

**"The Evolution of Retailing:  
A Suggested Economic Interpretation"**

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# The Evolution of Retailing: A Suggested Economic Interpretation

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ABSTRACT

An analytical framework, based on the concepts of household production on the demand side and joint costs on the supply side, is applied to describe the nature of retail activities and the evolution of retail institutions.

## THE EVOLUTION OF RETAILING: A SUGGESTED ECONOMIC INTERPRETATION

### 1. INTRODUCTION

Explanations of institutional change in retailing have stressed a variety of different factors. For instance, Brown (1986) labels these factors ecological, cyclical, and conflict in a recent survey. Ecological explanations are those that stress characteristics of the external environment, such as technological change or economic conditions, in determining the pattern of retail change (eg Bucklin (1972)). Cyclical explanations are those that emphasize the repetitive nature of certain trends in retailing, for example McNair's (1958) wheel of retailing. Conflict theories are those that highlight the response of existing institutions to some challenge in their environment, especially from competitors, as for example in Schumpeter's Theory of Economic Development (1934).

Our own view is that all of these factors are to some extent present in the evolution of any particular institutional form. In some instances, one or more of these factors will play a rather prominent, even critical role in determining the particular way a retail institution develops; in other instances, however, the same factor plays a much more limited role in affecting outcomes. Rather than explaining the evolution of retailing in terms of particular factors, it seems more useful to analyze and interpret this evolution in terms of a framework which is capable of allowing, but not forcing, these factors to play a role. Indeed the objective of this paper is to illustrate the application of such a framework, developed elsewhere (Betancourt and Gautschi, 1986a), to the analysis of the evolution of retail institutions.

At the simplest level, our framework is based on the juxtaposition of two ideas. First, the fundamental economic function of a retail firm is to deliver explicit goods or services to consumers together with a variety of distribution services which determine the levels of

distribution costs experienced by consumers in their patronage of the retail system. Second, a very familiar idea to economists, consumers are guided by the pursuit of satisfaction in their consumption activities and retailers are guided by the pursuit of profits in their production activities. In order to be useful as an analytical framework, of course, these ideas require elaboration as well as their integration.

In the next section, we elaborate on the first idea by discussing, in the context of an example, six general types of distribution costs experienced by consumers in their retail activities as well as five general types of distribution services provided by retailers. The second idea is elaborated and integrated with the first one in Section 3, where we present the analytical framework that underlies the last two sections of the paper. The framework uses a household production model to explain the demand for retail products and a joint cost function as a basis for characterising the supply side.

Perhaps the most important feature of this theoretical framework for analyzing or interpreting the evolution of retailing institutions is that it allows a rich interaction between external factors and the internal dynamics of the model, propelled by the actions of satisfaction-seeking and profit-seeking participants in the retail system. Two substantive applications of this framework aptly illustrate the importance of such interaction in determining the evolution of retail systems and their institutions.

Section 4, which contains the first application, is an interpretation of the evolution of the retail system for movies with special reference to the United States. The theoretical framework proves an invaluable aid in providing a coherent account of a very dynamic and complex process. In the forty some years since World War II, the retailing of films has changed from the provision of a very perishable product by a single type of retailer for on-site consumption to a very diversified (and larger) market in terms of retail forms, providing products with very different marketable lives and in a wide variety of settings. In the midst of all this diversity, the interaction is apparent between

key external factors, such as technological developments, and the internal dynamics of the model, which in this case aim at providing higher levels of several distribution services. Environmental factors such as rising incomes, especially wage rates, and the need for control in the timing of consumption activities by modern households have also been important forces in generating the demand for higher levels of these distribution services.

The last section of the paper (5), which contains the second application, is an interpretation of the emergence of particular structural forms in the retail system in terms of our analytical framework. One of the main theoretical implications of this framework is the tendency of retail firms to become complex organizations in their pursuit of the profit opportunities provided by activities which lower prices from their suppliers, spread their fixed costs over many products, and exploit different demands for their distribution services in different markets. We use this internal characteristic of the model and its interaction with several facilitating factors in the external environment to explain the emergence, during the nineteenth century, of three of the most significant institutions in modern retail systems: department stores, chain stores and mail order houses.

Explaining the evolution of any system is a difficult task. Indeed, some distinguished economists (e.g. N. Georgescu-Roegen (1971); Nelson and Winter (1982)) question the ability of the profession to explain evolutionary processes with the usual tools. Consequently, it is useful to present our own perspective on the limits of our approach. The framework presented here is put forth as a flexible tool with which to analyze retail systems. The two applications in Sections 4 and 5 are meant to suggest the power and range of this tool in interpreting and analyzing a very complex reality. Such an effort, however, is only a preamble to more detailed analyses of these same phenomena. One of our main objectives in this paper is to provide the motivation for the pursuit of such analyses by showing that the framework presented here yields useful insights for understanding the evolution of retail institutions across space and time. Therefore, it warrants serious consideration as the basis for more detailed empirically oriented

inquiries. Such inquiries could, naturally, lead to extensions, modifications and deletions of the ideas presented here.

