FOOD DISTRIBUTION IN A LATIN-AMERICAN CITY
(Cali, Colombia)

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This is to certify that the

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ABSTRACT

Food Distribution in a

Latin-American City

by

Colin B. Guthrie

This dissertation is a study in a rather specialized area in the field of economic development, being a sub-topic of the very important subject of the integration of urban and rural economies of a society in an intermediate stage of economic development. It is a study dealing with food distribution in the city of Cali, Colombia, the political and economic capital of the Departamento del Valle del Cauca, the Cauca Valley Department or Province. The purpose of the study was to evaluate the performance of the food distribution system of the city and to make recommendations that would tend towards remedying any deficiencies that might be detected.

This study uses direct observation and primary data. Preliminary observation and interviews suggested global hypotheses which in turn defined specific hypotheses. Surveys were mounted to collect data to test the specific hypotheses, and analysis of these data led to the conclusions and recommendations described in the dissertation.

The basis of the study is an examination of the food-consumption habits of the population of Cali, and of the purchasing habits and preferences of the Cali housewife, the food-purchasing agent. Food consumption was investigated by means of a market basket survey, while preferences were deduced by comparing attitudes towards types of food retailers with purchasing patterns. This indicated that locational convenience (store accessibility) was the factor which dominated retailer selection. Next in importance were quality and variety of store offerings, with prices in fourth place. The relatively low importance of prices showed that if low prices were to be made available to the consumer in Cali this would have to be done by locating food stores in the residential areas, because consumers were not prepared to travel to where low-price stores were located.

Other consumer data showed that half the families in Cali spent two-thirds or more of their income on food, while two-thirds spent half or more of their income in this way. However, the Lorenz curve for the city was so deep that only about forty percent of the city's income was spent upon foodstuffs.

Study of the performance of the principal food-distribution institutions, the wholesalers and retailers, indicated that they did not take excess profits (some meat dealers constituted an exception to this generalization), nor were there any internal inefficiencies that would suggest they incurred avoidable costs. Therefore lower food prices could not be obtained by putting pressure upon individual

operators. Improved performance could only be obtained by better adaptation of institutions to the requirements of other components of the system.

It was found that the existing system was well-adapted to food distribution based upon public markets. Market stalls, which were narrowly specialised by product, were well served by the wholesalers who were also product-specialised. But Cali is now too large for the consumer to be well served by a system of this type. Transportation costs of consumers who bought food outside their own neighborhoods (principally in the public markets) were equivalent to about 3% of total food expenditures. Also, it could be shown that food stores were potentially more efficient than market stalls in the sense of having lower unit transaction costs and observation suggested that a public market large enough to be viable would need more customers than could be found living within reasonable walking distance. That is, public markets could not provide the locational convenience required by the housewife.

It followed that an improved food distribution system would have to be based upon food retailers located in the residential areas. Data from the market basket survey showed that if the service areas of these outlets approximated reasonable walking distance (three city blocks) there would be sufficient patronage for each store for it to achieve substantial economies of scale. This implies a new type of food retailer, since there are at present in Cali no large food stores located in middle-income or low-income neighborhoods.

These stores would have to be supplied by full-service full-line wholesalers, which do not at present exist in Cali. Therefore wholesalers of this nature will have to be developed. Such wholesalers, however, cannot replace the existing product-specialized wholesalers whose primary marketing function was deduced to be that of establishing market-clearing prices and thus compensating for the absence of commodity exchanges in Colombia.

Although the proposed system has one more level of distribution than the existing system its aggregate operating costs should be lower, and locational analysis suggests that competitive pressures will be strong enough to ensure that these savings will be passed along to the consumer.

A surprising result of the analysis is that social dislocation attributable to the new system will be negligible, as far as throwing people out of work is concerned. While the new system will employ fewer people than the existing one, normal attrition in the existing system is far greater than would be the displacement caused by any foreseeable rate of introduction of the new system.

FOOD DISTRIBUTION

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(Cali, Colombia)

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A THESIS

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Nelson Suarez and Kelly Harrison, co-leaders of the project, were never-failing in their resourcefulness, finding ways round every obstacle. To put into the consumer surveys the resources that were demanded required considerable trust in the research design, and I am grateful to them for giving me that trust.

Perhaps the biggest single contribution was that made by the insight, intelligence, and outstanding organizational skill of Guillermo Molta. To Guillermo must go most of the credit for any success achieved by the consumer surveys. I am also grateful for the contributions of Ruben Cruz Cruz and Miguel Arce, contributions limited only by the scope offered to the contributors and not by their ability or enthusiasm.

A great part of the present dissertation depends upon the work done by David Lloyd-Clare and Hugo Deque in the research upon retailing and wholesaling. My indebtedness to them is both immense and obvious.

Finally, I want to record my gratitude to my wife, Kay, whose contributions to this dissertation have been all-pervasive, and but for

whom the dissertation would probably not have been started and certainly would never have been finished.

Although this dissertation could not have been written without the help acknowledged herein, it goes without saying that any errors are solely my responsibility.

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CHAPTER I

Introduction

Statement of Purpose

In September 1968 a research team made up of people from Michigan State University and from various Colombian institutions began a study of the food distribution system in the city of Cali, Colombia. The purpose of the study was:

a) to design a food distribution system for Cali which would make food available to inhabitants, particularly to those in middle-income and low-income categories at lower prices than the existing system, and to make recommendations to the Colombian authorities concerning courses of action which would lead to the realization of such an improved system,

b) to trace the effects upon the economy of the region of a hypothetical reduction in food prices.

The research team, working under the acronym of PIMUR, finished its studies in late 1969, and its final report is now available in English[1] as well as Spanish. The objective of the present dissertation is to present a marketing analysis of the data collected

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[1] Market Coordination in the Development of the Cauca Valley Region--Colombia, Research Report No. 5, Latin American Studies Center, Michigan State University, East Lansing, 1970.

by PIMUR in the area of urban food distribution, in order to complement the action-oriented PIMUR final report. We shall try to show how marketing principles and concepts were used in structuring the research, in analyzing the data collected, and in designing an improved food distribution system. In so doing, we hope to illustrate the usefulness of these principles and concepts in understanding economic systems, especially economic systems in underdeveloped economies. In particular, we hope to show that marketing principles and concepts are powerful enough (or fundamental enough) to be transferred without modification from the context of the developed U.S. economy to that of underdeveloped economies. While marketing techniques and practices should be tailored to fit each society, the principles and concepts underlying them are the same everywhere.

Utility of Study

It is hoped that this study will contribute to the understanding of the marketing process in a particular ambience and, by extension, marketing processes in general. Without such an understanding marketing effort may be poorly directed and marketing efficiency impaired; in particular, legislation and other governmental action affecting the market can be ill-aimed and confusing, as has happened in the past. If this study should cast any light upon these processes its utility will be amply established.

Unlike the PIMUR report this dissertation is not directly intended to foment marketing reforms aimed at reducing food prices. But if it can provide any help or guidance to people engaged in research of the PIMUR type then again its utility is not in question. For more

than a quarter of the population of Cali the diet is nutritionally inadequate, and there is no reason to believe that the same is not true for most South American urban populations[1]. If this study can be of assistance to anyone working to help ameliorate this inadequacy then it will serve a useful purpose. Malnutrition is not an economic good.

In addition to improved nutrition the reduction of food prices can have consequences of interest to the development economist and the economic planner. Persistent underdevelopment is a complex phenomenon, and it is not proposed to enter into a detailed discussion of it here, but one of the most obvious aspects of it is a very high rate of urban unemployment. This in turn leads to a low average income (low in effect as well as in statistical averaging, as a result of the extended household culture which exists in Latin America). Low average income means that after providing for food and shelter there is very little effective demand for manufactured goods. Since the manufacture of such goods accounts directly or indirectly for the vast bulk of urban employment this weak demand serves to perpetuate the low-employment conditions.

If demand could be increased for low-priced manufactured goods, manufactured goods whose production function is linear in labor (with a high constant of proportionality), this would, subject to certain conditions of entrepreneurial readiness to respond, give rise to increased employment. The resulting increase in income would in turn further increase demand for the products of the factories and at least maintain the increased level of employment or even promote further increases.

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[1]Henley found some evidence of this in La Paz, Bolivia Market Processes in La Paz, Bolivia, Research Report No. 3, Latin-American Studies Center, Michigan State University, East Lansing

Several conditions have to be simultaneously satisfied for this happy state of affairs to be realized. Entrepreneurs have to be alert to the opportunities available, and both willing and able to respond. This implies a certain willingness to take risks, access to financing, and ready availability of increased supplies of raw materials. The factories must be located in the community in which the increased demand is to be generated, or the feedback linkage will be broken, and the goods to be demanded must have a high labor content or the feedback linkage will still be disrupted. In all these, the economic planners can contribute to setting the scene, by judiciously combing subsidization, taxation and allocation of raw materials and credit, and by providing timely reports of economic conditions.

The most ticklish problem in this program is stimulating demand. Merely pumping money into the economy is unlikely to be fruitful, because it leads to inflation and is frowned upon by the international financial institutions whose goodwill is very important to most underdeveloped countries. Also it is difficult to introduce the new money into the system where it will best serve the present purpose, i.e. in the hands of low-income consumers.

Reducing the price of food, however, is a very attractive way of priming the demand pump. About two-thirds of the inhabitants of Cali spend over half their income upon food[1], so that a reduction in the price of food by 10% is equivalent to an increase in real income of 5% or more for two-thirds of the population. The total increase in

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[1]See Chapter II

effective demand can thus be quite substantial. On the other hand the absolute increase in effective real income per family or per person is quite small, so that the new demand will tend to be directed towards low-ticket goods like tableware, kitchenware, and clothing, which in general are goods with a high labor content. But the proportional increase in demand for these and other goods can be quite dramatic. A 5% increase in real incomes in an environment where basic necessities (food and housing) occupy 90% or more of incomes is equivalent to doubling (or more) the discretionary income of two-thirds of the population.

A prerequisite of efforts to reduce food prices to the consumer will be introduction of a marketing mentality into the food distribution sector. As a general rule food distribution in Latin American cities gelled into its present format many years ago, when the cities were much smaller than they are now. With few exceptions, the food distribution systems consist of non-integrated multi-level channels, with atomistic conditions obtaining at the retail level and to a great extent even at the wholesale level. This situation extends also to the country assemblers and rural producers. This has created a situation in which each participant in the food distribution system merely repeats each day the time-hallowed activities, no participant is in a situation to have an overview of the whole system, and no participant is in a position to introduce changes by his own efforts[1]. Introduction of changes of the type suggested by PIMUR will compel these participants to re-evaluate their activities in the light of consumer

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[1]A notable exception to this rule in Colombia is IDEMA, a Department of the Ministry of Agriculture, whose responsibility is the maintenance of orderly markets for agricultural products, and whose authority is very broad-ranging.

requirements, functions to be performed, and the nature of other participants in the distribution system. In short, if they are to benefit from the changes they will have to adopt a marketing mentality, and in all likelihood this will spread to other sectors of the economy as well. In particular, an understanding of this mentality must spread to those in the public sector responsible for overseeing economic affairs. Otherwise marketing activities will be starved of resources and hampered by ill-considered legislation. The introduction of a marketing mentality is, we believe, a vitally important element in economic development.

Structure of Research

General Framework

The purpose of the research is to acquire an understanding of the food distribution system of Cali sufficient to evaluate the efficiency of the existing system and to design an improved system compatible with the resources available and the conditions obtaining in the city. The criterion of improvement shall be that of selling foods cheaper to low-income consumers than does the existing system while still providing the various services required by consumers.

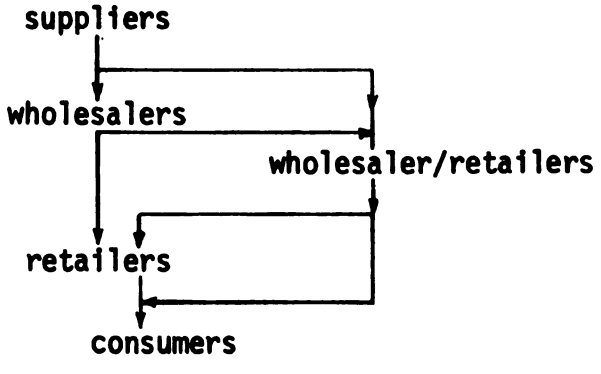
The food distribution system is actually a system, and must be analyzed as such. It is a system of interlinked components, and its overall behavior is a function of the characteristics of these components and the nature of the interlinkages.

The first step is to define what components will constitute the system and where these components are interlinked. In theory, the system is practically boundless, because for almost any activity anywhere

in the world a chain of causation can be discovered which will eventually impinge upon food distribution in Cali. Fortunately, the immediate system, that which can have perceptible effects upon food distribution in Cali, is a good deal more compact.

We shall take as the direct system the suppliers (country assemblers, food processors, etc.), wholesalers, retailers, and consumers. We are interested in the flows of food through these components (or, equivalently, the flows of money in the opposite direction) and how they are related to prices at the linkages. These relationships are functions of the characteristics of the wholesalers, retailers, and consumers. Our final objective is to discover ways of altering these characteristics which will reduce the price at the consumer-retailer linkage while maintaining or increasing the flows of food. The consumers, clearly, it is not in our terms of reference to change, nor is the present writer qualified to make recommendations concerning the suppliers because our investigations were confined to Cali and the suppliers operate on a national scale. So we are left with only wholesalers and retailers as the components whose characteristics it is feasible to change.

The linkages between these components are fairly straightforward and can be diagrammed as follows:



where the lines indicate that flows of foodstuffs can occur in a downward or horizontal direction. The diagram indicates that:

a) suppliers send foodstuffs to wholesalers and wholesalers/retailers;

b) wholesalers receive from suppliers and send to wholesaler/retailers and retailers;

c) wholesaler/retailers receive from suppliers and wholesalers and send to retailers and consumers;

d) retailers receive from wholesalers and wholesaler/retailers and send to consumers;

e) consumers receive from wholesaler/retailers and retailers.

We have introduced here a previously unmentioned component, the wholesaler/retailer, which as its name implies combines the functions of wholesaling and retailing, because this particular component turns out to be of considerable interest to this study, as will be seen later when we discuss prospective food distribution systems.

The diagram should not be taken as a system graph; it is only intended to depict the paths along which food flows can occur, and is by no means complete. For instance, we have defined institutional food consumption (hotels, hospitals, etc.) out of the system, and the diagram does not make allowance for foodstuffs to leave the system as spoilage.

The system depicted in the diagram is a generalized one, and for some products the flow sequence shown is not followed. A substantial proportion of the beef consumed in the city goes direct from suppliers to retailers (the so-called "forranea" beef), and most of the raw (unpasteurized) milk goes direct from suppliers to consumers.

However, these specialized distribution channels can be brought formally within the system as diagrammed if we consider some of the various stages shown in the diagram to be functionally incorporated into others. It is immaterial how the incorporation is considered to move.

Not depicted in the diagram are the ancillary services that are involved in food distribution but which must be considered as exogenous factors, in that this dissertation does not purport to make recommendations as to how their performance could be improved. This omission does not imply that such improvement is not important (PIMUR investigated all these areas and made appropriate recommendations); it merely reflects the fact that thorough analyses of these factors would each constitute a study as large as, or larger than, the present one. The factors concerned are:

i) banking and financial services

ii) transportation services

iii) governmental intervention, direct (e.g., the IDEMA food stores), indirect (as in price controls), and legislative

These factors affect the food distribution sector, and changes in their characteristics will have noticeable effects upon food distribution. But these effects will not be spectacular, except possibly for the hypothetical case of particularly ill-judged legislative action. This is because they are not linked into the food distribution system in a way that permits feedback. Strictly speaking, feedback does exist, but in fact, the feedback linkages are rather tenuous.

Different considerations apply to another sector, the urban manufacturing sector. Earlier we traced the way in which a reduction in food prices could hopefully lead, via demand for manufactured goods,

to reduced levels of unemployment and higher per capita incomes. This would lead to a much greater demand for food than that indicated by the straightforward consideration of income elasticities. Since the price-elasticity of supply of foodstuffs is likely to be very low in the short run (especially for beef) the effect of this demand-amplification would be that of strong negative feedback, tending to restore food prices to their original level. However, Cali only accounts for about 4% of the population of Colombia, so any reasonable increase in the city's demand for food will not substantially affect the prices of foods at the supplier level, which are determined by national demand and supply conditions[1]. To the extent that economies of scale are available in food distribution there exists potential for positive feedback, with higher demand bringing about lower prices, but this will choke off fairly rapidly. Perhaps the most important point here is that conditions in Cali do not seem to be suitable for developing the "bootstrap" increases in demand and employment described earlier. Only a small proportion of the manufacturing in Cali is concerned with low-ticket items with high labor content. It appears that the beneficiaries of any increase in demand for low priced manufactured goods in Cali will be the other Colombian industrial cities, principally Medellin and Bogota. We therefore feel justified in omitting this sector from our diagram. Even if this increased demand for low priced consumer goods does result eventually or directly in increased demand for goods of

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[1]An exception to this is constituted by many fruits and vegetables, grown locally exclusively for the Cali market, but these make up only a small proportion of consumer food expenditures.

the type manufactured in Cali this will not help much, for these goods generally have a low labor content.

We end up, therefore, with the simple system diagrammed above. This system contains no feedback loops of any importance, so questions of stability do not arise. For the present study this is fortunate, for it means that errors in parameter estimations resulting from random sampling variations will not result in amplified errors in estimates of the performance of the system.

Specific Issues

To repeat, the objective of the study is to design a food distribution system that will enable the consumer to buy food at lower prices than existed as of the time of the field work, viz. February 1969. We have defined our system so that this statement must be taken to mean that we will try to reduce the total mark-up between suppliers and retailers, as well as expenses other than direct food expenditures (e.g. travel) incurred by consumers in the course of making food purchases. This in turn implies that the present mark-up is greater than it need be, given the functions that must be performed by the system.

The words "need be" in the previous sentence have important connotations, associated with the concept of efficiency. This concept is well understood in the physical sciences, particularly thermodynamics, but it has proved most elusive in marketing. If the present study were a problem in thermodynamics it would be relatively simple to measure the efficiency of the system relative to its theoretically possible efficiency, and then decide whether the discrepancy was sufficiently large to warrant the effort and risk of trying to reduce

it. A piecemeal analysis would be required only if the latter decision was in the affirmative, in which case we would try to determine whether this piston, that throttle valve, or yonder boiler was in some manner malfunctioning. But the present study does not enjoy the benefits available to thermodynamicists, and has to start with a piecemeal approach. This has its dangers. We might find, for example, that the interlinkage between wholesalers and retailers, the way that transactions were carried out between them, were excessively clumsy and costly. We could then recommend a streamlined transaction mode, hoping to reduce the final price of the goods handled, only to find that the changes in operating modes required of both parties to the transaction would result in higher operating costs and a higher final price. This is why we spent some time defining the system under discussion and justifying the omission of various possible system components. We are now at least fairly certain that we have missed no important components of the system, and that providing we follow the effects of changes through the various components listed we shall arrive at approximately the right result.

The research itself can be cast in the form of seeking to prove a set of hypotheses. The global hypothesis, which follows from the statement of purpose of the research, is that the mark-up attached to foodstuffs on their passage through the system is excessive. But as we have already noted, this hypothesis is not directly testable, because marketing as a science has not yet developed the appropriate theory. We can only show that the mark-up is excessive by showing that we can design a system which provides food at a lower final cost.

So we must break this hypothesis down into others which are directly testable.

1. The first such hypothesis is that excess profits are being taken by one or more components of the system. In this context excess profits will be considered to be net profits which are equivalent to a return on investment greater than that available from investing in other businesses of similar riskiness plus, in the case of owner-operators, an imputed salary equal to that paid to hired managers of similar operation.

