, economy, production, marketing, consumption, physical distribution and salesmen. And it has been shown that the relation of advertising to various other systems can be analyzed—as functional analysis—dividing into manifest and latent functions on one axis (or dimension) and eufunction, dysfunction and

7) The Economic effects of Advertising, N.H. Borden, pp. 424-428.

null-function on another axis. To observe focusing on pricing behavior, marketing behavior is restricted by the environment of competition and legal control. Accordingly first the problem of competition system has been considered in connection with product life cycle. The introduction of the concept of life cycle has served as bridging from macro- to micro-analysis.

In Part II, as a problem of change in legal control, the advertising tax and enterprises's adaptive actions to it have been discussed, and a general framework of adaptive process been suggested. For this sake the advertising system has been positioned in relation with the whole social system, and it has been shown that each component part of the advertising system holds interrelations of input and output with other parts. From this viewpoint the tax is supposed to work continuous and multiple propagative effects over the whole social system. Next the adaptive actions of advertiser, positioned as a component part of the advertising industry system, have been examined at the levels of advertising, promotion mix, and marketing mix. A process of adaptation from recognition of environmental changes to evaluation of behavior has been presumed, into which a concept of condition variables have been introduced. Part II represents an attempt to set up a conceptual framework concerning the marketing adaptive process of enterprises against the background of the advertising tax.

Taking different viewpoints, macro- and micro-, Part I and II alike have aimed at building analytical frameworks on the ground of systems approach, focusing on advertising. Our future task may be refinement of these frameworks and positive researches.