## 2. THE NATURE OF RETAIL SYSTEMS

Patronage of retail institutions by consumers entails a variety of costs which can usually be shifted between the consumer and the retailer, at least to some degree. In our earlier work we identified six general types of such costs experienced by consumers: (C1) transportation costs, (C2) time costs, (C3) adjustment costs, (C4) psychic costs, (C5) storage costs and (C6) information costs. These costs can be experienced separately and jointly in any particular circumstance, and the actual form in which they are incurred can vary over place and time. In our earlier work we also identified five general types of distribution services provided by retail firms to consumers: (S1) accessibility of location, (S2) product assortment, (S3) ambiance, (S4) assurance of immediate product delivery at the desired time and in the desired form, and (S5) information services. These services may be provided jointly or separately and, usually, these services will affect more than one distribution cost experienced by the consumer in his patronage of retailers. The form in which these services are provided may also vary across time and place.

To illustrate these concepts, we consider the example of the distribution of milk products at the retail level in the United States as compared to that in Great Britain. In the United States purchases of milk products usually take place in a supermarket when consumers travel from their homes to the purchase site, frequently on a weekly basis. Convenience stores or other supermarkets may also be used to purchase milk, especially when unforeseen contingencies arise. By contrast in Great Britain purchases of milk products usually take place through the use of milkmen who deliver the product to homes. Purchases may also be made from the usual food retail establishments. But the predominant system for distributing milk in the U.S. is through retail sites and in Great Britain through milkmen.

The U.S. consumer incurs higher direct transportation costs (C1) and time costs (C2) in travelling to and from the store than his British counterpart who patronizes the milkman. The delivered price of milk for the British consumer will be higher than if he were to travel to the store. The magnitude of these costs for the U.S. consumer depends directly on the degree of accessibility of location (S1) provided by the retail site patronized, particularly on their average distance to consumer homes. On the other hand, it is inversely related to the breadth of product assortment (S2) at the retail site, which allows the consumer to spread a given travel cost over a number of products. While these direct costs would be zero for the British consumer who relies on the milkman, his costs of travel to a retail site for the purchase of other products will be higher than if he also were to purchase the milk products. Adjustment costs (C3) due to the unavailability of the product will be lower for the typical U.S. consumer than for his British counterpart due to the greater assortment in dairy products available at the retail site than what the milkman can provide. On the other hand, psychic costs (C4) resulting from disagreeable social interactions, for example, may be higher for the U.S. consumer than for the British one, since the British consumer does not even have to see the milkman unless he wants to do so. Consumer storage costs (C5), especially for refrigerated areas, are higher for the U.S. consumer than for the British one, at least in terms of the required storage space. The costs of acquiring information (C6) as to the characteristics of the product may vary between the two consumers but are difficult to compare at this level of generality.

As to the distribution services provided by the retail system, accessibility of location is greater while product assortment is smaller in the UK than in the US, as already noted. Assurance of product delivery at the desired time and in the desired form (S4) at the point of retail is greater in the US than in the UK, while information services (S5) and levels of ambiance (S3) provided at the retail site are difficult to compare without a more detailed analysis.

One advantage of this example is that it brings out the main strength of our conceptualization of the economic function of retail systems.



It provides a useful taxonomical device from which to start the analysis of retail systems and answer questions, such as why milkmen survive in the U.K. but not in the U.S. Indeed, our discussion so far suggests two important elements in any thorough answer to this question. First, the absolute costs of providing the high levels of accessibility of location implied by the use of milkmen are likely to be much lower in Britain than in the United States, because of the much higher population densities in the former country than in the latter one. Of course, transport costs depend not only on the quantity of transportation to be provided but also on its price. One element in this price will be the price of petrol, but another element is the cost of time, with the former being lower and the latter being higher in the U.S. than in the U.K. Second, storage space for products that require refrigeration is scarcer in the United Kingdom than in the United States. Not surprisingly, milkmen in Great Britain provide a level of assurance of product delivery at the desired time and in the desired form which, while lower than in the United States, requires far less usage of refrigerated storage space by consumers than the retail system in the United States.<sup>1</sup> Other considerations, including differences in the milk production system and government policy, play a role in the answer to the question raised here, but our conceptualization is fruitful in systematically directing attention to relevant features of the distribution system.

In order to proceed beyond a taxonomical device, however, this characterization must be coupled with a rationale for the actions of economic agents in the retail system. In turn, this rationale leads to the development of an analytical framework.

### 3. AN ANALYTICAL FRAMEWORK

We have developed an analytical framework which captures the essential features of the nature of retail systems indicated above. We first introduce the demand side of the model and subsequently the supply side. In the presentation, we stress the ability of the model to

provide the basis for the analysis of the behavior of retail systems at different points in time.

A fruitful way of conceptualizing the demand for retail products by consumers is in terms of the household production model, developed by Lancaster (1966) and Becker (1965). Through the use of market goods and services and his own time, the consumer produces various commodities or characteristics. These characteristics or commodities are what yield satisfaction (for example, nourishment, shelter, entertainment, etc), and they would have to be produced by the consumer regardless of his position in space or time. The market goods and service, including those that are bought from retailers, are inputs into the household production functions. The nature of these goods and services would depend on the consumer's location in space and time. Similarly, the production functions, which summarize the technological opportunities available to the household for production, would be sensitive to the specific environment of the consumer.