   If this hypothesis turns out to be correct then we must seek to discover the mechanism which prevents market forces from eliminating these excess profits. The most probable form of mechanism would be barriers to entry, of which the following are examples:

   a) forcible, such as a Mafia-type operation

   b) legal, such as licensing requirements

   c) difficulty of obtaining capital

   d) a "closed shop" understanding, according to which suppliers refuse to deal with prospective new wholesalers, and so on down the line

   e) it may be difficult and time-consuming to acquire the necessary expertise and establish contact with suppliers, customers, and credit and transportation agencies

   f) practices such as tied sales, particularly tying credit to sales

   g) peculiarities of the market such that it is obvious to prospective entrants that their entrance will result in profitless operation for all market participants

   This list would seem to include all possible barriers, and each item leads to individual sub-hypotheses associated with the main hypothesis.

2. Some or all of the components of the system have unnecessarily high operating costs and thus are forced to charge high mark-ups. The test of unnecessarily high operating costs (and thus margins) is whether we can design components that would return normal profits (as defined above) with lower margins while maintaining the levels of service of the existing components. What we are looking for here are deficiencies within the existing components, such as poor managerial practices which directly increase costs or managerial inadequacies which keep the scale of operation at uneconomically low levels.

3. The interlinkages between the several components are such as to impose high-cost modes of operation and/or prevent the members of the components from growing to sizes where economies of scale are obtainable. One or more of the following contribute to such a situation:

   a) Consumer requirements are such that the only stores which can satisfy them are small units and/or units with high operating costs. Such requirements are refusal to travel more than a very short distance to a store (thus limiting the potential sales volume of stores), insistence on cost-adding services, such as credit and home delivery, and persistence in making multiple small purchases.

   b) The nature of the transactions between components are such as to impose small operating scales or high operating costs upon one or both transacting parties. That is, transactions are fully or largely negiotated rather than routinized for one or more of the following reasons;

      inadequate information on prices requiring extensive search on the part of the buyer,
      inadequate information on demand requiring extensive search on the part of the seller and/or leading to scale-restricting, risk-averting practices,
      absence of reliable grading standards and/or absence of mutual trust, necessitating purchase by inspection, poor assortments held by sellers, necessitating many small purchases by buyers,

tradition-bound practices such that innovations would bring no direct reward to the innovator or rewards incommensurate with the risks involved.

Again, the lists of possible causes of dysfunctional practices is as complete as we can make them, and lead to a set of sub-hypotheses associated with the main hypothesis.

From this stage on the research follows standard practice. The sub-hypotheses are converted into questionnaire items, and then follows the procedures of sample design, questionnaire pre-test and re-design, field work, and data processing and analysis. The following chapters of this dissertation will be concerned with presenting the results of this analysis and with drawing the indicated conclusions.

Social Justification

One cannot lightly undertake to make changes in institutions a important as food distribution. Food distribution is an extremely complex set of economic activities, highly inter-related, and the effects of ill-judged action could be extremely serious to the population of the region concerned. However, the recommendations arising from the research upon which this dissertation is based were carefully formulated and, we believe, free from danger on this score. At worst, they will merely fail in their objective of reducing food prices.

Socio-cultural systems are also very complex and are very vulnerable to shocks, especially because the effects can be very slow in appearing. We should therefore make an attempt to foresee the effects of our actions and to clarify the issues involved, even though we might not be entitled to make the final judgement of values. That, in all equity, must be left to the people affected, or their representatives.

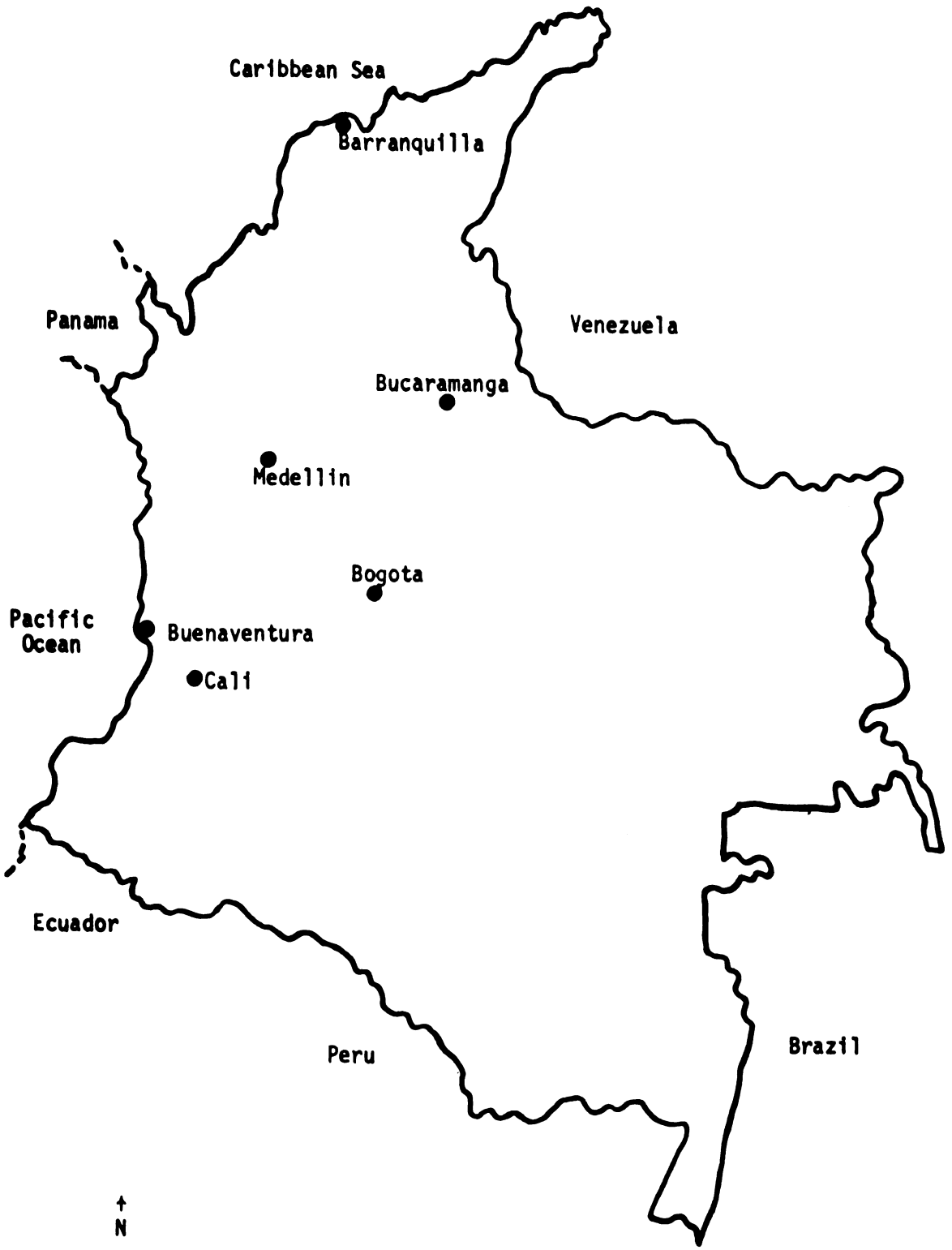
Our direct objective is to lower the price of food to low-income dwellers in an urban community. There would seem little to be apprehended on this score. We are not aware of any studies that show social cohesiveness in normal communities to be directly dependent upon the existence of malnutrition in major segments of the population. As for the secondary objective, the encouragement of industrialization, the horrors of nineteenth-century industrialization have been very amply documented, and we must consider whether they are likely to be repeated in modern Colombia. The worst aspects appear to fall into two categories, the exploitation of labor, particularly child labor, and the shock of dislocation on changing a structured rural environment for a disorganized urban one. As far as the first is concerned, experience indicates that the situation can be remedied by legislation, and Colombian labor legislation is both liberal and adequately enforced. For the second, we can observe that rural-urban dislocation is occurring without industrialization in Latin America, and that in this case industrialization can only help, by providing employment to people who otherwise would be totally disenfranchised. And although the Western industrialized countries have yet to find satisfactory answers to the problems of affluence the underdeveloped countries have a long way to go before these problems will start worrying them.

A more serious problem is posed by those employed in food distribution itself. The research in Cali showed that there were almost nine thousand retail outlets operating in 1969, far more than an efficient food distribution system would need. Rationalisation of the system would certainly threaten the livelihoods of fifteen to

twenty thousand families. Would such rationalisation produce net social benefits?

There is, of course, no way in which this question can be conclusively answered. We believe that there would be net social benefits. In the first place, the burden of supporting an inefficient food distribution system falls particularly severely upon the poor, those least able to afford it. In the second place, there are reasons, given below, for believing that the misfortunes of the retailers will not be anything like as severe as the figures above would indicate.

1. A substantial proportion of the small retail stores do a good deal of their business selling beverages for consumption on or off the premises. This is a high-margin line, and provides most of their profit. It should not be reduced, and might even be increased, by rationalisation of food retailing.
2. The normal attrition rate amongst these operators is very high. It was found in Cali that between making up lists of stores and returning three months later to carry out interviews one-quarter of the stores listed had gone out of business. Any rates of introduction of new stores, short of a crash program, should be slow enough for the normal attrition to remove those who would be injured by low-priced competition.
3. Market stall vendors, congregated into six public markets, account for almost four thousand of the retail outlets. As will be shown later, these markets serve almost exclusively their own neighborhoods. Thus by judicious zoning in licensing new retail stores the shock to stall operators from new types of competition can be cushioned.



Map of Colombia

Fig.I.1

4. The two thousand stall operators who specialize in fruits and vegetables will in all probability remain competitive for some time to come, given the difficulty of routinizing the marketing of these products.

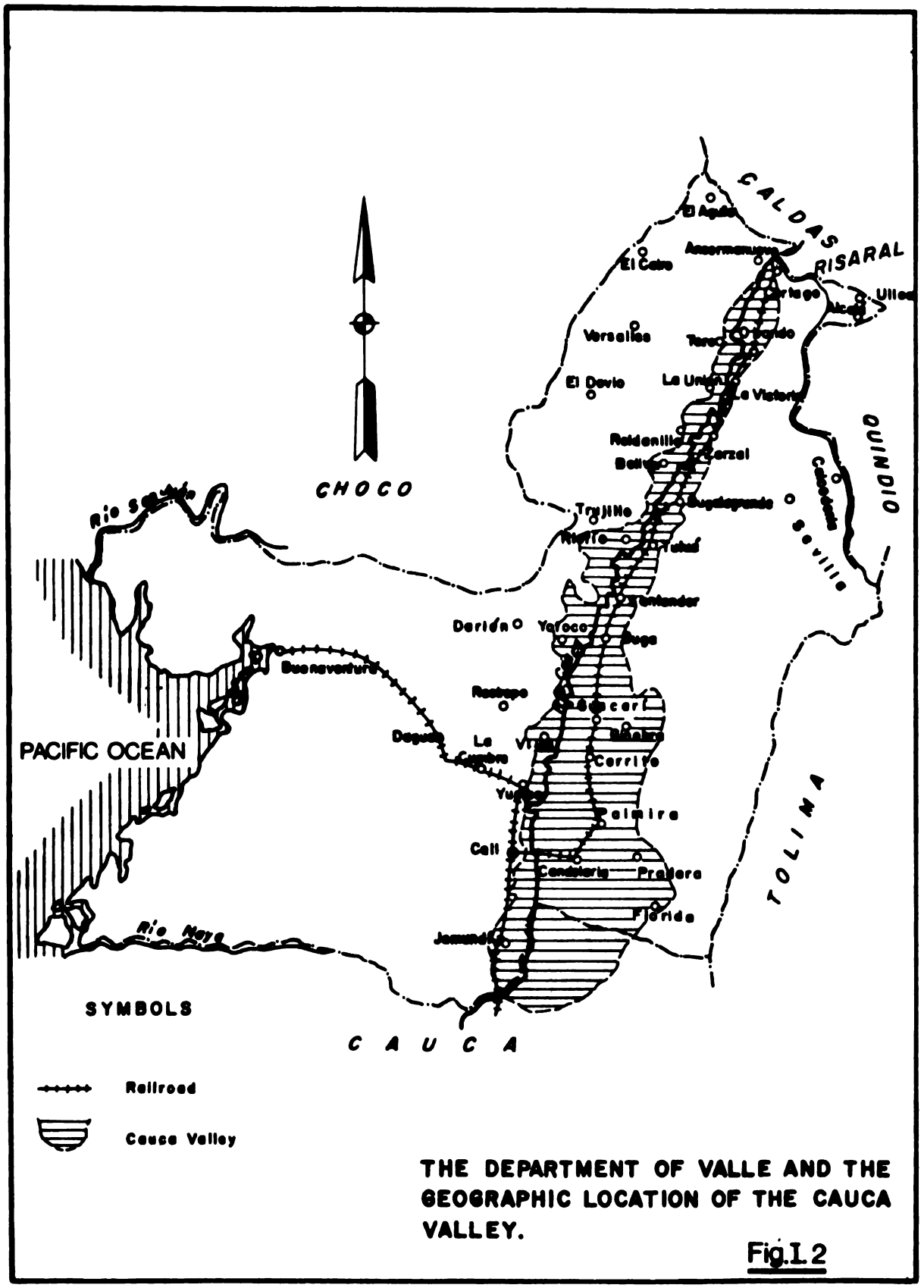
The Setting - Cali, Colombia

1. Historical and Geographical

Three mountain ranges dominate Colombia's geography, and have dominated most of its history. They start at a node on Colombia's southern border with Ecuador and run north, separating only slightly from each other as they go. From east to west the three ranges constitute the barriers separating the plains and the Amazon basin from the valley of the Magdalena, the Magdalena from the valley of the Cauca, and the Cauca from the swamps and forests of the Pacific coastal area. These two valleys, together with the area around the short Sinu River in the north-west corner of the country, account for the great bulk of Colombia's food production and also of its population.

Cali is located in the Cauca valley. The Cauca River originates high up in the Andes, near the node where the three ranges join, and arrives at the level valley floor some twenty miles south of Cali. This level valley stretches to Cartago, a town about 100 miles north of Cali, where the river descends through rapids to the swamps of the Atlantic region and eventually joins the Magdalena to flow on to the Caribbean.

The City of Cali is the capital of the Department of Valle del Cauca, the political entity which consists of the valley and the land on either side roughly up to the crests of the two defining mountain ranges, together with a westward sweep to the Pacific between the Naya and San Juan rivers. The valley proper which is roughly one hundred



THE DEPARTMENT OF VALLE AND THE GEOGRAPHIC LOCATION OF THE CAUCA VALLEY.

Fig.I.2

and twenty miles long, has an average width of ten miles. So we have a long narrow valley running north and south, with the Cauca River as its dominant feature. The valley floor is extremely flat, so that a great deal of land area adjacent to the river is subject to flooding and is permanently marshy.

North of Cali the river runs along the western side of the valley, so that all the cities between Cali and Cartago were sited east of the river, the swamps making it difficult to obtain access to the west. Cali alone is sited to the west of the river about five miles south of the place where the river first swings into the hills. This location cut Cali off from the main part of the valley (even today the town of Palmira, twenty miles to the east, is a much more important marketing center for agricultural products than Cali is), but gave it access to the south and, more important, to Buenaventura, Colombia's only port on the Pacific.

Cali's growth began with the opening of the Panama Canal, which enabled coffee to become an important export crop. Coffee came up the Cauca by boat to Cali, where it was transshipped to Buenaventura, and imported goods flowed in the other direction. In the early Thirties the railroads displaced the river boats, but Cali was still the inland terminus of the link with the Pacific. The same was true even when all-weather roads replaced rail with road transport. However, Cali's monopoly is about to cease. A new and much better road from Buenaventura to Buga, some sixty miles north of Cali was approaching completion in 1969. It should be of interest to economic geographers to watch the development of the two cities when this road is finally opened.

The locational monopoly has served Cali well. The import-substitution policy introduced in the Thirties encouraged manufacturers, and Cali was well situated for factories dependent upon imported raw materials and semi-finished goods. In the late Fifties a number of foreign firms established manufacturing facilities in the city, and in 1969 Cali was the third industrial city in Colombia. Table I.1.1. presents comparative data for Bogata, Medellin and Cali, the country's three main cities. Strictly the data apply to the departments in which the three cities are situated, but only a negligibly small amount of manufacturing is done outside the main urban areas.

Table I.1.1. Comparison of the Percentage Contributions of Selected Regions to Total National Manufacturing Activity in Colombia, 1966

	Region		
	Antioquia	Bogata, D.F.	Valle
Per-cent of Establishments	16.7	24.1	15.5
Per-cent of Personal Employed	25.4	26.0	17.5
Per-cent of Total Remuneration	27.0	25.0	19.4
Per-cent of Gross Production	20.2	22.4	20.4
Per-cent of Value Added	23.3	23.3	21.1

SOURCE: Boletin Mensual de Estadistica, DANE, #212 (October 1968)

It can be seen from the figures in Table 1.1.1. that Cali accounts for one-fifth of the country's manufactures, and one-sixth of its manufacturing employment.

The population of Cali has grown rapidly in recent years. The census of 1964 showed a population of 639,000, and comparison of this with the result of the census of 1951 showed that the growth rate between these dates was equivalent to a compounded rate of 7¼%. Clearly a substantial immigration flow from other parts of Colombia has to be hypothesized to account for such a rate of growth. This population increase has been accompanied by a geographical extension of the city east toward the River Cauca. We estimate the population of Cali, as of February 1969, to have been 813,000. Details of the calculations involved in this estimate are given in Appendix 1 to this chapter. At an average household size of 6.27 persons[1], there were 130,000 households in Cali. Details of income distribution, education levels, and other demographic statistics are given in Chapter II, where we discuss the inhabitant of Cali in his capacity as a consumer of foodstuffs.

As can be imagined, this rapid expansion has brought growing pains with it. For instance, the city has encountered great difficulty in providing an adequate level of public services to the new urban areas. Another problem which is the crux of this dissertation, is that the city is far too large to be served by its original food distribution system. The rapidity of growth has been such that alternative systems have not had time to evolve, although the social costs of the existing system's deficiencies are affecting a great many people.

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[1]PIMUR, Consumer Survey

Originally, Cali was built on the low foothills of the Western Range, and expansion eastward was inhibited by periodic flooding of the river. In 1954 the autonomous Corporation, CVC, was formed whose function, broadly speaking, was the provision of infrastructure or external economies in the departments of Cauca, Valle, and Caldas. Cauca and Caldas quickly dropped out of the scheme, but Valle has benefited substantially from its activities. Amongst the first of these was the construction of a levee along the west bank of the Cauca, which has permitted drainage of the land between Cali and the river, and by 1969 urbanization of this area had been extensive. The limiting factor was the provision of utilities, principally water and sewers, the cost of which was becoming prohibitive. Planeacion Municipal, the city's planning department, has decided upon a policy of discouraging lateral expansion and encouraging vertical expansion in the form of high-rise apartment blocks near the city center where the provision of utilities is cheaper.

2. Cali: Topographical

It is worthwhile describing the layout of Cali at some length, because one of the criteria used for classifying the consumers, that of socio-economic level, is very closely associated with well-defined regions of the city.

The center of the city (in the sense of being the heart of the business district) is the Plaza Cayzedo. The Rio Cali, a small river which passes only a few blocks to the north of the Plaza, formed until recent times the northern boundary of the city. About five miles to the north again, the Cauca sweeps in almost to the edge of

the hills. Until recently the east was bounded by swamp lands.