In this setting, the conceptualization of retail systems detailed in the previous section is incorporated into the demand side of the analysis by viewing the five types of distribution services provided by any particular retailer as unavoidable (fixed) inputs into the household's production functions. These distribution services operate in the following manner: increases in their levels decrease the distribution costs experienced by consumers in their patronage of retailers, or at least do not increase their costs when they are redundant. Thus, the potential shifting of distribution costs between consumers and retailers affects the demand side through the various levels of these outputs that consumers may face in their patronage of retailers. From the consumer's point of view increases in these outputs will have the effect of lowering or at least not increasing, the costs of producing the commodities or characteristics that yield satisfaction, which is the standard way fixed inputs operate in the production process.

Choice of the levels of the commodities, in such a way as to maximize satisfaction subject to the restrictions on technological opportunities

provided by the production functions and to the resource or budget constraint facing the household, leads to the following demand function for the products of a particular retailer by a representative household:

$$Q_{1R} = G(p^*, \bar{p}, Q_{2R}, Q_{20}, E, W) \quad (1)$$

where  $Q_{1R}$  is a vector of quantities of the explicit goods and services demanded from Rth retailer; for a single product retailer all elements of the vector other than the first one, let us say, would be zero.

$p^*$  is a vector of prices of the explicit goods or services available from the Rth retailer.

$\bar{p}$  is a vector of prices of other goods or services employed by the household. Thus it includes, among other things, the opportunity costs of labor services employed in production activities as well as the prices of goods and services available from other retailers.

$Q_{2R}$  is a vector of the levels of the five distribution services (i.e. implicit products) provided by the Rth retailer.

$Q_{20}$  is a vector of the levels of the five distribution services provided by other retailers, i.e. retailers other than the Rth one.

$E$  is a vector of environmental variables associated with the household's location in time and space. It may include social and demographic characteristics, for instance, age and education, as well as physical characteristics of the environment, for example availability of electricity or refrigeration.

$W$  is the household's full income. That is, it includes the monetary resources available, as well as the value of the household's time resources.

It can be shown that for each product or service in the vector  $Q_{1R}$ , the function  $G$  has the following properties: non-increasing in the own-price of the product, non-decreasing in the levels of each of the distribution services in the vector  $Q_{2R}$  and in full income, (Betancourt and Gautschi (1986a)). The first effect is simply the usual property of demand functions; in this context, the second effect arises from the role of the distribution services as fixed inputs into the household's production functions and the last effect stems from the usual income effect which results from viewing the characteristics as being normal goods in the sense of standard consumer theory.

Elsewhere, (Betancourt and Gautschi (1986b)), we have shown that the household production model implies a tendency toward the existence of gross complementarity among the products bought from the retailer. This tendency is especially strong among products belonging to different product lines, for example, casual wear and formal wear. As the period of analysis is extended, there will be a greater tendency for products within the same product line (for example, blue shirts and white shirts belonging to the casual wear category) to be gross complements. Gross complementarity implies that an increase in one of the elements of  $p^*$  decreases the quantity demanded of the other products sold by the retailer. This feature together with profit maximization leads to market basket pricing and low profit margins in the multiproduct case. While this last result is well established (for example, Preston (1962)), its implication in the context of the household production model is new. Namely, in the standard model there is no general tendency for two goods to be substitutes or complements; in the household production model, the tendency toward gross complementarity is pervasive.

An interesting aspect of the other three kinds of variables in the demand function  $(\bar{p}, Q_{20}, E)$  is that through the demand side they capture the role of external variables that affect the evolution of

retailing. For instance, two important elements in the  $\bar{p}$  vector will be wage rates and the prices of the products sold by other retailers. Similarly, important elements of the E vector will be the type of durables available in the household's residence. For instance, it is the increased ownership of home video recorders that allowed the development of retail outlets specialising in the rental of films for home consumption through the use of video cassettes. Finally, the level of distribution services provided by other retailers,  $Q_{20}$ , can have substantial effects on the demand for the retailer's products, not only by providing the mechanism for non-price competition, but through the generation of external economies and diseconomies. Indeed, these externalities in distribution services provide powerful incentives for retail merchants to band together, which they have done in forms ranging from the guilds of the market towns of medieval Europe to the contractual sharing arrangements of modern shopping centers.

Just as any other firm, the retailing firm will employ resources or inputs in order to provide the level of the goods or services desired by its customer. In contrast to other firms, however, the retailer must provide these products to consumers jointly with some level of the five distribution services identified in the previous sections. In order to do so, the retailer will employ land, capital and labor of various types, as well as intermediate products, material inputs, purchased goods from suppliers, and working capital. Some of these inputs may be specific to the production of certain distribution services, for instance labor, materials and equipment devoted to the production of information services through promotional and advertising activities; some of these inputs may be common to the production of two or more distribution services, for example, equipment such as computers that can be used in the provision of information services, assurance of product delivery and product assortment. These common inputs may be private, public or quasi-public in the terminology suggested by Baumol, Panzar and Willig (1982).

A general way of capturing these characteristics in a formal framework is in terms of the joint cost function of the retail firm, that is,

$$TC = pQ_{1R} + C(v, Q_{1R}, Q_{2R}; T) \quad (2)$$

where TC are the total costs of the retailer,

$p$  is a vector of the purchase price of the goods the retailer buys from suppliers,

$Q_{1R}$  is defined as before, that is, a vector of the quantities of each explicit product sold by the retailer,

$v$  is a vector of the price of all the inputs used by the retailer,

$Q_{2R}$  is defined as before, that is, a vector of the levels of each of the five distribution services provided by the retailer, and

$T$  is a variable that captures changes in the costs of retailing as a result of exogenous changes in the environment.