Until around 1930 Cali expanded slowly; by this time it extended perhaps half a mile west of the Plaza Cayzedo, a mile east, and a mile south. The Rio Cali formed its northern border. The wealthy then started building north of the Rio Cali. This was the era associated with the completion of the railroad along the valley, and with the establishment of manufactures resulting from the "substitution of imports" policy. Up until this time the Plaxa Cayzedo had been the city's principal food market, but now the vendors were moved down to the Calvario district, which was already the center of the wholesale food trade. The distance involved in this move was not great, being only six blocks south and one block east. Here they were established in the building which, after expansion in 1938, became the Galeria Central or Central Market as it was in 1969. At this time the central market area was still the south-eastern boundary of the city's business district.

The next spurt of Cali's growth came in the late Forties and early Fifties when the suddenly increasing migration to the cities noticed all over South America was intensified in Colombia by the aftermath of the "Bogotazo" in 1948[1]. This is the period of growth that is still continuing. It was accompanied, naturally, by a corresponding areal growth of the city which can be most conveniently described in terms of socio-economic classes.

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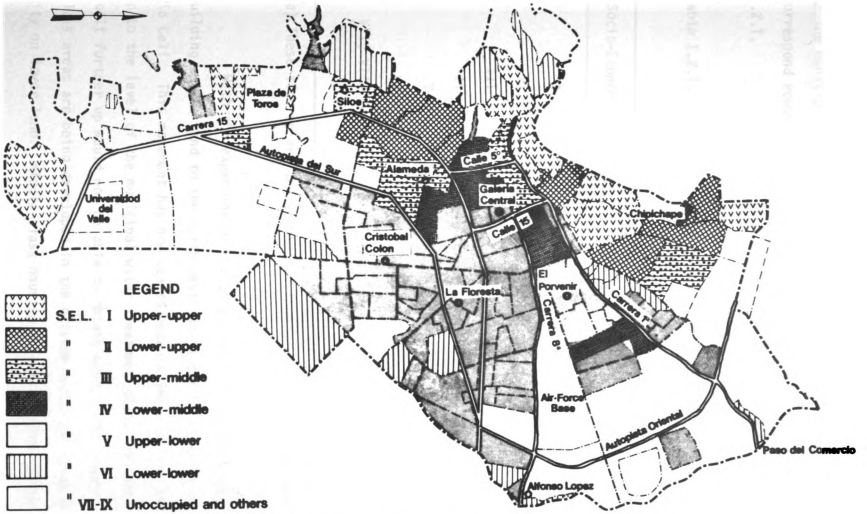
[1]The "Bogotazo" is the name given to the riots and other convulsions following the assassination of the left-wing political leader Jorge Eliecer Gaitan in Bogota in 1948. The near-anarchy which followed this event has dominated Colombian politics ever since. Order was rapidly restored in the cities and large towns, but sporadic civil war and terrorism continued in the countryside for several years, degenerating into banditry. Many people fled the countryside at this time, seeking the relative security of the cities.



Socio-economic levels of barrios and locations of public markets, Cali, 1969

Figure I.3

The neighborhoods of the city, the barrios, are classified by the municipal government into nine socio-economic levels, which correspond roughly to the social class of its residents as shown in Table I.2.1.

Table I.2.1. Distribution of Population by Socio-Economic Level, Cali, February 1969

Socio-Economic Level	Class	Percent of Population (a)
I	Upper-Upper	4.8
II	Lower-Upper	4.2
III	Upper-Middle	7.7
IV	Lower-Middle	12.4
V	Upper-Lower	50.0
VI	Lower-Lower	20.9
VII, VIII & IX	Industrial, Penal Military	--

(a) These figures are those obtained from the PIMUR Consumer Survey

With the expansion of the city, the upper classes started building on the land to the north-west and up the hills north of the Rio Cali. This movement has now ceased because the hills are built-upon up to the level of the municipal water treatment plant, so that houses built further up would not be able to obtain water. At present upper-class areas are being developed in the extreme north and south of the city on lower land. Middle-class housing is growing both to the north

and to the south-west, a growth pattern that has continued for some time. Some years ago this growth encircled, then absorbed, the village of San Fernando, about four miles south of the city center.

Working-class housing is spreading southwards on the east of the middle-class areas described above. Prior to this the construction of the levees mentioned in the previous section made possible urbanization of the land east of the city center down to the Cauca, some five miles from the Plaza Cayzedo. This urbanization consisted entirely of working class housing.

The tugurios or slums have developed on land that no one else wants, either because of its inaccessibility, its propensity to flooding, or the absence of sewage and water services. There are four principal slum areas in Cali:[1]

1. Siloe, on a steep hillside on the south-west of the city.
2. Terron Colorado and Bella Vista, built on the hills west of the city center a bit further out and higher up than the upper-class districts of Arboleda and Normandia.
3. La Union, in the south-east of the city (actually just over the city's official political border)
4. La Isla, along the Rio Cali about two miles of the city center.

These are officially classified as tugurios. It will be noted that, except for the last named, they are all on the periphery of the city. It is also true that the poorer working-class areas are amongst those further from the city center, and that, except for some

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[1] For a description of living conditions in these slums see Robert L. Heilbroner, "The Great Ascent", Harper & Row, New York 1963. Chapter II.

destitutes who scrape out an existence in the lawless area to the south of the Galeria Central, the poor in Cali live far away from the center. This will be seen to be an important factor in our evaluation of the performance of the food distribution system.

Figure I.3. illustrates the foregoing. The only additional comment is that the old city is now classified as almost entirely middle- and lower-middle class.

The map also indicates the principal thoroughfares of the city. The most important shopping area is the city-center. This is the only area that serves the whole city, the others are only intended to serve their more-or-less immediate neighborhood. In particular, the Galeria Central area is the hub of Cali's food distribution, both retail and wholesale.

Up until the time that the field work for this thesis was performed in 1968-1969, the Galeria Central was the hub of Cali's food distribution, both wholesale and retail. In 1970 the Galeria Central building was torn down, as part of the program of beautification of the city in preparation for the Pan-American Games in 1971. Tenth Avenue, which runs alongside of the Galeria Central, was enlarged to a four-lane arterial street, and this entailed the tearing down of the market buildings.

North of the Rio Cali is the Centro Comercio del Norte (Commercial Center of the North), a shopping center modeled on North American lines, and catering to the high-income families who live nearby. In the rest of the city there are no well-defined shopping areas, although the satellite markets, especially Alameda in the south, have

attracted some merchants. Other concentrations of retail stores are found along some of the principal roads marked on the map.

3. Food Retailers

In the Introduction a diagrammatic representation of Cali's food distribution system was described. This identified five major components, which were suppliers (external to the city), wholesalers, wholesaler-retailers, retailers, and consumers. These will be described in detail in Chapter IV. However, in Chapter II and III we shall be discussing the interface between the consumer and the retailer, so it will be useful at this stage to describe the various types of food retail outlets operating in the city, in order to define the terms that will be used in these discussions.

There are three major types of food retailers in Cali. These are the public markets, the traditional food stores, and the self-service stores. There are also many other types, some important and some unimportant, which display a wide range of operating characteristics. Together, these form a fourth, "miscellaneous", group.

The Public Markets. The public market system consists of the Galeria Central (including the two Calvario markets) and five satellite markets[1]. Their locations are noted in Figure I.3. Each market consists of a large building housing many small market stalls. The market stalls specialize by product, and are segregated inside the buildings according to the four main product groups of meats, non-perishables, fruits and

[1] A sixth satellite, Alfonso Lopez, was under construction in 1969, and has since come into service. In 1970 the Galeria Central was torn down to make way for road improvements.

vegetables, and dry goods. In the streets around the markets numbers of street vendors sell fruits and vegetables. Some of these vendors are officially associated with the markets, in that they pay rentals to the city, while other are unofficial and, in fact, prohibited by law.

The Galeria Central, by dint of its size and central location, is the most conspicuous food retailing institution in Cali, and has come to epitomize food retailing in that city. Just as, in the U.S.A., when one thinks of food retailers one thinks of A&P, so in Cali one thinks of the Galeria Central. It is reputed to be, of all food outlets in Cali, the one which offers the lowest prices, the greatest variety of products, and the widest range of qualities. It is also spectacularly dirty, extremely crowded, and infested with thieves and pickpockets.

The satellite markets can best be described as being like the Galeria Central but more moderate in all their characteristics.

Traditional Stores. These are personal-service stores, with the customer on one side of a counter and the shopkeeper and the stock-in-trade on the other. There are two distinct types, the small neighborhood stores and the large stores around the Galeria Central.

In terms of numbers and dispersion round the city the tienda, the small neighborhood store, is Cali's most important food retail outlet. Tiendas can range in size from a roadside stall to a store with 2,000 square feet of floor space, and can show any of a wide range of specializations. Many of them are essentially small bars or sidewalk cafes. Those larger tiendas which sell only foodstuffs without specializing in

any one line are called graneros (literally, grain-dealers) but the distinction between the two types is not precisely drawn. As often as not the term applied depends on which title the operator cares to put on his signboard. We shall follow PIMUR's practice of defining as tiendas neighborhood stores with sales of up to Col. $20,000 per month, and as small graneros stores with sales of from Col. $20,001 to Col.$50,000 per month.

The main offering of these stores is locational convenience. They make food available all over the city. Individually they do not offer a full line of foodstuffs (only 30% of tiendas sell meat), but collectively they do because they are so numerous and dispersed that almost every house in Cali is within easy reach of several such stores. The variety they offer within any one line, even collectively, is rather poor, especially in the case of fresh fruits and vegetables.

The large traditional stores are located in the immediate vicinity of the Galeria Central. A typical store of this type is open-fronted (no front wall, no display windows), 20 to 30 feet wide and 30 to 60 feet deep. They sell only non-perishable staples and processed foods. Although they do not sell meat directly they rent space in their stores to meat stalls (bancos de carne).

The distinction between the large graneros and the wholesaler-retailers, the two types of centrally-located traditional stores, is that the former sell only to final consumers while the latter sell also to other retailers. The wholesaler-retailers are, on average, larger than the large graneros, but otherwise there is little difference between them.

Self-Service Stores. These are of four types, supermarkets, chain stores, cooperatives, and grocery stores of the Cajas de Compensacion Familiar (Family Allowances Funds).

Supermarkets in Cali are located in or near upper-class districts. They are large stores, by Cali standards, departmentalized, and with a self-service format. Of all food retailers in Cali they offer the widest range of foods (with the exception of the public markets). In terms of depth of offering and merchandising technique they are best in luxury goods (canned fruits and juices), good in staples, fair in meats and rather poor in produce. Their prices are competitive with those of the public markets.

They differ from supermarkets in the U.S.A. in a crucial aspect. They are not mass-merchandisers, operating on a philosophy of low margins and quick turnover, and measuring success at least partly in terms of market share. Instead they are large neighborhood stores catering to the upper classes. Although they have adopted the format of the North American supermarket they have not adopted its philosophy of operation.

Chain stores are large stores of the five-and-ten type, and are mostly found near the Galeria Central. They aim at the lower-middle and working classes, with aggressive merchandising and competitive pricing, and if the crowds flocking through their stores are any indication they do this very successfully. Foodstuffs do not form a large part of their business, and they offer only non-perishables, mostly processed foods. It has become almost standard practice amongst them to use rice as a loss-leader in their frequent promotions.

These chains would well repay further study. Of all organizations in Colombia they appear to be the ones which have best solved the managerial problems of organization, training, delegation, and control, as well as having apparently consciously appraised their place as marketers. Dissemination of this problem-solving ability would be a valuable form of economic aid.

Cajas (de Compensacion Familiar, Family Subsidy Funds). There are two grocery stores operated by these institutions in Cali. The Cajas are described in more detail in Chapter IV. The two stores are open only to the employees of firms affiliated to the respective Cajas. The stores are large, with a self-service format. Their product offering is not complete, only one store handling fresh meat, and they concentrate upon non-perishables and canned goods. One of these stores had been opened only a few months before PIMUR's field work started.

Cooperatives. In February 1969 there were seventeen consumer cooperatives operating in Cali. They were officially under the supervision of the Superintendency of Cooperatives in Bogota, and enjoyed various privileges which are detailed in Chapter IV. They are open to the public, but draw their memberships from amongst employees of individual firms or institutions, so that one finds, for example, the cooperative of the employees of Carvajal & Co., of the employees of the Pacific Railroad, of the employees of the Government of Valle.

They have mostly located in a nondescript manner, neither in the city center nor in the barrios, so that their members find them difficult of access. Some have located near to where their members work, which helps in this respect, but which is only a partial solution

to the location problem. In general, they offer only a limited range of goods (dry goods and non-perishables), their prices are not very competitive, and their stock control is poor. There are some exceptions to this generalization.

Miscellaneous Retail Store Types. These comprise the following types:

Truckers (Camioneros)

Specialty Stores

Stores operated by IDEMA

Puestos de Salud (Health Post Stores)

Markets in nearby towns

Comisariatos

Farmers' Market

Ambulant Vendors

Of these, only the specialty stores and the truckers are of any significance in Cali's food distribution. The truckers are, strictly, people who sell raw (unpasteurized) milk door to door from a truck or pickup, although the name can be applied to people delivering pasteurized milk. The truckers handling raw milk account for about half of Cali's milk supplies, the rest being pasteurized milk sold either through tiendas or delivered directly. The most important group of specialty stores are those stores which deal in fresh meat, catering especially to upper-class clients. Other stores specialise in poultry and eggs, and there is at least one large establishment specialising in fish and sea-food. Another group, large in numbers if not in volume of sales, is the so-called expendios de leche, which handle raw milk. These

stores, which are basically one-room operations, are found in barrios of S.E.L.V. and VI, and appear to act as retail outlets for truckers in areas where demand is too scattered or irregular to warrant door-to-door delivery service.

The stores operated by IDEMA (Instituto De Mercadeo Agricola, Agricultural Marketing Institute, a department of the Ministry of Agriculture) supplied only a negligible proportion of Cali's food consumption at the time of PIMUR's field work. However, because of the financial resources behind IDEMA, it must be considered to be of at least potential importance as a food retailer. In February of 1969 IDEMA was operating three stores in Cali, and had just started on a program of sending truck-trailers equipped as stores into the lower-class barrios to sell staples.

The Puestos de Salud are public health clinics located in the lower-class barrios. They enter into food retailing only in that some of them sell staples at cost to needy cases. Comisariatos (Commissaries) are food outlets operated for the use of armed forces personnel only, but this name is commonly used to refer to the stores associated with the Puestos de Salud.

The Farmers' Market is not a separate institution but an arrangement whereby a fenced-off area outside Siloe market is reserved on Saturday mornings for the use of small farmers to sell direct to consumers. This arrangement came into effect shortly before PIMUR's field work started.

The Ambulant Vendors travel round the residential areas selling mainly produce from barrows. They did not appear to be very numerous. They should not be confused with the street vendors associated with the public markets.

4. Facilitating and Ancillary Institutions

In this section we will look briefly at the more important factors that set the tone of the business ambience within which food distribution is performed. These are sources of finance, transporation, personnel training facilities, and the government's part in setting the rules of the game.

Sources of Finance

Finance in Colombia in 1969 was dominated by the government's fight against inflation, and few people thought the fight would ease within the foreseeable future. The brunt of the fight fell upon credit, which was extremely tight. Interest rates ran at 25% per year for "triple A" industrial concerns, and at five per cent per month for personal loans secured upon lands and houses.

Banks had been forced to cut down drastically on conventional banking activities. Conditions set by the Bank of the Republic had in effect established a reserve ratio of 50%. Interest rates on deposit accounts were limited by law to 4% in a period when inflation was running at about 11% per year, thus severely limiting deposit funds. And the interest charged on bank loans were limited to 14%. Instead of the standard banking services the banks put their efforts into the administration of loans to firms eligible for special treatment. These firms, in agriculture-related industries, and the so-called "development industries", were eligible for loans at advantageous interest rates (8% to 15% per year), and banks making such approved loans could discount them with the central bank.

Since none of these loans were available in commerce or in the marketing sector, food distribution was effectively cut off from any financial services from the banks. Thus the food distribution sector was essentially self-financed in respect of short-term or circulating capital.

The same is also true of long-term or fixed capital, but for different reasons. The open money market in Colombia is still very restricted by the small number of firms and investors and the total lack of any reliable information concerning firms. For this reason capital-raising is done by the entrepreneur from his own resources and those of his family and friends. The government-sponsored credit lines described above constitute an attempt to get round this difficulty since they are long-term loans.

Transportation

Three types of transportation are of interest to the food distribution sector; inter-city goods transportation, intra-city transportation and intra-city passenger transportation.

Colombia possesses two railroad systems, one operating along the Cauca valley, with a branch to Buenaventura, and the other along the Magdalena. Although freight rates by rail are slightly lower than by road, this does not compensate for the long delays in rail shipments, typically two weeks as compared with two days by road. In a country where credit is very hard to obtain and costs upward of 2% per month and in which wholesaler's gross margins are under 4%, a delay of two weeks is prohibitive.

Road transport in Colombia seems to be quite effective, at least as far as food haulage is concerned. PIMUR heard few complaints about inter-city transport from people in the food sector. This is not to say that road transport is efficient, in the sense of having low freight rates, few delays, etc.. Truckers are almost all small operators, vehicles are mostly old (PIMUR reckoned that two-thirds of the trucks hauling foods were over ten years old), shipping is disorganized, and pilfering and even hijacking are common. But the goods seemed to arrive in adequate volume without the transportation adding greatly to the final price. The transportation charge on a stem of plantain brought 130 miles from Quindio to Cali, for instance, amounted to only 8% of the price to the consumer.

Intra-city transport is another matter. The stem of plantain that cost Col./$1.20 to truck the 130 miles from Quindio cost Col./$0.60 to haul 1½ miles from the Galeria Central to Alemeda Market, and 25% of tienda operators said that arranging transportation was their primary difficulty in making purchases.

This is not surprising. There are seven thousand food retailers in Cali, and every day they all, or nearly all, come to the Galeria Central area to make their purchases. Then they have to arrange transportation of their goods to their respective places of business, so that every day between the hours of six and eight o'clock in the morning seven thousand shipments are made. For the rest of the day there is little activity of this type. Thus the use of these -ransport resources is very inefficient; taxis are the only participants in this cross-town transportation activity that can reckon on being adequately occupied throughout the day.

The situation described is a clear illustration of the concept of suboptimization. Every participant is operating under his own least-cost conditions, but the final cost to the consumer is probably some 3% to 5%[1] greater than would be the case with a whole-system organization, because the adaptation between participants is so poor.

Passenger transportation facilities are very good, considering the rapid growth of the city, which amongst other things has left road construction well behind. There is an extensive network of bus routes radiating from the center of the city, and services are frequent. Fares, at the equivalent of U.S. $.03, are not expensive. Out at the edge of the city the routes are more widely spread and become rather circuitous. This, together with poor road surfaces, means that the trip into the city center can take upwards of two hours. The low incomes of people who live out at the periphery of the city also mean that bus fares, cheap as they are, become a matter of some consideration. One feature of the bus system in Cali is that virtually every bus route in the city passes within two blocks of the Galeria Central. As we shall see in Chapter IV, this is probably a major factor in accounting for the importance of the Galeria Central as a food retailing institution.

There are many taxis in Cali, and again fares are very low by standards obtaining in the U.S.. A fairly common practice among middle-class and lower-middle class housewives in Cali is to travel to the Galeria Central by bus and return home by taxi. This gets around one of the major drawbacks of the bus, that it is not designed for transporting loaded shopping-baskets.

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[1]The system proposed in Chapter VI offers cost savings of this order.