We have shown elsewhere, (Betancourt and Gautschi (1986a)), that the function  $C$  will have the following properties: non-decreasing in each element of the price vector,  $v$ , increasing in the quantities of the explicit goods and services,  $Q_{1R}$ , and of distribution services,  $Q_{2R}$ .

In particular the last property is important in terms of the previous discussion, because it captures the idea that by shifting the provision of distribution services to the household the producer can lower costs and vice versa. Moreover, the specification is general enough to allow for economies and diseconomies of scope in the provision of these outputs. For example, increases in the provision of one distribution service can lower or raise the marginal costs of providing a given level of other distribution services. Finally, it is clear from (2) that increases in the supplier's price ( $p$ ) raise total costs.

Since the form in (2) is quite general, it can also be adapted or modified to capture specific features of interest in any particular problem. For instance, if no goods are bought from suppliers for

direct resale, the first term in (2) will be zero and the second term captures the costs of both production and retailing. Alternatively, if there are inputs that are fixed, their prices must be removed from the input price vector and replaced by the levels of inputs in the second term of (2). In a similar vein, the specification in (2) is an adaptation of our earlier one in that it includes explicitly the variable  $T$  to capture the influence of technical changes. Following the traditional interpretation of this variable in the economics literature one can allow for these changes to be neutral, in the sense of lowering all costs proportionately, or biased toward certain inputs, in the sense of effectively lowering their prices in a greater proportion and, thus, promoting their usage relative to other inputs.

When retailers wish to maximise profits, then the demand side and the supply side of this model are brought together in the definition of profits as:

$$\pi: \pi = p^*Q_{1R} - pQ_{1R} - C(v, Q_{1R}, Q_{2R}, T) \quad (3)$$

Changes in demand conditions in (1) affect the profit equation in (3) through  $Q_{1R}$ , and the implication of these changes can be analyzed by viewing the retailer as choosing  $Q_{1R}$  and  $Q_{2R}$ , or as choosing  $p^*$  and  $Q_{2R}$ .

In the next two sections, we illustrate the use of this framework and its implications for the analysis of the evolution of retailing.

#### 4. SENSITIVITY OF RETAILING TO EXTERNAL FACTORS

Retailing activities are quite sensitive to the external environment in which they operate. Here, we illustrate environmental influences on the evolution of the retail system in terms of an example: The evolution of the retailing of films. The evolution of this industry, as well as of any other, will be the result of the interaction between changes in characteristics of the external environment with changes in the behavior of economic agents in the retail system pursuing their goals. This example is of particular interest because changes in the

environment have been dramatic, occurred in a relatively short period of time by historical standards, and have had highly visible effects on the nature of the retail system for films. Not surprisingly, this example illustrates a situation in which the external environment has been quite influential in initiating changes rather than simply facilitating changes, and the economic agents in the retail system have been forced, as it were, to respond to these changes in order to attain their goals.

Distribution of films to consumers at retail is a twentieth century activity. By 1950 the first system of retailing of films was well established and had the following characteristics from the point of view of the retailer. It was provided in a central location for on-site consumption, hence it had limited accessibility of location. The retailer purchased limited quantities of the product from a distributor or producer in a somewhat bulky form; consequently, product assortment within the main product line was limited over a given calendar period although there was some provision of a limited assortment of other (minor) product lines, such as soft drinks. Assurance of product delivery at the desired time was limited to hours where large numbers of consumers could engage in leisure activities. A relatively high level of ambiance was provided in the form of palatial structures, wide seats, and ushers; nevertheless consumption took place jointly by the set of consumers at any particular showing, which raised the possibility of reductions in ambiance through disagreeable social activities. Information services on the times of availability of the product were provided mainly through the local media and at the retail site. The main burden of promotion of a particular film was usually borne by the producer with some minor participation by the retailer, frequently through on-site displays. The main competition were other cinemas at different locations showing different films.

From the point of view of the consumer, this system provided relatively low levels of distribution services for the use of films in the production of entertainment. While the consumer could expand his choice of products by patronizing different cinemas (retailers) this adjustment would entail higher travel costs due to the variation in accessibility of location. The possibility of engaging in this



consumption activity was constrained by the necessity to be at the cinema at a particular time and by the possible unavailability of the product when queues arose for popular films. The only service which did not seem inadequate in comparison to other retail activities was information. The consumer's main form of substitution in the production of entertainment, prior to the advent of television, was engaging in alternative leisure activities, such as patronizing live theatres.

Given the increase in income and reduction of working hours between the early days of the cinema in the 1920's and 1950, the demand for all entertainment activities by households increased, and in the U.S., for example, the cinemas followed the population into the suburbs.<sup>2</sup> In this setting, the development of television provides a significant technological change in the household's production function for entertainment. In particular, in the United States several facilitating factors contributed to the rapid and widespread dissemination of the new technology: almost complete availability of electricity in residences and high and rising incomes.

From the point of view of the retailing of films, television has two major effects: It provides different products than films as a substitute entertainment activity, and it provides old films. In both cases, television provides a very different mix of distribution services. First, consumption at home implies a much greater accessibility of location than for the standard form of retailing films; second, product assortments are expanded in both cases, although in very different forms. TV programmes other than films are new products whereas the films shown on television are old products.<sup>3</sup> During the 1950's and 1960's, assurance of immediate product delivery at the desired time through TV increased somewhat relative to cinemas although it was still very restricted. At that time assurance of product delivery in the desired form was much less for both TV programmes and films shown on TV, because the TV was technologically inferior to the cinema. In some dimensions and for some segments of the population ambiance was superior at the cinema. Information

services about the availability of the products may have been similar for both systems<sup>4</sup>.

One reason for the limited substitution of TV for the cinema in the fifties may be the technological change on both the production side and the distribution side that improved the quality of the product shown at cinemas, providing greater assurance of product delivery in the desired form at reasonable costs. In the 1960's, however, other factors on the supply side began to put downward pressures on the profits of the cinemas, for example increases in the costs of new films. Perhaps more importantly, the price of one of their largest inputs, space in prime locations, rose rapidly. In response to these pressures old cinemas disappeared and a new form of retailing films on-site began to spread: new buildings, or reconstructed old buildings, where several films could be shown simultaneously at the same site. These new cinemas may have occupied the same space as before but contained considerably expanded product assortments and lowered the costs of films that were not well received. In addition, by staggering starting times by twenty or thirty minutes, consumers were provided lower adjustment costs of being late, and the retailer could economise in some cases on labor and space by employing the same part of the building and the same workers in selling tickets and ushering the audience into the cinema. The need for the cinemas to contain costs and retail prices was exacerbated because the household's technology for producing entertainment through TV is one with low operating costs that can be spread over many programmes.

In the 1970's at least three factors visibly affected the nature of the retail system for films. First, technological improvement in TV sets due to the electronics revolution improved the assurance of product delivery in the desired form in home consumption of films (for example, color TV sets); secondly, films made for TV became common, expanding the product assortment for home consumption in a form that competed more directly with cinemas. Finally, governmental decisions on deregulation of the communications industry allowed the emergence of new forms of specialized retailing of films: namely, cable companies that offered all film channels. This last development enhanced once more product assortment and assurance of product delivery at the

desired time in home consumption of films. This is especially the case in rural areas where product assortment in retailing through cinemas was limited. This new form of retailing provided for greater direct competition between retailing films and other TV programmes as inputs into the household's production of entertainment, because the other distribution services provided are similar.

In the 1980's, the development of the video cassette player/recorder represents a technological innovation that has dramatically changed the household's production opportunities for entertainment in the home. This innovation provides the consumer with almost unlimited control of the time of viewing both regular TV programs and films in the home. The rapid rate of adoption of this innovation in the United States has been facilitated by the almost complete penetration of the market for TV sets, the high and rising income, and increasing opportunity costs of time in two income earning households. These conditions generate a greater demand for control of the timing of consumption activities.

As a result, a new retail form for films has grown rapidly during this decade, i.e. the video retail outlet providing films in video cassettes for home consumption.<sup>5</sup> This new retail form provides greater accessibility of location than the traditional cinema, although not as much as films shown on TV; it provides greater breadth and depth of assortment than both, although the market segment represented by very new films is still dominated by the cinema; it provides relatively high levels of assurance of product delivery at the desired time and in the desired form; it provides relatively low levels of ambiance at the retail site, which is no longer the consumption site; and, it provides similar forms of information services as the other forms for retailing films. This segment of the retail market is quite dynamic, and it recently has witnessed attempts to capture part of the market by established retail firms, namely, convenience stores such as 7-11. While the convenience stores will offer less product assortment, because of storage limitations, they expect to attract consumers on the basis of the greater accessibility of location and assurance of product delivery at the desired time, which are the trademarks of its existing operations, as well as the availability of complementary product lines (e.g. soft drinks) in these stores.

An account of the evolution of this rapidly evolving industry in the context of the analytical framework developed earlier has allowed us to incorporate the critical role of external factors as well as their interaction with the internal dynamics of the model in a specific context. Moreover, it brings out certain trends that persist through these rapid changes. That is, the evolution of this industry seems to be guided by the aim of providing consumers with higher levels of several of the distribution services that retail firms provide as inputs into the household's production of entertainment, especially, breadth and depth of assortment of the product, accessibility of location, and assurance of product delivery. For example, in the 1980's the original form of retailing films through cinemas has accentuated its earlier tendency to build movie houses capable of showing more films simultaneously, but attendance has not grown. In 1979 there were 1.1 billion paid admissions to U.S. cinemas for the 16,900 movie screens; in 1985 total paid admissions were 1.06 billion for the more than 20,000 movie screens (Fortune and Forbes, 1986).<sup>6</sup> In any event, the consequence is that in this decade consumers face greater product assortment and assurance of product delivery than ever through cinemas, TV and video retail stores<sup>7</sup>.