Training Facilities

We are interested here in establishments providing training in retail management. While there are many institutions in Cali which offer preparation for careers in business, ranging from the Universidad Del Valle, with its M.B.A. program, to small one-room enterprises which teach typing, we could not find any which gave courses of instruction in the management of small or medium-sized retail stores.

The logical place to set up courses of this type would be SENA, the National Apprenticeship Service. SENA trains young people in such fields as motor mechanics, machine-tool operation, electronics, farm machinery, and commerce, and also offers refresher courses for practitioners in these areas. SENA appears to be willing to add programs of instruction according to demand; for example, in 1969 the Cali branch had recently started courses in the operation of fishing gear and vessels in conjunction with a drive to start a commercial fishing industry in Buenaventura.

Packaging

One of the keys to the operation of self-service stores is extensive packaging, and this practice can increase the rate at which customers can be served in personal-service stores. In Cali, even in the self-service stores, packaging practices are still rather primitive. One of PIMUR's investigations, therefore, was concerned with looking into the state of the packaging art in Colombia, and in particular with determining the extent to which suppliers of packaging materials were prepared to accommodate the requirements of their customers.

The conclusions reached were that:

a) the industry is in general vigorous and actively seeking applications for new packaging techniques and materials.

b) with the exception of fibre for sacking, glass, and some paper pulp made from sugar-cane, all packaging materials are imported and in consequence rather expensive.

c) the high cost of packaging materials tends to confine their use in food distribution to luxury foods for which consumers are prepared to pay high prices.

d) the industry was in a position to contribute to reducing spoilage of fruits and vegetables by means of improved containers[1], but marketing these containers would be difficult in view of the existing structures of the production and marketing of fruits and vegetables.

In summary, the packaging industry is in a position to satisfy the needs of the food distribution sector, present and future. Its main weakness would seem to be a dependence upon imported technology, with its consequent dependence upon high-cost imported packaging materials.

Government Intervention in Food Distribution

This intervention takes three forms: legislation, direct intervention, and indirect intervention.

Legislation concerning food distribution is voluminous[2], if not very effectively enforced nor well-directed. There are, for example, the

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[1]For example, cardboard cartons had been designed for transportation of fresh pineapple.

[2]There is a good discussion of this topic in PIMUR Final Report, p.315.

populist laws against speculation, which, insofar as they are effective at all, only prevent the populace from receiving the benefits of speculative activities. Perhaps the most significant legislative interventions have been those which created the Price Control Office, and Decree 2420 of September 1968 which gave far-reaching powers to IDEMA, the Agricultural Marketing Institute, which is a department of the Ministry of Agriculture. These have resulted in direct intervention in food marketing, as described below.

The Price Control Office, the Superintendencia de Precios, is responsible for the enforcement of price controls. In theory, all prices in Colombia are controlled, but in practice control is applied only to "articles of basic necessity".

The prices on manufactured goods are set by Planeacion Nacional (the National Planning Department) on the basis of discussions with, and data supplied by, the manufacturers, and as a result they are fairly realistic. Thus there is little temptation to transgress the controls. For most foods the data are supplied by the Ministry of Agriculture, but there are not sufficient data available, and the delays involved in the price-setting process make it too slow to cope with seasonal variations in supply. In any case, the lack of standards for most foods, and variations in qualities make enforcement difficult, and rigged scales and other devices can be used to nullify the effects of the price controls.

As compared with the Price Control Office, which attempts to regulate food marketing by decree, IDEMA attempts to promote orderly marketing of foods by acting as a participant in the agricultural marketing

system. IDEMA was given very wide powers by Decree 2420 of 1968, but in 1969 its activities impinged on food distribution in three main areas:

1. it had a monopoly on all imports and exports of foodstuffs other than coffee.
2. it operates a price support system for the production of some staples such as corn and beans. In this activity it has the handicaps of inadequate data upon which to base its price-setting decisions, and insufficient funds with which to support these prices. The obverse side of this activity, selling the products thus purchased, is also intended to affect food distribution in a socially-desirable manner. For instance, consumer cooperatives are supposed to receive preferential treatment in purchasing staples from IDEMA.
3. it maintains a program of trying to keep food retail prices down by operating retail stores and by announcing in local newspapers the prices at which these stores are currently selling staples. This program is described more fully in Chapter IV.

Indirect governmental intervention in food distribution has consisted principally of encouraging the formation of "philanthropic" institutions, such as the consumer cooperatives and the Caja stores. There are, of course, many other ways in which the government's actions have affected food distribution. We have already mentioned the effects of credit restrictions, and the high import duties on tinplate and plastic sheeting have confined their use in food packaging to items of luxury nature. These effects, however, are more incidental than intended or deliberate.

5. Summary

This has been a very brief desceiption of the city of Cali, and of the various types of food retailers which operate in the city. The purpose was to provide the background for the detailed description of the operation of the food distribution system which forms the substance of the following chapters of this thesis.

Review of the Literature

This dissertation is a study in macro-marketing, an analysis of an entire marketing system in an underdeveloped country. Very few such studies have been carried out. In fact, the only important studies of this type have been, with one exception, those carried out by the Latin American Market Planning center at Michigan State University. While there have been many good studies of food marketing by those interested in agricultural economics and agricultural marketing they are of only limited interest to us here because of their rather different approach. Although generalizations are dangerous it seems to be fair to categorize these studies as studies in commodity marketing, interested principally in flows and prices. We are concerned with an advanced and extended form of institutional marketing, in which the main interest is in the market participants and the relationships between them. The two types of study complement each other, but the research methods are so different that there is little prospect of methodological cross-fertilization.

The pioneering study in our field of interest was the study of food distirbution in Puerto Rico carried out by Galbraith and Holton

in the early 1950's[1]. This study was basically in the standard micro-economic form. Cost data were analyzed to determine appropriate scales of operation for wholesalers and retailers, and certain restrictive trading practices were identified, chiefly in the area of food importing. However, they went beyond simple economic analysis in that they took notice of the vertical relationships between market participants, and considered the feasibility of introducing new formats. For example, they weighed the possibility of introducing the supermarket format, and came to the conclusion that this type of store would be incompatible with consumer buying practices.

In 1965 the first of the Michigan State University studies took place, also in Puerto Rico. This was followed by studies in Brazil (in Recife), in Bolivia (La Paz), and most recently in Colombia (Cali)[2]. These were all multi-disciplinary studies, using primarily

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[1]John K. Galbraith and Richard H. Holton, "Marketing Efficiency in Puerto Rico", Harvard University Press, Cambridge, Mass., 1955

[2]C.C. Slater et. al., "Food Marketing in the Economic Development of Puerto Rico", Research Report No. 4, Latin American Studies Center, Michigan State University, East Lansing, 1970

"Market Processes in the Recife Area of Northeast Brazil", Research Report No. 2, Latin American Studies Center, Michigan State University, East Lansing, 1969

"Market Processes in La Paz, Bolivia", Research Report No. 3, Latin American Studies Center, Michigan State University, East Lansing, 1969

H.M. Riley et. al., "Market Coordination in the Development of the Cauca Valley Region - Colombia", Research Report No. 5., Latin American Studies Center, Michigan State University, East Lansing, 1970 (This document will be referred to subsequently as the "PIMUR Final Report")

the skills of marketers and agricultural economists and drawing also upon communications and social sciences. They were extended in scope, considering food marketing from the farm to the kitchen, as well as the ancillary functions such as transportation and financing. The Recife study also contained an analysis of the entire economy of the region, while the Cali study contained special analyses of various sectors of the Colombian national economy.

As well as the primary reports, these studies also generated a number of dissertations and articles dealing with various associated topics, so that there is now a fair-sized body of relevent literature available from the Latin American Studies Center at Michigan State University. There has been very little other relevant writing done on this subject, however. One useful article has been written by Currie[1]. Based upon the experience of his years of work in Colombia, it offers a clear overview of food marketing in that country, and contains several interesting observations. Bennett[2] studied the effects of governmental intervention in food marketing in Santiago, Chile, and his description of the food distribution system of that city shows some interesting difference between it and those of the cities studied by the Michigan State group.

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[1]Lauchlin Currie, in Reed Moyer and Stanley Hollander (eds.), "Markets and Marketing in Developing Countries", Richard D. Irwin, Homewood, Ill., 1968. pp.120-124

[2]Peter D. Bennett, "The Role of Government in the Promotion of Efficiency in Retail Marketing of Food Products in Greater Santiago, Chile", Proceedings of the American Marketing Association, p. 105, Fall 1965

Research Report No. 5 of the Latin American Studies Center at Michigan State University, which reports the results of the Cali study, is the basic document for this dissertation. It makes available in English the final report of PIMUR, the group which carried out the study (PIMUR is an acronym of the Spanish for Integrated Urban-Rural Marketing Project), and will be referred to hereinafter as the "PIMUR Final Report". PIMUR fielded sixteen separate (but related) studies, two of which, the Wholesale/Retail Study and the Consumer Study, provided the basic data used in this dissertation. Reports on these two studies have been published (in Spanish) as PIMUR Technical Reports Nos. 6 and 7.

Outline of the Dissertation

Chapter II, The Consumer, describes the inhabitants of the city. A feature of this chapter is the presentation of the results of a survey of food consumption practices.

Chapter III is devoted to a discussion of the food purchasing behavior of the Cali housewife. Both observation of purchase practices and analysis of attitudinal data indicate that locational convenience (accessibility) is by far the most important characteristic that the Cali housewife requires of her food suppliers.

Chapter IV consists of a review and evaluation of the various institutions involved in food distribution in Cali. Emphasis is placed upon trying to understand why each of these institutions has taken the form it now bears, in order to determine whether any of the existing institutions could contribute towards, or form a significant part of, an improved food distribution system.

In Chapter V the work of the previous chapters is brought together in designing a food distribution system that will provide food at lower prices than obtain at present to low-income people. It will be found that totally new (to Cali) types of retailers and wholesalers will be needed.

CHAPTER II

The Consumer

1. Introduction

In the introduction to this study, we depicted the food distribution system of Cali as a set of interlinked components constituting a path along which foodstuffs flow from a source component, the supplier, to a sink component in the form of the consumer. Within the terms of reference to this study these two terminal components must be regarded as exogenous, as given, in the sense that we cannot expect to make recommendations which would require that they be changed.

The consumer affects the adjacent component of the system, the retailer, in two ways. One, the volume of food purchased, defines the potential market for the adjacent component, and the other, where and under what conditions the purchases are made, determines which retailers will survive to benefit from this market. The second effect will be considered in Chapter III. In this chapter we will be concerned with the potential market. More specifically we will be seeking information on:

1. Domestic food consumption, in order to know the volume that flows through the system
2. How this consumption will vary in response to changes in the general level of food prices and changes in real income
3. "Intensity" of demand measured as food expenditure per city block.

This information will be used in determining the potential sales for retails in various parts of the city.

The data sources of this information are the PIMUR Consumer Survey and Market Basket study. These are described in detail in the appendix to this chapter,

The Consumer Survey sample comprised 629 families, of which 521 declared their income, and the Market Basket sample 240 families of which 190 declared their income. The first sample was a simple random sample from the entire population of Cali, while the second was made up of Consumer Survey respondents who offered to participate in the extra study. Statistical analysis showed no evidence of sampling bias in these two samples.[1]

A Note Upon Classification Criteria

In this and other parts of this study we will classify consumers according to two criteria, per-capita income level and socio-economic level. Per-capita income is commonly used as a variable in econometric work. This is a construct computed as family income divided by family size, or N.N.P. divided by population, or similar methods, and suffers from various defects. It would be preferable, in relating expenditures to incomes, to use income per spending unit as the independent variable. This is particularly true for such goods as are consumed by the family as a unit, such as houses and stoves, where the family is the spending unit and family income should be the independent variable. However, commodities like food, which are consumed by family members rather than by families as a whole, can satisfactorily be related to per-capita income.

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[1]See appendix to this chapter for a description of sampling methodology and tests for sample bias.

A good deal of precautionary work went into the selection of number of per-capita income levels and location of break points. Too many categories can obscure overall trends in a welter of local irregularities, too few can conceal important counter-trend movements. And even if the right number of categories is selected, unfortunate selection of break points can introduce the same effects. Ideally, break points should be located at places where changes in trends are found. In order to forestall poor location, tabulations of shopping patterns were made using ten categories of per-capita and family income, and carefully inspected for evidence of local patterning. No significant patterning of this type was found, so that we felt free to choose the number and locations of break-points to facilitate statistical analysis, in the absence of other factors. On this basis three break-points were selected to divide the samples approximately into four equal parts as follows:

Income Level	1	2	3	4
Per-capita income range (Col $/month)	0 - 125	126 - 240	241 - 500	500 & over
Mean Per-capita income (Col $/month)	86	176	352	1157

This classification, of course, applies only to those families which revealed their income to our interviewers.

The other classification we shall use is socio-economic level of the barrio (district) in which the respondent lived. The municipal government of Cali recognizes nine socio-economic groups, of which the last three (penal, military and industrial areas) are not of interest to us. Barrios are put in one of the six residential groupings according to their score on a rather complicated points system which takes into

account such things as:

The type of housing and type of construction

Level of provision of public services (water, power, garbage collection)

Closeness of arterial roads

Income of residents and their occupation.

In chapter I it was shown how barrios of the various levels tend to form distinct regions of the city, and it was also noted that some of the prominent types of retailers are geographically associated with certain of these regions. We will look into the consequences of this in chapter III.

In this chapter we shall use the socio-economic level (or S.E.L.) as the classificatory criterion chiefly when we consider the potential market facing retailers. For this purpose it has the advantage that S.E.L. is easily observable, while average income can be determined only through a survey, which is expensive. Since S.E.L. is geographical (defining a barrio) it is very closely connected with problems of store location in nature. It can also be argued that S.E.L., being to some extent under the control of the individual (he can choose to live anywhere he likes within his means) and being a multi-dimensional concept, is more indicative of life-style than income level, which is uni-dimensional and is essentially a given factor for each individual, assuming that he always seeks to maximize his income. We do not propose to delve further into this, except to note that analysis of the Market Basket data indicates that the two criteria are of roughly equal power. The coefficient of variation of expenditure on the main food items (the ratio of standard

deviation of expenditure to mean expenditure) is approximately the same whether classification is by per capita income level or socio-economic level.

To complete this section Table II.1.1. shows the relationship between income level and socio-economic level. It can be seen that the two sets of criteria are strongly associated with each other.

Table II. 1.1. Distribution of Per-Capita Income with each Socio-Economic Level. Cali, February 1969

Per-Capita Income Col.$/Month	I	II	III	IV	V	VI
			Percentual Distribution			
0 - 125	0	0	8.0	4.7	27.5	50.1
126 - 240	0	4.0	4.4	35.8	35.2	32.9
241 - 500	0	10.7	28.0	45.0	28.8	15.6
over 500	100.0	85.3	59.6	14.5	8.5	1.4

Source: PIMUR, Consumer Survey

Table II. 1.2. shows the way that these two classifications divide the population of Cali.

Table II. 1.2. Population and Households by Socio-Economic Level and Per-Capita Level. Cali, February 1969

Socio-Economic Level	I	II	III	IV	V	VI
Percent of Population	4.8	4.2	7.7	12.4	50.0	20.9
Percent of Households	4.6	4.9	8.3	11.9	49.9	20.4
Per-Capita Income Level		1	2	3	4	
Percent of Population		25.5	29.1	25.3	20.1	
Percent of Households		20.3	27.8	28.7	23.2	

Source: PIMUR, Consumer Survey

2. Demographic Characteristics

The population of Cali is, of Indian, Spanish and Negro blood, and of all mixtures in between. As can be imagined from its rapid growth, about half of the population is not native to the city, coming instead from other parts of Colombia. The Consumer Survey showed that 46% of the population was born in Valle, 24% in the group of Departments north of Valle (the so-called "Paisa Group"), 14% from Narino and Cauca south of Valle, and the remainder (16%) from other parts of Colombia. Of those born in Valle, a substantial proportion was born outside Cali. Only 33% of heads of the households interviewed had lived all their lives in Cali. This later figure underestimates the proportion of Cali-born heads of households, since it excludes those who have lived for a while elsewhere, but the error is probably small.

It was believed that the immigrants to Cali, thought to be poor and untrained, would be concentrated in the lower socio-economic levels. This belief was not borne out by the Consumer Survey, which showed the proportion of immigrants to be practically the same at each level. Consistent with this is the observation that only 13% of the heads of households were born in rural areas. This is probably an underestimate[1], but it appears that the migration flow is not a simple flow from the countryside to the cities. Rather it would seem, there is also a substantial flow from towns to cities. While this contradicts the simple model of Cali's growth described in the appendix to chapter I,

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[1]Two factors could contribute to this: first a reluctance to be considered a country bumpkin could result in misrepresentation, and second, many of those declared as born in a city were probably born in small villages which for census purposes were considered urban areas, and in which customs are probably more rural than urban.

it does not seriously invalidate it. The towns and small cities have population pressures upon employment similar to, population pressure upon land in the rural areas, so that the numerical results of the simple model will not be greatly, if at all, in error.

Education

Table II. 2.1. presents figures upon education level attained by three members of each family interviewed; the household head, the housewife, and the member of the house with the highest education level. Clearly these categories overlap somewhat. In one-sixth (16.6%) of instances the head of the household was also the housewife, while table II. 2.2. shows the breakdown of "most educated family member" by

Table II. 2.1. Distribution of Education Levels. Cali, February 1969

Education Level	Household heads %	Housewives %	Family Member with most Education[3] %
None	3.9	4.5	0.2
Primary: Incomplete[1]	31.0	40.3	16.8
Complete	27.0	29.5	22.0
Secondary: Incomplete[1]	22.6	21.1	38.7
Complete	9.0	3.0	10.9
University[2]	6.5	1.6	11.6

Notes:
1. "Incomplete" means not having completed the official number of years at each level (five for primary, six for secondary)
2. This category includes all university-level education, completed or not.
3. These classifications are not "pure". See table II. 2.2 and text.

Source: PIMUR, Consumer Survey

position in family. The result is that column I of table II. 2.1 indicates levels slightly lower than those applicable to male household heads due to the dilution by less educated housewives; similar considerations apply

even more strongly to column 3. However, the data as presented are more suitable for our purpose than more strictly segregated data would be.

Table II. 2.2. Family Position of Most Educated Member. Cali, February 1969

Family Position	Proportion of Most Educated Members %
Household head	44.4
Housewife	14.7
Son/Daughter	34.8
Nephew/Niece	1.8
Other	4.3

Source: PIMUR Consumer Survey

The figures of Tables II. 2.1. and II. 2.2. are interesting. First, they indicate that in most cases there is a family member with more education than the head of the household. In general this will be a junior member, i.e. a younger brother of the household head or one of the older children, thus the indications are that the level of education in Cali is increasing. Second, although 45% of housewives and 35% of household heads are functionally illiterate (taking this to describe those who have not completed their primary education) only one household in six does not have at least one member who is functionally literate. This is a point of some importance in considering the process of diffusion of information and innovations. Consumer perceptions of new types of food outlets should be relatively free of misconceptions and prejudices caused by ignorance and perpetuated by illiteracy. Perhaps more important, literacy makes feasible the dispersion via newspapers and fliers of factual information concerning prices and qualities.

Advertising by radio cannot convey such information effectively in a way that facilitates comparisons of the offers of competitors. Literacy thus makes it possible to extend to neighborhood stores the market discipline of price competition, which at present is only effective in the public markets and amongst the stores of the Galeria Central area.

Third, preliminary results of studies of changes in value systems amongst sections of the population of Colombia by Dr. Weber and his colleagues at the Universidad de Valle[1] indicate that in Cali increased levels of education are associated with a "Westernization" of value systems. While "Westernness" is not so well defined a concept that all its implications and connotations are clear, when applied to food purchasing patterns it would certainly imply a high valuation of tangible factors such as hygiene, packaging and quality, and a low valuation of intangible psychological satisfactions of following custom. We can say, therefore, that the figures in the third column of table II 2.1 provide strong evidence that the Cali consumer is becoming psychologically prepared to patronize stores different in format from the traditional tiendas and public markets.

Households

Since the concern of this study is with food consumption and purchasing, we took a rather specialised view of the Cali family, regarding it as a food purchasing unit rather than a social or kinship group. The words family and household are used interchangeably in this restricted sense. Thus we are considering maids and their children, where applicable, as family or household members.

The households interviewed in the Consumer Survey ranged in size from one person to sixteen, with a modal value of five, and a mean value of 6.27.

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[1] Personal Communication

Table II. 2.3. shows how family size varied with socio-economic level

Table II 2.3. Household size as a Function of Socio-Economic Level and Per-Capita Income Level. Cali, February 1969

Socio-Economic Level	I	II	III	IV	V	VI
Number of Persons	6.55	5.35	5.79	6.48	6.27	6.43
Per-Capita Income Level		1	2	3	4	
Number of Persons		7.95	6.62	5.37	5.48	

Source: PIMUR Consumer Survey

and level of per-capita income. One reason why so many large households occur in Income Level 1 is that a given income divided amongst a large number of family members results in a low per-capita income, so that members of large families tend to be placed in low per-capita income groups. The variation of household size with S.E.L. reflects life-style more accurately, we believe, than does the variation with income level. Families of S.E.L. I tend to have more servants (wealthier) and are more traditional in style (inherited wealth) than those in S.E.L. II. Those in S.E.L. II are typically professional families, with university-trained members and with a life-style more like that found in middle-class families in the U.S.. As we go down the social scale, we return to the traditional Latin life-style, with its emphasis on large "extended" families. However, this conclusion is the result of casual rather than systematic observation, and reflects only the present writer's interpretation.

Age

Cali is a city of the young. The Consumer Survey found that 14% of the population was less than five years old, and 43% less than sixteen years old. More directly important to us here is the age of the Cali housewife, who does the food purchasing. The average age of the housewife was 38½ years, and that of the heads of households 42½ years. Fewer than ten per-cent of housewives are under 24, 70% are 30 or over,

and 30% are over 43 years old. This age distribution and the average level of education amongst housewives would lead one to suspect that the Cali housewife is rather set in her ways, and not likely to welcome drastic changes in food retailing methods, nor to introduce changes in her family's diet.

Now is an appropriate time to evaluate the foregoing in respect of food consumption patterns. To what extent will the factors described above need to be taken into account in analysing the results of the Market Basket Survey?

We have already noted that the age and education of the Cali housewife are such as to make spontaneous changes in her shopping patterns unlikely, so that the Market Basket results are safe from invalidation on this score. Against this must be set the potential effects of improving educational levels of the population, but this will only be apparent in the long run and there will be ample time for the food distribution system to adapt to any changes from this source. At present, in only 10% of families do the children participate in decisions concerning which foodstuffs should be purchased[1].

Family size and composition are other variables which can effect food consumption expressed on a per-capita basis. However, these again are factors which will change only very slowly, although they may change faster amongst some sectors of the population (see table II. 2.3. and associated discussion). We will be content to check these factors (using family size as our measure) in the Market Basket sample in order to ensure that in this respect it is representative of the population.

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[1] PIMUR, Consumer Survey

At the outset we anticipated that area of origin would be an important factor in the analysis of the Market Basket data. It was believed that an ever-increasing stream of migrants was coming into the city, unskilled, poorly-educated migrants with food consumption habits which, given the geography of Colombia, would be quite different from those of Cali. The results of the Consumer Survey lead us to believe that area of origin can safely be neglected. The rate of inward flow is much smaller than anticipated (a yearly rate equivalent of 2% of Cali's 1969 population, instead of 4.5%) and the majority of migrants were previously city-dwellers, and thus more cosmopolitan in their customs than country-folk. Furthermore, the process has been going on so long (since the Panama Canal opened in 1914), that by now the customs in Cali must closely approximate the average of the people exporting regions of Colombia.

3. Employment and Income Distribution

Secondary data upon employment and income in Cali were not good in 1968 - 1969. The most comprehensive source was I.C.S.S. (the Colombian Social Security Institute), but although all employers were supposed by law to be registered with the institute, the large proportion of small and cottage industries hampered the enforcement of the law. In 1969 teeth were put into the regulations when it was announced that salaries and wages would only be allowed as tax deductions upon presentation of the corresponding I.C.S.S. receipts, but this of course has no effect upon businesses that don't appear on the tax rolls.

A study made in 1968[1] showed that the main sources of lawful

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[1]Centro de Estudios Sobre Desarollo Economico (CEDE), Encuestas Urbanas Sobre Empleo y Desempleo, Apendice Estadistico, Bogota, July 1968.

employment in Cali were manufacturing (transformation industries) with 34% of the labor force, service industries with 22% and commerce with 18%.

Unemployment figures are also unsatisfactory in Colombia. There appears to be no on-going measuring of unemployment comparable to that carried out by the Bureau of Labor Statistics in the U.S. Such figures as are available are not based upon the number of people seeking employment, but rather upon the total number of employed and the total number of able-bodied people. On this basis PIMUR[1] estimated the unemployment level to be between 20% and 25%. In seven per-cent of the families interviewed no family member had a job, although only in one case did the family declare an income of zero.

One question asked in the Consumer Survey was "May we know the total monthly income of the family?" (literal translation). Of the 629 families interviewed 521 told PIMUR their income, a surprisingly high response rate. Figure II.3.1. the Lorenz curve, and figure II.3.2. the cumulative family income curve, summarise the responses to this question.

The Lorenz curve shows the deep sag typical of the under-developed countries. Fifty per-cent of families account for only 17% of all income, compared with 15% in the Recife area of Northeast Brazil (1967), 23% in La Paz, Bolivia (1967) and 29% in the U.S.A. (1964)[2]. The Lorenz curve for Cali is very similar to that for Recife. As well as being distributed in a highly non-uniform manner, incomes in Cali

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[1] PIMUR, Technical Report #7, Cali 1969. p.30

[2] Lorenz curves for these four economies are compared in PIMUR Technical report #7, p.59

Figure II.3.1. Lorenz Curve, Cali 1969

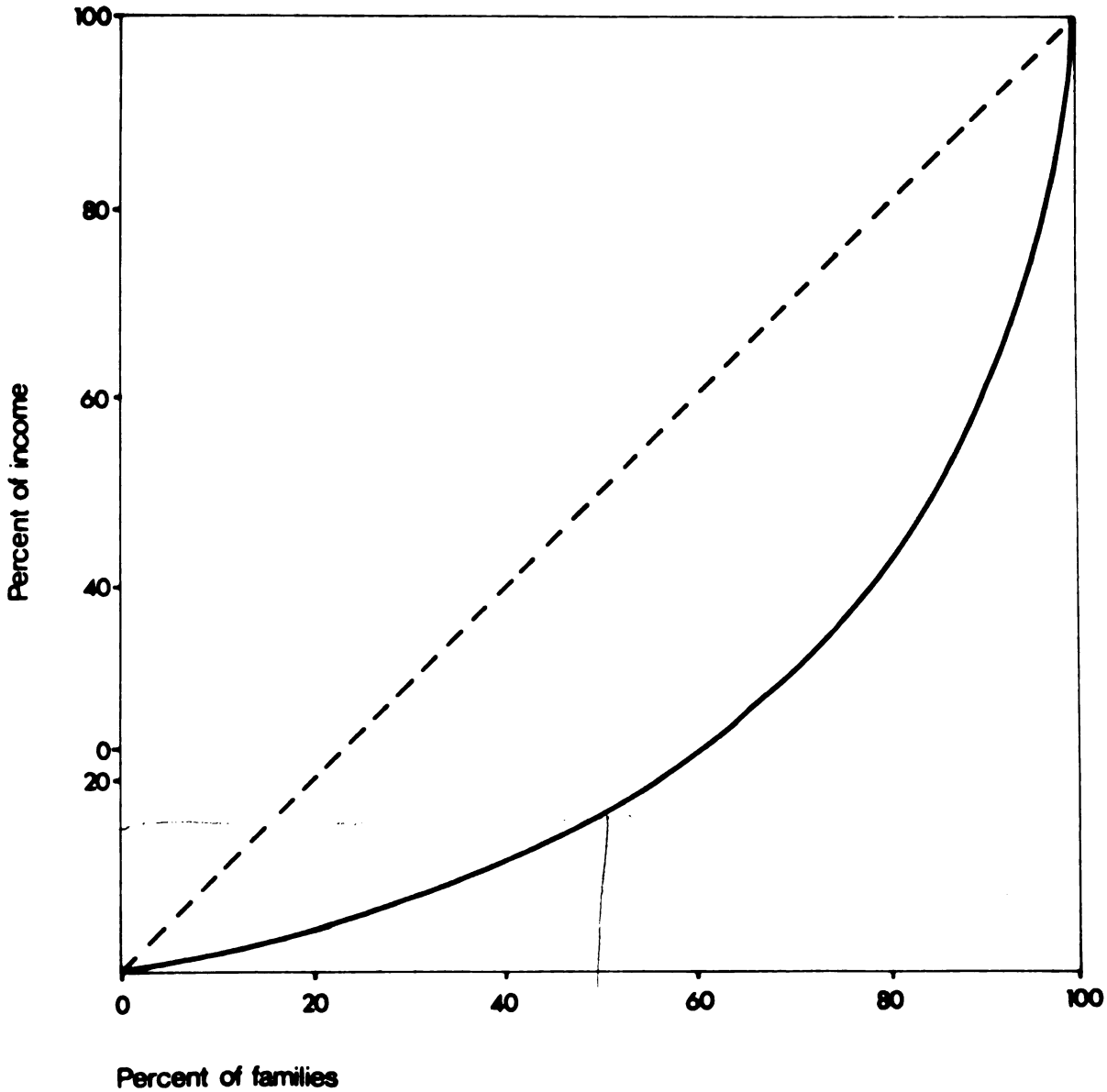


Fig. II 3.2. Distribution of family income, Cali 1969

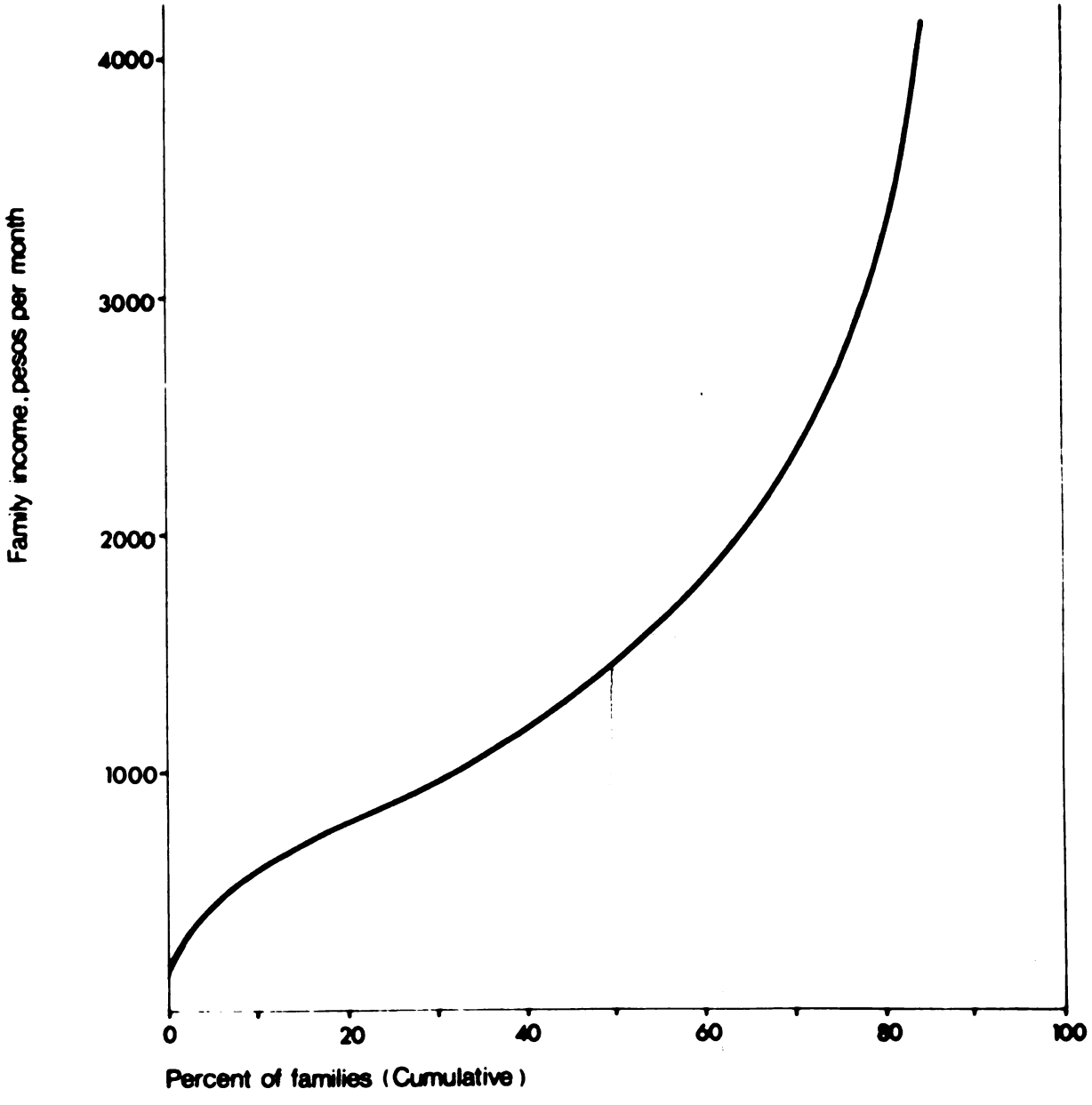
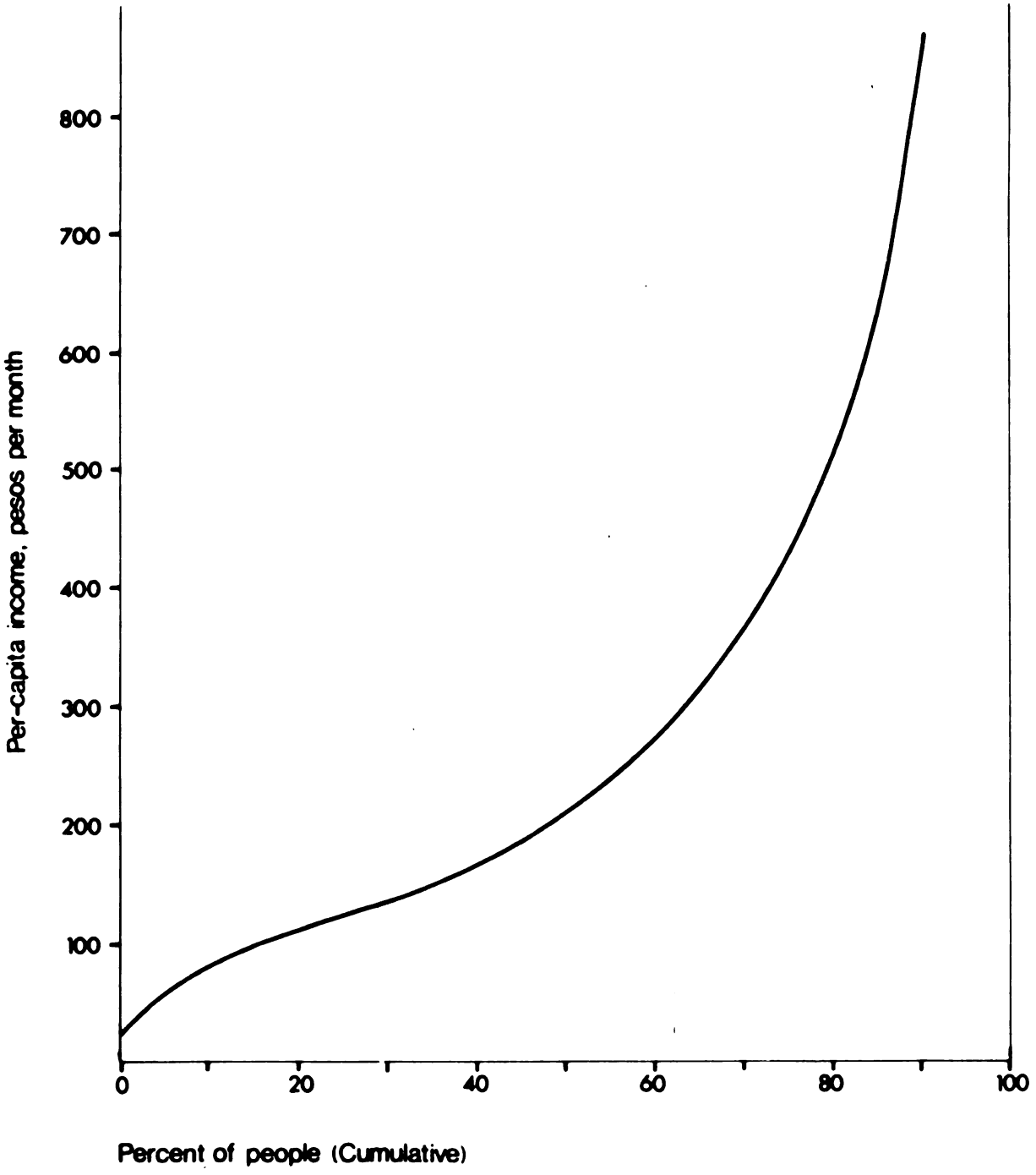


Fig.II.3.3. Distribution of per-capita income Cali 1969



are very low. As Figure II.3.2. shows, the median family income was Col./$1,500 per month (Colombian Pesos), equivalent to U.S.$1,040 per year[1]. In 1969 foodstuffs in Cali cost roughly half as much as in the U.S.A.,[2] but even allowing for this U.S.$1,040 is not much to support a family of six or seven for a year. The mean family income was Col./$2,500 a month, but so skewed was the distribution that fewer than 30% of families made as much as this, so that 70% of families subsisted on less than the equivalent of U.S.$1,750 per year.

Tables II.3.1. and II.3.2. show how the two classification methods we use are related to income. The figures for the lowest per-capita income group (table II.3.1.) are particularly vivid; one quarter of the population has to subsist on Col.$4/day (roughly U.S. $0.25), and one-eighth on Col.$3/day.

Before leaving this section we should consider the validity of these results. As we noted before, the data were obtained as answers to the question "May we know the total income of this family?", and interviewers were instructed to stress the word "total". The question was phrased in this manner to reduce embarrassment to the respondent in case of refusal, embarrassment which might have led her to refuse to answer the following part of the questionnaire. We anticipated a rather higher rate of refusal than the 18% actually encountered.

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[1]This uses the official exchange rate of U.S.$1 = Col.$16.90 in February 1969. Using the black-market rate of $17.50 would make the comparison even more striking.