## 5. IMPLICATIONS FOR THE STRUCTURE OF RETAILING FIRMS

In our previous work [Betancourt and Gautschi (1986a)] we have established the proposition that retail firms have a natural tendency to become complex organisations. This tendency has at least three manifestations. In the pursuit of profits the retailer attempts to secure inputs at the lowest possible prices. One way for the firm to accomplish this is to integrate backwards (1). Alternatively, the firm may attempt to operate in a manner that would spread the cost of the fixed factors of its production (operation) over more transactions. Hence the retailer may either expand his assortment (2) to raise the average transaction size in his establishment, or he may expand to different markets (3) to exploit different demands by operating more than one establishment under some central coordination. The success with which retailers in various categories evolve to become more complex organisations and the resulting retail form depend greatly upon

a variety of facilitating factors in the external environment, but it is the drive for increasing profits that would seem to initiate the process. To illustrate this inexorable push toward organisational complexity, we consider the rise of the three most significant retail institutions of the nineteenth century (cf. McNair and May, 1976), namely, the department store, the retail chain, and the mail order retailer.

### 5.1 DEPARTMENT STORE

By definition, a department store is a large-scale general merchant. The assortment is broad and may be relatively deep, and the retailing of the different categories of the assortment (departments) are managed by trained, salaried personnel.<sup>8</sup> In particular, each department usually has its own buyer - an employee of the retail firm; in some cases department stores own suppliers. The buyer represents a form of backward integration as the department store internalised a function that previously had been performed in the market, usually by a specialist (e.g. by a buying agent). To be sure, this organisational innovation could not have occurred without the concomitant development in the external environment of management methods that liberated the traditional owner-operator (cf Bucklin, 1972) providing him the means to delegate responsibilities. The principal reasons for the department store to employ a professional buyer were to acquire the knowledge to match the assortment to the demands of its consumers and to consolidate orders for the store, thereby achieving lower delivered prices of goods.

The department store operation became known for two other innovations, namely, fixed (i.e. non-negotiable) prices and extensive use of newspaper advertising, publicising items in the assortment and their prices. These practices had the benefit that they reduced certain kinds of information costs for consumers. Although the independent tailor, for example, may have been more knowledgeable of the cloth he sold, he rarely advised his customers of the price of a finished garment before the customer made a choice and was fitted, and he was

more likely to rely upon word-of-mouth communications rather than media advertising to build a clientele.

There were a number of other facilitating factors in the external environment that permitted the development of the department store. In Paris, for example, profound changes in shopping behavior were caused when Haussmann conducted his redesign of the street network from 1835 to 1870. Because of the dramatic improvement in the transportation infrastructure during this period, it became easier and cheaper (at least in terms of time) for Parisiens to travel from one arrondissement to another for shopping purposes. A retailer could minimise the average economic distance from his customers by locating on a grand boulevard near the centroid of the Paris population, thus providing higher levels of accessibility of location to a large market. That is, a byproduct of the improvements in the transportation infrastructure was the extension of a retailer's trading area. As the volume of patrons frequenting his store increased, any given retailer gained from transacting with more consumers on any given day. However, the profit seeking retailer recognised the opportunity to reap the potential additional benefits from increasing the average value of a customer's transaction by expanding his assortment. The opportunity existed because the customer was interested in reducing his direct transportation and direct time costs by consolidating his purchases, to some extent, at a limited number of locations. Consequently, a cluster of large scale general merchandise retailers developed along the Boulevard Haussman and adjacent streets between the Opéra and Place Madeleine, inspired by the earlier success of au Bon Marché (1852) on the Left Bank (cf. Ardagh, 1982)<sup>9</sup>. To enhance further patronage these large scale retailers were designed to minimise psychic costs of customers. More than one American department store adopted the design of a grand Paris store in an attempt to duplicate the attraction power of their ambiance (e.g. the old City of Paris in San Francisco adopted the rotunda design of Galleries Lafayette).

The significant influence of the transportation infrastructure as a facilitating factor in the emergence of the department store is also illustrated by the conditions and resulting evolution witnessed in other cities. For example, in London, the inauguration of service of

the underground electrified railway (subway) along one line (between King William Street and Stockbridge) in 1890 made the city more penetrable for Londoners residing in the various districts. London was difficult to traverse because of the intricate street network that persists even today<sup>10</sup>. With the expansion of the London subway, the trading areas of merchants in the interior of the city extended throughout the city and even beyond. As shoppers found it easier and easier to gain access to the interior of the city, a concentration of large-scale general merchants began to develop near the geographic center of London along Oxford Street, Regent Street, and Picadilly in the last decade of the nineteenth and first decade of the twentieth century. Presumably inspired by the example of the palatial department stores in Paris and in other large cities of the nineteenth century, the first department store in London was constructed in 1909 on Oxford Street, almost sixty years after the emergence of the institution in Paris.

By contrast, the grid plan of the typical U.S. city meant that the economic distance for consumers residing at any two different points equidistant from the center of the city would be approximately equal. Hence, it was natural that retail agglomerations originally developed in the geographic centers of most U.S. cities. Just as the Paris retailers, profit seeking U.S. retailers, centrally located, recognised that the broader their assortments the higher patronage of their establishments would be, as customers would be inclined to consolidate their purchases in order to minimise their direct transportation and direct time costs. Moreover, with the development of street rail in the nineteenth century and, eventually, the motorised vehicle the department store "downtown" found it profitable to offer delivery service to further encourage the consolidation of consumer purchases. The emergence of the department store concept in the U.S. with A.T. Stewart's Marble Dry Goods Palace in New York in 1846 inspired a rapid development, with refinements on the basic concept, that coincides with the growth of the American cities, for example, Lord and Taylor (1858) and Macy (1858) in New York, Marshall Field (1872) in Chicago, and John Wanamaker's (1876) in Philadelphia.

Irrespective of the city, from the perspective of the consumer, the relevant choice was either to patronise the department store at a single location or a collection of specialist retailers in different locations. As broad and as deep as the department store's assortment may have been, it was often not necessarily so extensive as the combined assortments of various specialists. In some cities, the consumer pursuing a single, narrow purpose could find one category of specialists clustered in a district of the city (e.g. Saville Row in London) collectively guaranteeing assurance of product delivery in the desired form.

But the department store survived and, indeed, flourished, because it offered a sufficiently extensive assortment that provided the consumer a reasonably high level of assurance of product delivery in terms of both desired forms and time, combined with high levels of accessibility of location, information, and ambiance. It is important to recognise that the high accessibility of location was not a given condition. That is, managers of the department stores had to convince customers that the latter could significantly reduce direct transportation and time costs by consolidating purchases at a central facility (i.e. the department store). Consumers who could travel five minutes, for example, to the department stores from their homes could probably travel five minutes or less to one or more specialists. Hence, the marketing problem for the department store was to encourage the typical consumer to think of a transaction unit not as a single purchase but as a collection of purchases. Presumably, it was easier for consumers to adopt the broader measure of the transaction unit as the assortment of the department stores expanded in breadth and in depth.

We note, parenthetically, that the department store, as a single large establishment in the center city, continued as a successful retail form well into the twentieth century. With the growth of the suburbs, especially in the United States, and with the rising congestion in the interior of major cities, the original stores of many department store companies have declined in importance. In terms of our model, we can attribute this performance to a reduction in their levels of accessibility of location. According to McNair and May (1976) the average decline in sales for the center city stores has been about 35%



as compared to their peak years. For those that have survived, most have found it expedient to open branches in the suburbs.

## 5.2 Chain Store

By definition a chain store is a single unit of a set of individual establishments that benefit from some degree and form of central coordination. The corporate chain, as the name implies, is a set of stores owned by a central administrative organisation. A voluntary chain is one in which individual units (usually independent establishments) agree to some set of practices controlled or coordinated by a central organisation. Often, voluntary chains take the form of a set of independent retail establishments that agree to buy supplies from one or more designated wholesalers. The functions performed by the central coordinating body may range from centralised buying (to achieve economies in purchasing for the member units) to coordinated physical distribution (to allow member units to achieve low delivery costs). In any case, a major reason for the existence of the chain is for the member retail establishments to secure the lowest possible p (delivered prices of the products in the assortment). When the chain is a corporate chain, this may mean that the firm can profitably operate in geographically separated markets, retailing a standard assortment at margins below those of local competitors.

There are demand side reasons for the emergence of chains, as well. Apart from the tendency for relatively low retail prices of chain store products, the cost for the household to acquire relevant information can make a retail chain more or less attractive to the household. In particular, the more frequently a household relocates, the greater are the information costs it incurs in scanning the market. If a population has a pronounced inclination toward geographic mobility, then there should be a pronounced demand for standardisation of products and retail activities so as to minimise the costs of information acquisition. According to Long (1977), the average American moves house about 13 times in his lifetime, as compared to the average Briton who moves about 8.35 times, and the average Japanese who moves only 4.9 times. Considering the U.S. age distribution and the greater tendency toward mobility among the young this means that "about

20 percent of Americans move in the course of a year". Moreover, this is not a recent American phenomenon. Long (1977) quotes the 19th century Argentine statesman, Sarmiento, who observed in 1840 "if God were suddenly to call the world to judgement, He would surprise two-thirds of the American population on the road like ants".<sup>11</sup>

The development of product standardisation is apparent in the rise of national brands. The importance of population mobility on product standardisation is perhaps implicit from the lack of product standards in televisions and some consumer electronics in the EEC. That is, the establishment of product standards would make it less painful for Europeans to relocate across frontiers, temporarily, in the interests of pursuing career opportunities, for example. Yet standardisation also extends the boundaries of the market in which a product can be distributed.

The first corporate retail food chains began in the U.S. still during the period of the Westward Expansion in the nineteenth century. A&P, tracing its origins to 1859, owned 95 retail food stores from New York City to Milwaukee by 1890. Grand Union (1872) expanded through the Middle Atlantic region; Jewel Tea (1890) and Kroger (1880) expanded through the mid-West; and Ralph's (1873) developed a chain in the West. Major chains in drugs, shoes, and the variety category were established during the period 1879 to 1908.

In contrast to the American chain evolution, retail chains were much slower to develop in Europe. The first large retail chain to operate successfully in the U.K. was the American variety chain, F.W. Woolworth's, which opened its first store in Liverpool in 1909. In France the first network of succursalistes was initiated in 1866 in the region around Reims for the retailing of groceries, but the concept of retail chains with standard storefronts, standard layouts and standard assortments was not established until 1928 with the variety chain Prisunic. The growth of this form of retailing in France is associated with the development of the supermarché and the hypermarché in the late 1960's and early 1970's. (cf. Albert, 1979 and Dayan, 1981). Presumably, the less mobile French or British household did not incur such inordinately high information acquisition costs as

the mobile American household, which doubtless explains, at least partly, the later developments of standardisation in retailing via chains and retail franchises in European markets.