[2]Personal observation

Table II.3.1. Mean and Median Per-Capita Income for Each Per-Capita Income Level. Cali, February, 1969

Per-Capita Income Level	1	2	3	4
Per-Capita Income Range (Col. $/month)	0-125	126-240	241-500	over 500
Mean Per-Capita Income (Col.$/month)	86	176	352	1157
Median Per-Capita Income (Col.$/month)	92	167	333	893
Percent of Population	25.5	29.1	25.3	20.1

Source: PIMUR, Consumer Survey

Table II.3.2. Income by Socio-Economic Level. Cali, February 1969

Socio-Economic Level	I	II	III	IV	V	VI
Mean Household Income (Col.$/month)	11,185	5,568	4,440	2,490	1,603	1,013
Mean Per-Capita Income (Col.$/month)	1,687	1,009	710	400	251	157
Percent of Population	4.8	4.2	7.7	12.4	50.0	20.9

Source: PIMUR, Consumer Survey

In any survey work where a large proportion of refusals arise it is important to check whether bias is likely to be introduced from this source. Accordingly we compared the non-declarers with the total sample in respect of distribution of socio-economic levels, education, family size and proportion of Cali-born head of households. For none of these was the difference significant even at the 10% level. We feel, therefore, that the refusals were not systematic but random and that no bias will be introduced by using or neglecting the data coming from those who would not, or could not reveal their incomes.

Although we asked for total incomes, we believe that the answers received pertained to only direct cash incomes and, perhaps, rental incomes. Other sources of income were probably not included.

On a national accounts basis the difference is significant, but to have tried to obtain information upon all sources of income would probably have been fruitless, because the interviewees were housewives who would probably not be acquainted with details of things such as dividends, social security payments and separation payments. Furthermore, to have attempted to obtain these details would have prolonged the interview intolerably. So the figures given here are not directly comparable with such figures as, for instance, per-capita gross national product.

In any case, we argue that the figures PIMUR obtained are those most directly relevant to food purchasing. Housewives base their food buying on available cash, not upon employer's payments into security funds, nor upon future separation payments. Admittedly, the existence of these payments reduces the need to "put something aside for a rainy day", and thus may increase the proportion of cash income that the family decides appropriate to spend on food, but this is a secondary effect. In any case, since a greater part of these payments is proportional to direct cash income, the effect will only be that of slightly altering the coefficients in the regression equation relating food expenditures to true total income. Exceptions to this are the self-employed and those people, usually the lower end of the income scale, whose employers are not registered with ICSS.

It is quite possible that many of the replies given to the question concerning income, were false, in greater or lesser degree. Two reasons for this come quickly to mind - desire for concealment of wealth and desire for aggrandizement, and distortions from either reason could have been introduced in what the earner told the housewife, or what the housewife told the interviewer, or both.

These two motivations would have opposite effects upon the responses, those seeking concealment understating income and those seeking aggrandizement overstating it, and so would tend to offset each other on the average, but they would be additive in introducing variance in the correlation of food expenditures and income. To some extent gross misstatements could be detected by comparing income with occupation (none were found), but minor ones could not.

The only secondary data available against which PIMUR's data could be compared were those from ICSS, but they were not strictly comparable. For one thing the PIMUR data included the lumped earnings in those families with multiple wage earners, and for another the ICSS data did not include employees of many small businesses (usually low paid) nor the self-employed, principally concentrated at the extremes of the income range (e.g. lawyers and bootblacks). Nevertheless, a comparison was made of the ICSS data with the middle portion of the PIMUR data, and showed that the two sets of data were consistent with each other. Therefore we feel that if the biases described above are present, they at least roughly offset each other and were not introduced systematically. The comment above concerning the regression equation still stands, of course.

4. Food Expenditures and Income

Source of Data. The data presented in this section comes from the PIMUR Market Basket Survey. In this survey the food purchases of sample of Cali families were recorded for an entire week. The sample consisted of those respondents to the Consumer Survey who agreed to participate in the further study. It was originally hoped that around 400 families would participate; 330 agreed to do so, but the drop-out rate was rather

high, and in the end only 240 families produced usable results. Of these only 190 had revealed their income. Although smaller than expected this number is sufficient for the greater part of the purposes for which the Market Basket Survey was intended. The principal casualty was the possibility of determining whether and to what extent the poor pay more for their food than the rich, because the two-way classification required (by income level and by retailer type) would make the individual samples too small to be usable. The loss is probably not great for there were some uncontrolled variables which in all likelihood would have made the results very questionable. Chief amongst these were quality of goods and honesty of weights and measures.

The composition of the Market Basket sample is discussed in the Appendix to this chapter, where it is shown that, with only minor reservations, it can be taken as representative of the population of Cali.

The first attempt at relating food expenditure to income used simple first-order regression analysis for each per-capita income level. The results of this were satisfactory and consistent from level to level, but the correlation coefficients were disappointingly low. The shape of the line segments when graphed, suggested that a second order regression would better fit the situation, and this was tried using a program obtained from the Computer Center at Michigan State University. The results given by this were very satisfactory.

The "best fit" equation derived in this way was

$$Y = 53.50 + 0.3424X - 0.0000872X^2$$

where Y = monthly per-capita food expenditure

X = monthly per-capita income

The correlation coefficient was 0.78, and its square 0.61. This can be interpreted as meaning that of the observed variance around the mean expenditure 61% can be attributed to differences in incomes. This is a high correlation coefficient; one seldom finds a human activity of this type so dependent upon one factor.

The regression equation is plotted in Figure II.4.1. Also plotted on this figure is a line through the origin of slope 0.5 (the dotted line). Points lying on this line denote food expenditures equal to 50% of income. As can be seen, it intersects the regression curve at an income of Col.$280 per month, and figure II.3.3 shows that 60% of the population of Cali spend 50% or more of their income upon food. Similarly, it can be shown that 36% spend two-thirds (67%) or more of their income in this way. These figures are indicative of either very low productivity in the economy of the city or grossly inequitable distribution of income, or both. They certainly support the comments made in the Introduction about the importance of studies of the PIMUR type. Table II.4.1. summarizes these points.

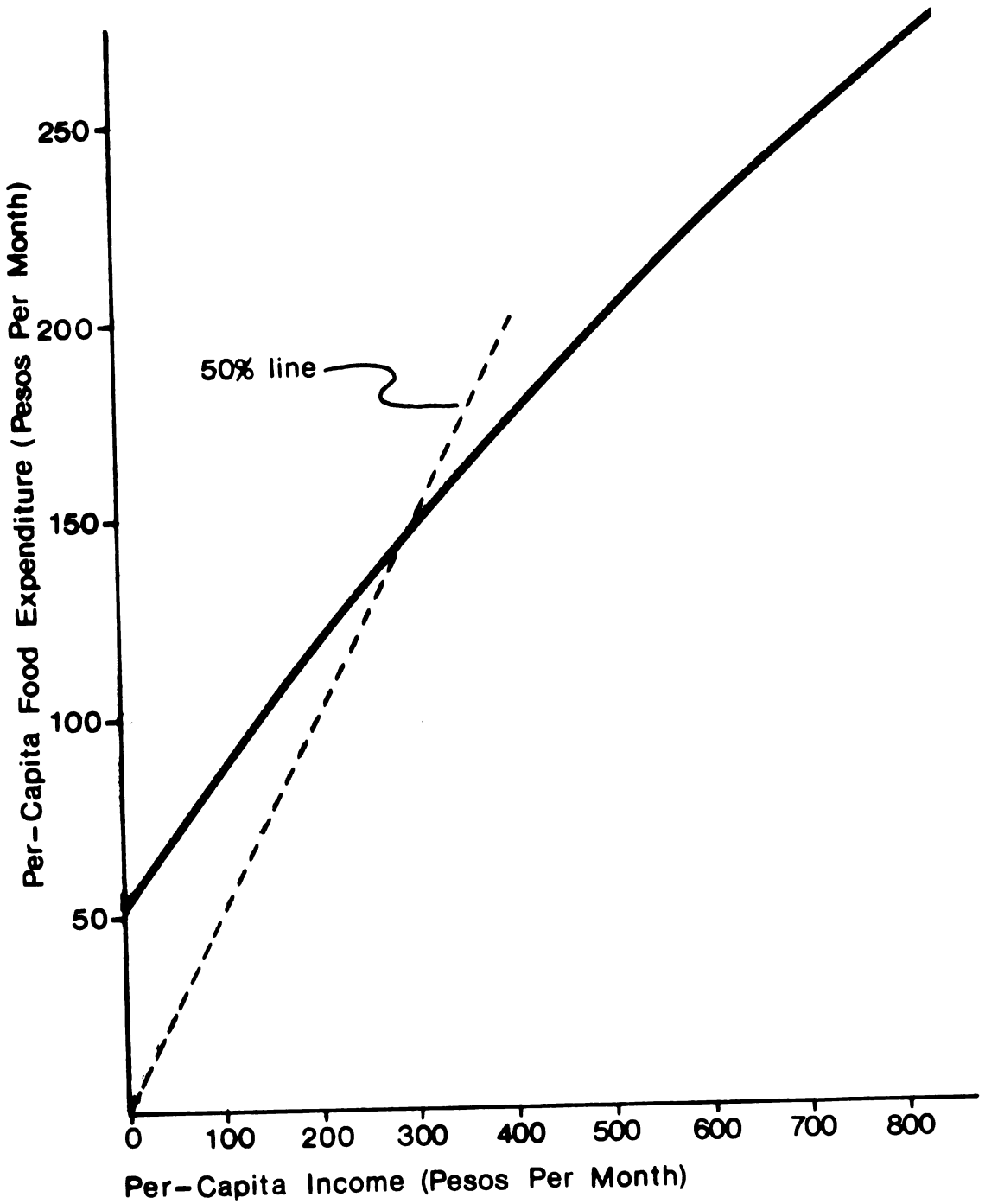
Table II.4.1. Per-Capita Incomes and Food Expenditures for Four Per-Capita Income Levels. Cali, February 1969

Income Level	1	2	3	4	Overall
Mean Per-Capita Income (Col.$/month)	90.59	174.76	341.26	1058.93	377.61
Food Expenditures (Col.$/month)	80.98	109.83	163.98	288.22	152.79
Mean Per Capita Food Expenditure as of % of Income	85.6%	62.8%	48.1%	27.2%	40.5%

Source: PIMUR, Market Basket Survey

The mean per-capita incomes in Table II.4.1 differ slightly from those of Table II.3.1. in consequence of sampling variations. Overall, 40.5% of income in Cali is spent on food, compared with some

Fig. II.4.1. Food Expenditure Versus Income. Cali, 1969



twenty percent in U.S.A. in 1967-1968. The comparison is not favorable to Colombia. Yet the tabulated figure is, in reality, over-optimistic because of the concentration of income in the upper income-levels. A more representative figure would be that for the individual at the median income of Col./$206 per month, whose food expenditures amount to Col./$121 per month, or 59% of his income.

The usual application of equations of this type described above is prediction. In the present case, the effect of changes in real income upon food consumption can be predicated, subject to the usual assumptions of cross-sectional analysis. As it happens we shall not use this equation for such a purpose, prefering to use the first-order regressions for each per-capita income level. In justification for this we can point out that:

1) use of the straight-line first-order segments vastly simplifies the computations. Using the second order curve would necessitate tedious numerical integration, unwarranted by the accuracy of the available data.
2) the straight-line segments over their respective ranges of applicability, correspond closely to the second-order curve, and where they differ it would seem reasonable to believe that with a total of eight arbitrary coefficients they should fit the data better than the second-order curve with only three coefficients.

The results of these calculations are presented in Table II. 5.4.(p.80)

A further use which can be made of the regression equation is that of predicting the effect of blanket changes in food prices upon food expenditures. Strictly speaking, such prediction is a matter of determining price-elasticity of demand, and for this we do not have sufficient or appropriate data. However, the Hicks-Slutsky analysis

shows that the total effect of a change in prices is made up of both income and price effects. Here we are considering a generic group of goods for which the substitution (price) effect is small, a group which accounts for a large proportion of total expenditure and for which the income effect is therefore large. So we can argue that a total reduction in food prices is equivalent to an increase in real income, and that the effect upon food consumption will closely correspond to that predicted by the regression equation for such an increase in income. Applying this, for example, to the case of an individual with an income of Col.$100 per month, we find that a 10% reduction in food prices will result in a 7% reduction in food expenditure. Furthermore, this will increase the money available for non-food expenditure by no less than 45%. For an individual with an income of Col /$200 per month the corresponding reduction in food expenditures would be just under 7%, and the funds available for non-food expenditures would increase by 10%.

A Note upon the Mathematics of Regression Analysis

There are certain conditions which must be fulfilled if the full range of analysis, including estimates of confidence ranges and tests of significance of coefficients, is to be applicable in studies of regression. The principal such condition is that of homoscedasticity, that the variance around the regression line be constant. This condition is violated in the present case, the data being heteroscedastic to the extent that the standard deviation of observations around the regression line is closely proportional to income (the independent variable). Johnston[1] shows how this situation can be handled, at least for the case

[1] Johnston, J."Econometric Methods", New York, McGraw-Hill 1963, p.210

of linear regression, by a simple transformation of variables, but the resulting equation, involving the reciprocal of the independent variable, is awkward to use.

The main effect of violating the homoscedasticity equation is to make the analysis too rigorous - coefficients of significant importance could be indicated as non-significant by the formal analysis. In the present case the formal analysis shows the coefficients to be highly significant, so there is no need to go through the transformation.

Another condition that the formal analysis specifies is that of pre-determined values of the independent variable. This however, is a pure formality, specified only because without it the concept of variance around the regression line cannot be formally defined.

The main point here is that if we take as our criterion of "best fit" that of minimizing the squared deviations around a line a least squares regression provides the "best fit", irrespective of whether the formal mathematical conditions are satisfied.

5. Expenditures Upon Selected Food Products

For the purpose of the Market Basket Survey 86 products were identified, including six "others", one for each of meats, grains, dairy products, vegetables, fruits and processed foods. These six groups were considered separately because they have distinct distribution channels, and each group formed the subject of a commodity-flow study[1].

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[1]These studies are described in PIMUR Final Report

All told these "other" groups accounted for only 2.37% of food expenditures, indicating that the 80 specifically indicated foods were well chosen. Several of these products were sub-classified for the benefit of other researchers in the PIMUR program. For example, fourteen cuts of beef and three kinds of potatoes were recognized.

Clearly amongst so many foodstuffs, there must be a sizeable number whose importance in the typical Cali family's budget is small. Also in discussing so many items one tends to find one's view of the forest obscured by trees. Analysis of the Market Basket data showed that there were twenty-one products which each accounted for one percent or more of food expenditures in Cali, and which together account for 77.7% of all food sales. We will confine our discussion to these products, together with six "others", one for each of the groups listed above.

Table II.5.1. lists weekly food expenditures of these selected products, together with their relative importances in the food budget, by per-capita income level, while Table II 5.2 does the same but with breakdown by socio-economic level. In this latter table levels I, II, and III have been aggregated because for each of these levels the number of families sampled was too small to provide separately useful data.

Various points of interest arise in these tables. Lard, for example, is an inferior good which is rapidly replaced by cooking oil, as income rises. Surprisingly there is no such substitution between unpasteurised (raw) and pasteurised milk (bottled), indicating at least

Table II.5.1. Monthly Per-Capita Food Expenditures, by Per-Capita Income Levels (Col. $/month)

Income Level	1		2		3		4		Overall	
	Col.$	%	Col.$	%	Col.$	%	Col.$	%	Col.$	%
Pork	1.18	1.5	2.11	1.9	5.09	3.1	11.87	4.1	4.63	3.0
Beef	16.24	20.1	24.86	22.6	37.30	22.7	58.98	20.5	32.82	21.5
Fish	1.76	2.2	2.03	1.8	3.32	2.0	4.18	1.5	2.73	1.8
Chicken	0.24	0.3	0.71	0.6	3.16	1.9	11.54	4.0	3.43	2.2
Other Meats	2.12	2.6	3.14	2.9	4.03	2.5	10.68	3.7	4.65	3.0
Eggs	1.60	2.0	3.27	3.0	4.35	2.7	10.18	3.5	4.50	3.0
Milk (raw)	2.36	2.9	3.87	3.5	7.71	4.7	14.46	5.0	6.63	4.3
Milk (past.)	1.46	1.8	4.27	3.9	8.22	5.0	11.12	3.9	5.97	3.9
Other Dairy	1.61	2.0	2.00	1.9	5.48	3.3	13.23	4.6	5.08	3.3
Rice	9.70	12.0	12.05	11.0	14.53	8.9	14.18	4.9	12.52	8.2
Beans	2.89	3.6	3.02	2.7	3.46	2.1	4.11	1.4	3.32	2.2
Lentils	0.78	1.0	1.65	1.5	2.23	1.4	3.48	1.2	1.95	1.3
Other Grains	2.10	2.6	2.54	2.3	3.68	2.2	5.35	1.9	3.29	2.2
Potatoes	4.21	5.2	3.88	3.5	3.97	2.4	5.24	1.8	4.27	2.8
Tomatoes	1.28	1.6	2.04	1.9	1.89	1.2	5.65	2.0	2.55	1.7
Other Veg.	3.45	4.3	4.97	4.5	5.90	3.6	11.11	3.9	6.08	4.0
Plantain	3.90	4.8	4.83	4.4	5.41	3.3	6.58	2.2	5.10	3.3
Other Fruits	1.11	1.4	2.91	2.7	5.32	3.2	23.20	8.1	7.22	4.7
Cooking Oil	0.75	0.9	2.71	2.5	4.91	3.0	9.89	3.4	4.25	2.8
Sugar	2.70	3.3	3.00	2.7	3.24	2.0	5.31	1.8	3.46	2.3
Coffee	2.55	3.1	1.97	1.8	2.23	1.4	3.95	1.4	2.86	1.7
Chocolate	2.06	2.5	1.35	1.2	2.01	1.2	1.90	0.7	1.80	1.2
Canned Foods	0.19	0.2	0.68	0.6	2.01	1.2	7.75	2.7	2.34	1.5
Lard	3.38	4.2	3.06	2.8	2.56	1.6	1.37	0.5	2.67	1.7
Pan Sugar	4.27	5.3	4.69	4.3	4.48	2.7	3.74	1.3	4.34	2.8
Bread	3.86	4.8	4.09	3.7	8.62	5.3	12.13	4.2	6.83	4.5
Other Processed	3.27	4.0	4.16	3.8	8.85	5.4	17.03	5.9	7.76	5.1
Total	80.98	100.0	109.82	100.0	163.98	100.0	288.22	100.0	152.79	100.0

Source: PIMUR Market Basket Survey

Table II.5.2. Monthly Family Food Expenditures by Socio-Economic Level. Cali, February 1969

Socio-Economic Level	I - III		IV		V		VI	
	Col.$	%	Col.$	%	Col.$	%	Col.$	%
Pork	64.46	3.7	40.87	3.4	18.40	2.3	11.45	1.8
Beef	364.58	21.1	262.32	21.5	178.14	22.6	140.45	22.1
Fish	26.13	1.5	18.21	1.5	15.28	1.9	12.81	2.0
Chicken	59.03	3.4	15.84	1.3	11.11	1.4	5.63	0.9
Other Meats	58.47	3.4	45.51	3.7	19.54	2.5	13.88	2.2
Eggs	48.85	2.8	34.88	2.9	26.11	3.3	14.51	2.3
Milk (raw)	101.81	5.9	62.90	5.2	31.31	4.0	12.42	2.0
Milk (past.)	66.55	3.8	45.09	3.7	31.52	4.0	22.11	3.5
Other Dairy	82.55	4.8	31.71	2.6	22.36	2.8	14.68	2.3
Rice	85.43	4.9	103.79	8.5	77.84	9.9	70.98	11.2
Beans	20.98	1.2	28.10	2.3	22.25	2.8	17.62	2.8
Lentils	22.49	1.3	24.58	2.0	9.79	1.2	5.61	0.9
Other Grains	31.75	1.8	31.25	2.6	17.04	2.2	14.33	2.3
Potatoes	29.64	1.7	34.69	2.8	24.17	3.1	27.01	4.2
Tomatoes	26.39	1.5	20.70	1.7	12.53	1.6	10.38	1.6
Other Veg.	56.83	3.3	54.02	4.4	31.25	4.0	26.76	4.2
Plantain	37.63	2.2	40.92	3.4	28.99	3.7	30.13	4.7
Other Fruits	138.67	8.0	52.00	4.3	22.41	2.8	9.40	1.5
Cooking Oil	60.87	3.5	49.15	4.0	18.50	2.3	10.23	1.6
Sugar	33.06	1.9	18.68	1.5	19.81	2.5	21.37	3.4
Coffee	23.07	1.3	22.16	1.8	14.23	1.8	18.04	2.8
Chocolate	10.71	0.6	13.65	1.1	13.09	1.7	13.16	2.1
Canned Foods	46.91	2.7	10.23	0.8	7.76	1.0	1.54	0.2
Lard	6.86	0.4	21.77	1.8	19.09	2.4	21.77	3.4
Pan sugar	16.07	0.9	29.33	2.4	29.44	3.7	32.54	5.1
Bread	93.35	5.4	53.51	4.4	31.64	4.0	30.34	4.8
Other Processed	116.65	6.7	52.83	4.3	35.09	4.5	26.97	4.2
Total	1729.78	100.0	1219.69	100.0	788.70	100.0	636.10	100.0

Source: PIMUR Market Basket Survey

Table II.5.3. Income-Elasticities of Demand for Food Products, by Per-Capita Income Levels, Call, February 1969

Table II.5.3. Income-Elasticities of Demand for Food Products, by Per-Capita Income Levels. Cali, February 1969

Product	Per-Capita Income Level						
	1 Point	2 - 2 Arc	2 Point	2 - 3 Arc	3 Point	3 - 4 Arc	4 Point
Pork	2.0983	0.9474	0.8344	1.2839	0.9666	0.7792	-0.1763
Beef	1.1312	0.7046	0.5324	0.6207	0.4815	0.4393	-0.0763
Fish	1.8289	0.2419	-0.5453	0.7470	1.8662	0.2241	-0.0669
Chicken	4.7247	1.6310	3.2075	1.9657	0.7636	1.1122	-0.0514
Other Meats	-2.0987	0.6526	0.1096	0.3845	2.5636	0.8825	0.6308
Eggs	0.3193	1.1565	0.3154	0.4374	0.3629	0.7833	0.2536
Milk (raw)	1.8893	0.8101	3.1912	1.0298	-0.0709	0.5939	-0.2010
Milk (past.)	-0.2342	1.6445	-0.1459	0.9807	0.3965	0.2928	0.4697
Other Dairy	-0.2590	0.3649	-0.0740	1.4406	0.0072	0.8088	0.3745
Rice	0.2550	0.3628	0.1813	0.2900	0.2765	-0.0241	0.0468
Beans	1.0234	0.0726	0.1409	0.2133	1.0822	0.1660	-0.6180
Lentils	0.7998	1.1950	-0.3196	0.4688	1.2712	0.4277	0.0470
Other grains	0.7533	0.3233	0.4616	0.5670	0.8648	0.3611	0.0640
Potatoes	0.1236	-0.1361	0.2704	0.0366	0.9243	0.2687	0.2373
Tomatoes	0.5628	0.7654	0.5163	-0.1152	1.1000	0.9709	0.0840
Other Veg.	0.6909	0.6065	0.5707	0.2651	1.0121	0.5973	0.0374
Plantain	0.4808	0.3564	0.6330	0.1756	0.3918	0.1918	0.0042
Other Fruits	-0.1478	1.5041	0.7949	0.9072	1.1602	1.2232	0.0763
Cooking Oil	2.0467	1.8999	-0.1514	0.8956	1.1204	0.6558	0.0586
Sugar	0.6333	0.1774	-0.5397	0.1181	-0.0300	0.4733	0.2614
Coffee	0.6586	-0.4304	-1.3320	0.1919	1.4306	0.5431	0.6850
Chocolate	1.5853	-0.6737	2.2026	0.6133	-0.2863	-0.0585	-0.0631
Canned Goods	4.0867	1.9063	6.2077	1.5389	1.1034	1.1480	0.3803
Lard	-0.4848	-0.1671	0.6752	-0.2746	1.9256	-0.5909	0.3224
Pan Sugar	0.0576	0.1580	0.3078	-0.0700	0.0320	-0.1754	0.2427
Bread	0.7006	0.0941	-0.1896	1.1065	0.1738	0.3293	0.2611
Other Processed	0.3086	0.4007	0.1211	1.1185	2.0885	0.6167	0.3079
Overall	o.6073	0.5078	0.4407	0.6130	0.7028	0.5360	0.1004

Source: PIMUR Market Basket Survey

Table II.5.4. Projections of Monthly Consumption of Selected Food Products in Cali for 1969, 1979, and 1989 Under Two Assumed Rates of Growth of Income

	Monthly Consumption (ooo's of 1969 pesos)				
Year	1969	1979		1989	
Income Growth Rate (% per year)	-	1	1.5	1	1.5
Product:					
Pork	3687	5862	5994	9316	9771
Beef	26280	41550	42368	65666	68481
Fish	2183	3580	3717	5867	6337
Chicken	2740	4358	4457	6928	7267
Other Meats	4008	6525	6751	10617	11393
Eggs	3703	5819	5915	9138	9469
Milk (Raw)	5247	8492	8760	13738	14662
Milk (Past.)	4924	7720	7840	12098	12508
Other Dairy	4177	6485	6552	10058	10287
Rice	10159	15781	15948	24488	25060
Beans	2626	4159	4244	6584	6877
Lentils	1588	2578	2572	3992	4176
Other Grains	2665	4267	4378	6829	7212
Potatoes	3516	5570	5686	8822	9219
Tomatoes	2069	3295	3372	5245	5509
Other Veg.	4926	7895	8105	12648	13371
Plantain	4123	6522	6652	10313	10761
Other Fruits	5876	9291	9474	14684	15314
Cooking Oil	3437	5466	5590	8689	9116
Sugar	2786	4267	4281	6523	6570
Coffee	2122	3368	3441	5344	5594
Chocolate	1404	2324	2424	3843	4186
Canned Foods	1930	3280	3462	5554	6181
Lard	2250	3634	3746	5869	6251
Pan Sugar	3542	5488	5538	8492	8664
Break	5527	8610	8713	13399	13754
Other Processed	6444	10638	11080	17540	19059
Total	123941	196766	201060	312281	327051

Source: PIMUR Market Basket Survey

Note: Populations for 1969, 1979, and 1989 taken as 813,000, 1,238,000 and 1,880,000.

that the price difference between the two is not a factor inhibiting the use of pasteurised milk in Cali. The luxury nature of canned foods is clearly shown, and the same is true of fruit. This last rather dispels the romantic notion of tropical countries as places where exotic fruits are to be had almost for the asking. Yet these fruits do grow almost wild. This only goes to show the high marketing costs of matching the scattered distribution of the fruit with the concentrated demand of a large city.

Beef is by far the most important item in the food budget, accounting for 21.5% of food expenditures. Beef, milk and rice together make up 38% of this food budget. No other item listed is of great individual importance in the family food budget in Cali. This means that efforts expended in changing their particular distribution channels or production conditions would not have much effect upon total Cali food expenditures, nor on the cost of living in the city. Attempts to reduce the cost of living by reducing food prices should be aimed at changing the operating conditions of large segments of the city's food distribution system, so that the benefits of more efficient distribution methods can be reflected in lower consumer prices for a wide range of products.

The cost, in terms of public funds, of setting up a new type of country assembler of mangos, for example, will be of the same order of magnitude as that of setting up a new type of urban food wholesaler or retailer. But two types of wholesaler and two types of retailer should be enough to reconstitute the entire urban food distribution system, while forty or more new institutions would be required merely to improve the rural assembly practice for fruits and vegetables.

Table II 5.1 will be of use later, when we make estimates of the potential demand for food in various sectors of the city.

As part of the analysis, first order regressions were calculated of expenditures upon each item as functions of income, for each per-capita income level. From these in turn were calculated point income elasticities of demand for each product at the centroid of each income level, as well as arch elasticities between adjacent pairs of income levels. These figures are presented in Table II.5.3 principally as reference material[1].

Also calculated and presented in Table II 5.4 were total monthly consumption figures for the various foodstuffs for the years 1969, 1979, and 1989. These figures are based upon income increases of 1% per year at all levels, and populations of 813,000 for 1969, 1,238,000 for 1979, and 1,888,000 for 1989. The population figures were computed according to the model described in Appendix I of Chapter II. Implicit in the calculations were the following assumptions:

a) that the distribution of income will not change as the population grows

b) that tastes will not change in the intervening period

c) that all prices remain unchanged

The elasticities listed in Table II.5.3 vary in dramatic fashion from large to small and from positive to negative, while the consumption figures of Table II.5.1 from which the elasticities were calculated show much smoother and more regular patterns. The reason

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[1] They are slightly different from those in the PIMUR Final Report, because the data used have been cleaned up, a process which had not been completed at the time the PIMUR report went to press. The differences are unimportant.

for this lies in the definition of elasticity as the ratio of proportional change in the independent variable. Computationally, this comes out as :

elasticity = slope of regression line X income ÷ consumption
(in the present case of income elasticity)

When consumption is only a small proportion of income, the result is to multiply the regression line slope by a large factor (100 in the case of a product accounting for 1% of income). With such small consumption items, small absolute errors of measurement or small sampling errors result in very large errors when the results are expressed as elasticities. For this reason the consumption projections of Table II 5.4 were calculated directly from the regression line coefficients, although the changes in income are so small that the errors resulting from using elasticities would be small also.

6. Transportation Costs

Many consumers in Cali do not do their food shopping locally, but rather at stores which are not within walking distance from their homes. The transportation costs involved in this should be counted as food costs if we are to establish a basis for comparing the performance of the existing system with that of any alternative system. Table II. 6.1. presents some figures concerning this aspect of food purchasing

Table II.6.1. Consumer Transportation Costs by Socio-Economic Level. Cali, February 1969

Socio-Economic Level	I-III	IV	V	VI	Overall
Proportion of Families using Transportation %	84%	43%	51%	57%	55%
Weekly Transporation cost per Family Col./$	5.13	3.75	4.56	7.20	5.11
Transportation Costs as percent of Food costs	1.27%	1.32%	2.48%	4.85%	2.38%

Source: PIMUR Consumer and Market Basket Surveys

The table shows that the cost of transportation adds 2.38% to the total domestic food expenditures of the Cali population, and that this percentage is doubled for the families of the lowest socio-economic level. While these transportation expenses might to some extent be associated with other activities than food purchasing, for example travel to and from work, the context and phrasing of the questionnaire makes this unlikely[1].

A point to be observed in the table is that the figures for S.E.L. I - III are unrealistically low, principally because people who did their travelling by private automobile naturally declared their transportation costs as zero. This method of transportation was the principal one found in S.E.L. I, and was common amongst families of S.E.L. II and III, while in the remaining socio-economic groups it was virtually absent.

The second row of table II.6.1. expresses transportation costs averaged over all families in each S.E.L. But not all the families in each S.E.L. shop non-locally (e.g. 51% of families in S.E.L. V), so that the transportation costs of each family that shops non-locally goes up in inverse proportion. That is, the average family of S.E.L. V. that shops non-locally spends 4.56 ÷ .51 = Col./$8.96 on transportation each week, which is about equivalent to about 5% of the food bill of the average family of this socio-economic level.

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[1]The question was phrased "The last time you did your main food shopping what transportation did you use?". Travel on food was an accepted, and earlier in the interview the distinction had been made several times between main shopping and other shopping.

Summary

The purpose of this chapter was to study the food consumption habits of the population of Cali, and such demographic variables as affect food consumption. It was found that expenditure upon foods was closely related to income and to the socio-economic level of the barrio of residence. This is of importance in considering the prospects for neighborhood food retailers. It was also shown that the effects upon food consumption of migration into the city could safely be considered negligible.

An important point is that food expenditures are concentrated upon relatively few products. Beef alone accounts for 21.5% of all food expenditures, beef, milk, and rice together account for 38%. Twenty-one products absorb 77.7% of the money spent upon food, and eighty products absorb 97.6%. Even taking into consideration the various grades of each product, this indicates that a food retailer wishing to cater for substantially all of his clients' food requirements will not find difficulties arising through having to maintain a very wide range of stock. Similar considerations apply to wholesalers.

The importance of this study was amply confirmed by the data showing the very low income of almost all inhabitants of Cali, and the very large proportion of income that is spent upon food.

The secularly-improving level of education of the population suggests that new forms of retailer who offer real advantages over existing forms will not encounter problems of acceptance through their potential customers' being tradition-bound.

A large proportion of consumers prefer to buy food elsewhere than at the local store, thus incurring transportation expenses which

must be added to food expenditures. These transportation expenses are not inconsiderable, and are greater, both in proportion to food expenditures and absolutely, for the poor who live on the periphery of the city.

Apart from meats and rice, the Cali housewife spreads her food expenditure over a variety of products so that no one product accounts for a significant proportion of these expenditures. Improvements in food distribution, therefore, must come through making food-distributing institutions more efficient rather than attempting piecemeal improvements based on a commodity-flow approach.

CHAPTER III

Consumer-Retailer Interface

The purpose of this chapter is to determine those specifications of a food distribution system for Cali which are functions of the purchasing behavior of the consumer. Chapter II dealt with the total volume of foods to be handled, with price sensitivity, and with the food consumption of families of the various socio-economic levels. We are concerned here with the food purchasing process, the interface between consumers and retailers.

The purpose of this chapter is to test the hypothesis that high-cost modes of operation and/or uneconomically small scales of operation are forced upon retailers by the requirements of consumers. This is crucial to the whole study. If the hypothesis is true we will be unable to reduce food prices by introducing changes at the retail level. If the hypothesis is unsupported, possibilities for improvement at the retail level exist.

To test the hypothesis we first endeavor to identify the factors that are determinants of the purchase process, and then discover what are the requirements and preferences of the consumer in respect of these factors. We can disprove the hypothesis if we can show that these

requirements and preferences can be satisfied by retail outlets which are compatible with a distribution system more efficient (i.e. lower-cost) than the existing one. In addition, we shall be well on our way to the design of an improved system.

The testing of the hypothesis thus falls into two stages, analysis and synthesis. The present chapter comprises the analytic stage, and Chapter V the synthetic.

The importance of this part of the study can hardly be over-estimated. Our ultimate objective is to show how the Cali consumer can be supplied with food at lower prices than presently obtain. It is not difficult to design a food distribution system that can do this, but unless the consumer is able and willing to patronise the retailers of this proposed system the exercise will be pointless and, if the recommendations are put into effect, even damaging. This is not a purely academic point. As we shall see in Chapter IV the stores that have been brought into existence for the specific purpose of selling foods at low prices (cooperatives, Cajas de Compensacion, IDEMA) have not had any significant effect upon food retailing in Cali. The resources that have been invested in these stores would almost certainly have provided more social benefits had they been used in other ways, such as in pension funds.

There are two main lines of attack upon the problem of finding the chief determinants of consumer food-purchasing behavior. The first consists of comparing observed purchasing patterns with observable demographic characteristics such as socio-economic level[1]

[1] In general, socio-economic level is difficult to measure. In Cali, however, it becomes an attractive classificatory criterion because the barrios are officially categorized into six socio-economic levels.

and levels of income and education. This method has the advantage that the data are relatively easy to collect and are not likely to be invalidated by such factors as poor respondent comprehension or interviewer bias. The disadvantage is that the results of this analysis only indicate the types of stores patronised by the various categories of respondents. Any interpretation of the results in terms of why these patronisation patterns exist must necessarily depend upon, and be colored by, the analyst's perceptions of the types of stores concerned. This perception may not correspond with the perceptions of the respondents.

The second approach eliminates this difficulty. It consists of relating observed purchase patterns directly to consumer perceptions of the available stores. But it brings with it the difficulties involved in measuring perceptions. These difficulties are twofold. The dimensions of the perception have to be identified, and a scaling instrument has to be devised to measure the intensity of perception along each dimension.

Both approaches are used in this study. Data requirements for the first approach were easily satisfied by straightforward questions in the Consumer Survey schedule. Devising the questions for the second approach was more complicated.

The dimensions of perception appropriate here are those retailer attributes which affect purchasing behavior. The attributes considered were chosen on the basis of compromise between comprehensiveness and respondent exhaustion. That is, out of the virtually open-ended set of retailer attributes which could conceivably influence buyer behavior a sub-set was selected such that:

a) the list was not longer than the respondent could reasonably be expected to answer while still paying attention to the questions, and

b) each attribute in the sub-set was believed to have more influence upon purchasing behavior than any attribute omitted.

The selection of the attributes in the sub-set, while in the final analysis subjective, was guided by accepted marketing theory, by locally-held beliefs that were encountered in the preliminary investigations, and by topics suggested in other treatises on food distribution in Latin America.[1] The attributes finally selected were, in order of their appearance in the interview schedules:

1. Quality of foodstuffs offered
2. Congeniality of clientele
3. Provision of credit
4. Provision of home delivery
5. Hours of service
6. Cleanliness and tidiness of the establishment
7. Honesty in respect of weights and measures
8. Price reductions and discounts
9. Cost of transportation
10. Enabling the customer to select the items to be purchased
11. Courtesy and attention
12. Variety of foodstuffs offered
13. Convenience of location
14. Prices of staples
15. Prices of non-staples

Quality, variety, locational convenience, and prices are important attributes of food retailers in all societies. Cleanliness and tidiness, and honesty in respect of weights and measures are usually taken for granted in developed countries, but in Cali there

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[1] See, for example, Galbraith, John Kenneth, and Holton, Richard H. Marketing Efficiency in Puerto Rico. Cambridge, Mass.: Harvard University Press, 1955. p.69.

are great variations in the cleanliness of stores between types and between stores of the same type, and retailers' scales are widely reputed to be "doctored". Service and attention, and congeniality of clientele, which are relatively unimportant in the large impersonal supermarkets of the developed countries, might be of major important in the face-to-face conditions of a market stall or small neighborhood store.

Self-selection (as compared with self-service) and price concessions could well be important factors in the housewife's image of herself in her role of the family purchasing agent. The question of hours of business was suggested by the observation that closing hours for food outlets in Cali vary from midnight (for some tiendas) to mid-day (for the greater part of the stalls in the Galeria Central). Was this reflected in purchasing or customer-preference patterns?

The belief that credit was very important to users of the neighborhood stores was frequently encountered in the preliminary investigations. This, as well as home delivery, were cited as important factors in food purchasing in Perto Rico by Galbraith and Holton[1]. It was considered desirable to test the importance of these factors.

Developing a measure of the intensity with which retailers were perceived to possess these attributes was rather complicated. The most obvious method would have been to ask respondents to rate each retailer type on each attribute using, say, a five- or seven-point

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[1] op.cit. But Henley and Farace found in La Paz that these factors, and the "social" factors such as the function of the local store as that of a meeting place were of little importance. (Donald S.Henley and R.Vincent Farace, "Consumer Buying and Communication Patterns in Bolivian Urban Food Retailing: A Preliminary Report". Proceedings of American Marketing Association (Washington D.C., Winter 1967)

semantic differential scale. But this would have required the filling-in of 300 questionnaire items (twenty retailer types times fifteen attributes). The next option would have been to confine the retailer types considered to those patronized by the respondent, but this would give no indication about why she rejected the other retailer types. In any case, the Latin-American "mente positiva"("positive thinking", a tendency to see everything as either black or while, with no shades of gray)[1] makes the semantic differential a doubtful tool in these societies. There is too great a risk that many of the responses will be based upon blessing or damning by association. That is to say, if a retailer is found to be good (or bad) in respect of one important attribute, the respondent, through rationalization or other mental process, is likely to consider him good (or bad) in respect of some, or even all, other attributes. While the resulting attribute-intensity profile is undoubtedly the one upon which the consumer bases her purchasing decisions there is no way in which the researcher can determine which was the key attribute in her case.