### 5.3 Mail Order Retailing

The emergence of the retail mail order business is associated with the growth of two independent firms, namely, Montgomery Ward (1872) and Sears Roebuck (1886). The original target markets for these firms were the widely scattered rural markets on the North American continent of the 19th Century.

Until the development of the transcontinental railroad in 1869, these markets had not been particularly attractive for the large-scale retailer. Selection of retail location was certainly a problem as most customers would have had to travel long distances to any "central" point. Money was a problem, as well. The Homestead Act of 1862, which was enacted to accelerate the settlement of the wide open spaces West of the Mississippi River, gave away (free) 160 acres of land to anyone who agreed to live on the land for five years. The settlers literally lived off the land as subsistence farmers. As settlers characterised most of the Western rural population, the only means with which they could trade (when they felt a need to) was to barter goods which they produced in the household (on the homestead). Hence, small-scale retailers (the general store) were scattered with the rural population serving a market-making function.

The rapid and extensive development of the railroad, provided an efficient means to transport agricultural commodities over long distances from within the depths of the rural areas to the growing cities. This process provided a new source of income for the rural population. As a result of the integration of the urban and rural markets, Chicago emerged as the primary distribution node on the continent, and it is no accident that Ward and Sears established their operations in Chicago. These mail order businesses capitalised on the new integrated technologies of the railroad and telegraph to serve widely scattered rural markets.

Starting initially with narrow assortments, Ward and Sears could communicate products in their assortments and their prices at low cost to the rural household. Thus, Sears and Ward could provide high levels of information for the rural consumer. Because of rail and telegraph, customer's orders could be transmitted efficiently and deliveries could be made more rapidly than the rural customer could ever have accomplished for himself by patronising merchants in the large cities. Thus, Ward and Sears provided high levels of assurance of product delivery at the desired time and at a negligible direct transportation cost and at a low direct time cost to the customer. As incomes continued to rise for the rural population during the last decades of the nineteenth century, Sears and Ward had the incentive to expand their assortments. In 1887, Wards listed more than 24,000 items in its catalogue, and by 1899 Sears had organised its mushrooming assortment into 24 departments (cf. Chandler, 1977). These retailers, therefore, continued to increase the levels of assurance of product delivery in the desired form as the purchasing power of households in their served markets increased. By the early twentieth century, Wards and Sears had become large, complex retail operations serving multiple markets with extensive assortments.

### SUMMARY

In this paper we have applied an analytical framework to explain, ex post, why certain institutions and retailing forms have emerged in the past. There are two principal ways that change in retailing can be explained in terms of this analytical framework. First, new characteristics of the external environment, such as changes in telecommunications, transportation, or relevant technology of households, could alter the costs of household production or the costs of conventional retailing, so as to necessitate or precipitate structural changes in retailing. Additionally, alterations in the external environment may provide opportunities for new forms of retailing to reduce the costs of retailing or the relevant distribution costs of households. In either case, the framework presented in the paper can be used to develop reasonable scenarios for the emergence of new institutions and retail structures in the future.

FOOTNOTES

- 1 The advent in recent years of packaging for milk which does not require storage in refrigerated space, for example Tetra-Pak, may jeopardize the existence of milkmen in the U.K. through its reduction of consumers' and producers' storage costs associated with purchases from a retail site.
- 2 The level of product assortment generated by this system varied greatly between the larger metropolitan areas and the small towns, with assortments much more limited in the small towns.
- 3 Television extends the marketable life of any given film substantially. Thus, it eventually limits increases in the price at which new films are provided to the cinemas, since the costs of producing the new films could be spread over a longer life which would generate additional revenue.
- 4 There appear to be mutual benefits with respect to increased recognition of performers in both media, which presumably increases the demand for both of these forms of entertainment relative to other forms.
- 5 An earlier form of this retailing outlet existed prior to the 1980's: retail stores specializing in the renting of movies and projectors for the showing of films privately. Nevertheless, their scale of operations in major metropolitan areas was small and there were few shops. Incidentally, the video cassette player technology also extends the marketable life of films.
- 6 Similar reactions of cinemas have been observed in Europe. Dryden (1986) describes the multiple screen strategy of the Ghent cinema, Decascoop. Admissions to cinemas in France have remained stable for 25 years, but over the same period admissions have declined 70% in the UK, 75% in Italy and 30% in West Germany. A recent article in the London Times (17 July 1986) attributed the French cinema's popularity to "the accessibility of cinemas and the great variety of films due to a policy of closing or transforming big cinemas to create several small viewing theatres". There are more than 5,000 cinemas in France, i.e. more than four times as many in the UK.
- 7 Total receipts for films in France in 1984 were 1353 FF million, of which 62.2% were from cinema admissions and 3.6% were from rentals of video cassettes. It is projected that total receipts will grow to 1991 FF million by 1990 and that cinema admissions and video cassette rentals will account for 33.9% and 21.2% of this total, respectively. (Le Monde, 1986.)
- 8 In some cases, some store personnel in certain departments may be paid a commission on sales.
- 9 Au Bon Marché began as a smaller scale establishment in 1838.

- 10 Curiously, difficulty of access by large volume suppliers to points within contemporary London has been given as a reason for the establishment of large scale supermarkets on the outskirts rather than in the interior of London (David Churchill, Financial Times, 30 July, 1986, p. 10, Special Section on Retailing).
- 11 Long (1977), p. 118.

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