An alternative approach would have been to abandon the pseudo-interval measure of the semantic differential scale and to ask respondents to rank retailers in order of possession of attributes. Here again, 300 questionnaire items would have to be answered, items which are, if anything, more difficult to answer than those of a semantic differential scale. Therefore this approach was rejected, on the grounds that respondent exhaustion would have vitiated the answers.

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[1]The origin of this phrase is not known. The author learnt it from his Colombian colleagues.

In the event, a reduced-ranking technique was used. Respondents were asked which retailer type was, in their opinion, best and which was worst in respect of each of the fifteen attributes. "Don't know", "All the same", and "Little difference between types" were also acceptable responses. Originally, respondents were asked about three categories, best, second best, and worst, but this was changed after the pre-tests, when the second best category elicited a large proportion of "Don't know" responses. Interviewers reported that respondents appeared to have some difficulty in understanding the concept of "second best". This may be another manifestation of the mente positiva, with people identifying only the outstandingly good or bad performers, or it may merely mean that in Cali housewives make their retailer-selection decisions on a narrow information base. Whatever the reason, it can be argued that the three-point scale used (best, worst, and other) contains the information which forms the data input to the housewife's decision-making process.

The responses to the questions described above, together with information upon where respondents bought their food and other demographic data (income, barrio of residence, etc.), will provide the bulk of the source material for this section. Other material is derived from the Market Basket Study.

In this chapter we will use, with few exceptions, socio-economic level as the criterion of classification for consumers. Preliminary analysis of the data revealed that patterning in shopping behavior was more apparent under this classification than under classification by income, either per family or per capita[1].

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[1] See Chapter II, pages 52 and 53 for a description of how socio-economic level (S.E.L.) is determined by the Cali municipal Government.

We will use several different classifications of retailer types, according to the point to be illustrated. It will be useful at this point to review the various types of store that can be distinguished in Cali, and to see how the types can be meaningfully aggregated.

The most obvious aggregation is that of public markets, comprising the Galeria Central (including the two Calvarios markets and the associated street vendors) and the satellite markets. Next come the neighborhood stores - the tiendas and small graneros. The third group, self-service stores, is rather more complicated in that it contains both food and non-food stores and profit-oriented and non-profit oriented stores. This group is made up of the supermarkets and chain stores (profit-oriented sub-group) and the cooperatives and stores of the Cajas de Compensacion (non-profit oriented sub-group). In addition to a self-service format these stores resemble each other in that they are large, departmentalized, and new (in the sense of being recent arrivals on the food retailing scene) enough that they have not yet developed a standard or traditional mode of operation.

None of the remaining types of food outlet can be meaningfully classified with any other type. Fortunately, only two are of importance, the truckers handling milk, and the specialty stores, of which those dealing in beef and poultry are the only ones with a significant total volume of sales. The remaining types are of negligible importance in food retailing. For the most part we shall aggregate truckers, specialty stores, and the rest into the category "others", but for some purposes we will find it useful to isolate individual types. The most obvious example will be when we discuss purchase frequency. Many people

buy milk daily from truckers, and to include truckers in "others" in this context would give an entirely false picture of purchase frequencies for this group.

Another classification criterion which should be kept in mind while reading this chapter is that of type of location. Three categories of location can be distinguished, central, neighborhood, and random. The central stores comprise the Galeria Central, the traditional stores in the vicinity of the Galeria Central (the large graneros and the wholesaler/retailers, which will be discussed in Chapter IV), and many of the chain stores which are located in this area. Neighborhood stores are the small graneros, the tiendas, supermarkets (which are located in or near barrios of S.E.L. I and II), and the truckers. Satellite markets also fall into this group. Randomly located stores are those whose location bears no apparent relation to where their customers live nor to main transportation routes. The main examples of this type are the cooperatives and the Caja stores, but many of the stores which were classified under "others" above also fall into this category. These randomly-located stores tend to concentrate in three areas, if the word "concentrate" can be applied in the context of randomness. They are found in the Versalles barrio, north of the River Cali, along the Calle 15, and on the periphery of the city center. (See Figure I-3) This latter location is presumably dictated by real-estate prices, and can be roughly defined as being rather beyond walking-distance of the central area, the area around the Galeria Central.

1. Store Patronization Patterns

Tables III.1.1 and III.1.2 on page 97 summarize the patronization patterns discovered in PIMUR's Consumer Survey. Table III.1.1. is based upon the answers to the questions "Where do you make your principal purchases of X", where X was in turn grains, meat canned foods, fruits and vegetables, milk, eggs, and chicken, and Table III.1.2 is based upon answers to the subsequent question "How much did you spend (at each type of store patronized) during the last two weeks?[1]

Various trends, dependent upon socio-economic level, are apparent in the patronization patterns. Neighborhood stores are used principally by the poorer classes, self-service stores by the upper classes, and the public markets by the middle classes. Many explanatory mechanisms could be postulated to account for these trends, but the best, in the sense of being at the same time the simplest and the most powerful, is to postulate that retailer selection is based upon locational convenience for the customer. On this basis we can explain the trends noted above by noting that supermarkets, which constitute an important component of the self-service group of stores, are located in or near upper-class barrios, that almost all of the middle-class barrios are located within easy reach of public markets, and that the great bulk of lower-class barrios are poorly served by other than neighborhood stores, tiendas and small graneros.

This behavioral assumption can explain many more trends than the three mentioned above. Consider the shopping patterns exhibited by people of S.E.L. I. First, note that to these people the cost of

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[1] It should be noted that by confining the respondent's attention to principal purchases (those associated with planned shopping trips) these questions tend to diminish the importance of the neighborhood stores, by eliminating routine purchases of bread and milk and such unplanned purchases as they obtain by virtue of their convenience of location.

Table III.1.1: Percent of Families in Each Socio-Economic Level Patronizing Different Types of Retail Stores

Socio-Economic Level	Neighborhood Stores	Central Market	Satellite Markets	Self-Service	Other Stores
I	31.0	41.4	6.9	100.0	48.3
II	64.5	77.4	29.0	77.4	45.2
III	46.2	94.2	36.5	44.2	48.1
IV	76.0	92.0	16.0	49.3	34.7
V	80.6	64.6	28.7	30.6	20.1
VI	80.5	71.9	13.3	21.9	13.3
Overall	74.1	71.4	23.7	37.7	25.3

Source: PIMUR, Consumer Survey

Table III.1.2: Percent of Food Expenditures in Each Socio-Economic Level Spent in Different Types of Retail Store

Socio-Economic Level	Neighborhood Stores	Central Market	Satellite Markets	Self-Service	Other Stores
I	14.4	19.8	3.0	32.7	18.3
II	24.4	25.9	15.2	17.4	6.7
III	11.6	30.2	25.2	7.0	14.4
IV	31.8	31.9	8.7	13.8	6.8
V	40.6	21.8	20.3	7.9	5.1
VI	44.8	26.5	12.0	7.8	6.4
Overall	33.4	24.8	16.3	11.5	7.7

Source: PIMUR, Consumer Survey

taxis is a negligible item of expense, and that many of them have private automobiles. They also have household help. To them, locational convenience is not a matter of time or distance; their choice of retailer is bounded only by their knowledge of the retailers available, which should be extensive, given their high level of education and social and physical mobility. On this basis our explanation of their use of self-service stores above becomes fallacious, and we must attribute this phenomenon to other retailer characteristics.

Table III.1.3a shows that people in S.E.L. I use self-service stores principally as suppliers of grains and canned goods, the Galeria Central for fresh fruits and vegetables, while for meat they go to a neighborhood butcher or one of the specialist meat stores included in "others". In the self-service group, they divide their patronage between supermarkets and the Caja stores, a point which is not made clear in Table III.1.3a.

This purchasing pattern could be taken as an idealized one, the one which would be displayed by the whole population if it had the mobility of the people in S.E.L. I, and assuming that it had the same scale of values, a dangerous but not altogether implausible assumption. But there is one point about this purchasing pattern which merits comment. Why do so many more S.E.L. I people buy fruits and vegetables in Galeria Central than in the satellite markets, Alameda in particular? Upper-class people in Cali are fastidious about cleanliness, health-conscious, and most go shopping in private automobiles. They are also sensitive about personal safety to the point of paranoia, if the bars and bolts and night-watchmen that surround their houses are any indication. Yet they go to the Galeria Central, which is dirty,

Table III.1.3. Percentage of Families Interviewed Patronizing Principal Outlet Types, by Product and Socio-Economic Level

Socio-Economic Level	Outlet Type	Product Group			
		Grains	Meat	Canned Foods	Fruits and Vegetables
a					
I	Central Market	11	28	4	34
	Satellite Markets	3	0	4	5
	Tiendas	11	16	8	14
	Self-service	68	28	76	41
	Others	7	28	8	6
b					
II	Central Market	23	32	16	13
	Satellite Markets	16	23	6	30
	Tiendas	19	23	23	32
	Self-service	42	16	45	16
	Others	0	6	3	10
c					
III	Central Market	29	40	21	50
	Satellite Markets	15	31	5	34
	Tiendas	23	10	12	4
	Self-service	27	8	23	6
	Others	6	11	4	6
d					
IV	Central Market	31	39	9	52
	Satellite Markets	3	11	0	15
	Tiendas	35	39	20	28
	Self-service	24	7	23	1
	Others	7	4	5	4
e					
V	Central Market	28	25	8	35
	Satellite Markets	14	22	4	27
	Tiendas	37	49	12	35
	Self-service	17	1	11	0
	Others	4	3	2	3
f					
VI	Central Market	36	27	2	40
	Satellite Markets	8	11	2	10
	Tiendas	39	54	8	43
	Self-service	10	2	6	1
	Others	7	6	0	6

Source: PIMUR, Consumer Survey

unhygienic, infested with purse-snatchers and pickpockets, and where there is no parking space. Alameda market is better in all these respects and in addition specializes in selling fruits and vegetables to upper-income customers. Two-thirds of the stalls in Alameda market sell fruits and vegetables versus less than half in the Galeria Central (see Table IV.3.), and some handle commodities such as lettuce flown in from Bogota. Yet seven times as many consumers of S.E.L. I buy fruits and vegetables in the Central Market as buy them in satellite markets.

As Figure I.3. shows, Alameda market is further away from the barrios of S.E.L. I than is the Galeria Central, and the same is true of the other satellite markets. One can only surmise that even for the physically mobile people of S.E.L. I distance from home is still an important factor in retailer selection, although the mechanism behind this phenomenon is not clear.

The S.E.L. II shopping pattern (Table III.1.3b) shows a pronounced swing away from self-service stores and towards tiendas and satellite markets, in this case exclusively Alameda market. This appears to be a consequence of the ease of access to Alameda from the large S.E.L. II barrios of the San Fernando area. The increase in tienda patronization is also associated with San Fernando. At the time of the field work there was only one supermarket in this area, and it was suffering from poor management. Although supermarkets are aimed at people in the upper socio-economic levels, and although people in S.E.L. II are highly mobile, yet the effects of distance were strong enough to provide an opening for the neighborhood stores to compete.

Geographically, S.E.L. IV barrios are more central and have less convenient access to satellite markets, while many S.E.L. III barrios have easy access to Alameda market. This is reflected in the patronization patterns shown in Tables III.1.3c and III.1.3d, in the splitting of custom between the central and satellite markets. Another interesting trend develops in the middle classes in the way they replace the self-service store patronization of the upper classes. It appears that the trade which in the upper classes goes to the self-service stores is split in the middle classes into two streams. The tiendas get the sales of non-perishables (grains and canned foods) and the public markets get the sales of perishables, meat and fruits vegetables.

This runs counter to the overall trend in shopping patterns for this group, which emphasizes locational convenience in that the self-service stores are replaced by the more accessible neighborhood stores and public markets. The counter-trend indicates that in purchasing perishables there are some factors that are more important than maximization of locational convenience. What these factors are will be discussed later in this chapter.

The importance of ease of access continues to be displayed in the shopping patterns of people in socio-economic levels V and VI. Usage of "other" stores falls off substantially, and tienda usage increases. Patronization of the satellite markets reflects the location of these outlets. Three of the five satellite markets are located in barrios of S.E.L. V, one of which is on the bus route serving the large S.E.L. VI barrio of La Union. One satellite market was intended to serve the S.E.L. VI barrio of Siloe, although its

location is less than ideal for this purpose. The fifth satellite market is, as we have noted, situated in the middle-class barrio of Alameda.

We have been able to explain the difference in food purchasing patterns of the various socio-economic levels in Cali in terms of the location of the purchaser relative to her preferred stores. This leads to the conclusion that locational convenience is the most important factor in the consumer's selection of retailers. Yet the Galeria Central is patronized by seventy percent of the population and sells one-quarter of all the food consumed in the city. How do we reconcile these two contradictory observations? If we cannot reconcile them we will be forced to conclude that large food-retailing complexes like the Galeria Central can exert an attraction strong enough to overcome the desire for locational convenience on the part of the consumer. This could make very great differences in our recommendations.

We believe that the contradiction is more apparent than real. While the most obvious characteristics of the Galeria Central complex, its great size and range and depth of offered goods, and its proximity to downtown non-food stores, gives it an attraction for shoppers that the "neighborhood" store cannot hope to emulate, there are two other factors which are almost certainly more important than thos mentioned above in explaining why so many people patronize the Galeria Central.

The Galeria Central is the neighborhood store for a significant proportion of Cali's population. The ILMA study of 1965[1]

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[1] ILMA, Estudio del Sistema de Mercados Propiedad de EMCALI, (ILMA, Bogota, 1965) p.II-11.

found that 15% of the patrons of the Galeria Central made their journeys there on foot. Applying this to the proportion of people that use the Galeria Central (71.4%, according to PIMUR) we find that between ten and eleven percent of the population of Cali lives within walking distance of the Galeria Central, and uses it as their nearest food store. This makes the central market complex the convenience store for about 90,000 people. The reason that so many people walk to the Galeria Central is that there are practically no tiendas or small graneros, or indeed food stores of any kind, within about ten blocks of the central market complex. This is doubtless the result of the Galeria Central's establishment in its present location in 1931 as the city's central market. The effect of this would have been to inhibit the establishment of neighborhood stores within competing distance, an effect which still endures.

The other thing that contributes to the importance of the Galeria Central is the fact that it is the natural focal point of the city's mass transport system. Every bus route in the city passes within two blocks of the Galeria Central. Furthermore, the bus fare system in Cali is a flat-rate one. So the Galeria Central is not only the most accessible outlet for one-tenth of the city's population, it is also the second most accessible outlet for anyone living within easy reach of a bus route. Since Cali has a very large number of bus routes this latter category includes practically everybody in the city. Therefore we would expect to find that anyone who considered their nearest retailer to be deficient in one or more respects would be likely to use the Galeria Central to make up the deficiency. In other words, we would expect to find the Galeria Central used largely as a specialty store by a large number of people. Consideration of the patronization

and sales figures for the central market bears out this conclusion. Setting aside the ten or eleven percent of the population who use it as a neighborhood store, and who presumably obtain about 90% of their food needs there, we find that around sixty percent of the population use it to obtain just over one-quarter (27%) of their food needs. The specialty store nature of the patronization is corroborated by Table III.1.3, which shows that fruits and vegetables are the items which principally attract people to the Galeria Central, with meat as a secondary attraction. As we noted earlier, a feature of the Galeria Central area is the excellent assortment of fruits and vegetables available there.

Two factors, then, are of dominant importance in giving the Galeria Central its striking position in food retailing in Cali. These are its original establishment as the city's central market at a time when the central market accounted for the bulk of retail food sales in the city, and its situation at a focal point of mass transportation. These two factors have provided the volume of business which has enabled the Galeria Central to offer the outstanding breadth and depth of assortment which is its most dishinguishing feature as a retail center. Since neither condition can be reproduced in Cali in the future we can remove from further consideration the idea of designing a food distribution system for the city around large complexes like the Galeria Central. This analysis also explains why attempts to do this (the establishment of the satellite markets) have not been very successful, and provides at least a partial explanation for the poor performance of the non-profit oriented stores in Cali[1].

[1] These stores are discussed in detail in Chapter IV, pages 135-144.

If we accept this analysis we are driven to the conclusion that any food distribution system we might recommend must be based upon food retail outlets featuring locational convenience as the most prominent component of their marketing mix. For stores serving the middle and lower classes (90% of the population) this mean locating actually in the residential barrios. It also means that these retailers can count upon obtaining very little trade other than that available from people living with walking distance of the stores. Even so large and "obvious" a retail outlet as the Floresta satellite market derived, in 1965, 86% of its patronage from people living within walking distance[1]. Specialty stores will continue to exist, and even prosper if they locate strategically on streets served by several bus routes. But for basic foods the neighborhood store has a great competitive advantage over all other outlets, and these basic foods account for the great bulk of food expenditures in Cali. If our recommended outlets cannot compete on equal terms with the neighborhood stores in respect of locational convenience they will not be able to carry out their primary purpose, which is to make food available to the population of Cali at lower prices than the existing food distribution system can offer.

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[1] ILMA, op. cit., P.III-15

2. Shopping Frequency

People who have waited in line in a supermarket wondering why only one check-out counter out of six is in operation will probably agree that the rate of flow of customers is a factor that should be taken into consideration in the layout and operation of a store. Table III.2.1 presents the data from which rate of customer flow can be estimated for food stores in Cali.

Table III.2.1. Percent of Consumers making Shopping Trips, by Socio-Economic Level and Day of the Week. Cali, February 1969.

Socio-Economic Level		Percent of Consumers making Shopping Trips						
		Mon.	Tues.	Wed.	Thur.	Fri.	Sat.	Sun.
I-III	Tiendas	68%	65%	65%	71%	74%	58%	61%
	Others	54	61	54	58	74	100	62
IV	Tiendas	74	74	74	74	78	74	65
	Others	78	87	52	74	110	100	74
V	Tiendas	72	74	75	74	72	75	75
	Others	49	52	48	48	42	68	53
VI	Tiendas	81	81	73	81	73	77	81
	Others	38	44	40	40	44	63	63

Source: PIMUR, Market Basket Study

The figures as they stand have to be treated with care. They probably understate the number of visits made to tiendas. This is a consequence of the data collection and processing methods used, which were such that a maximum of one trip to each of fifteen types of outlets could be recorded. Thus a housewife could visit tiendas two or more times in one day but only one trip would be recorded. Similarly, she could visit, say, three types of outlets in one shopping trip and three

trips would be recorded. This accounts for the rather odd statement that, in Table III.2.1, 110% of S.E.L. IV consumers make trips to "other" stores. Strictly speaking, this datum indicates that the average S.E.L. IV housewife visits 1.1 stores other than tiendas on Fridays.

In using Table III.2.1, therefore, the analyst should be aware that the data for "other" stores reflect visits rather than shopping trips, while the data for tiendas do not reflect multiple visits, to pick up items that were overlooked on what might be described as "primary" visits.

The figures given in Table III.2.1. are actually much more useful for our purposes than the caveats noted above would indicate. This is because the tienda data reflect the frequency of visits to convenient, but not ultra-convenient, stores. They indicate the flow through a store which offers locational convenience, while reducing the effects of the flow caused by treating the store as if it were a larder. This is precisely the information required for the design of our hypothetical store.

Probably the best estimate that can be made from Table III.2.1. is that our hypothetical store will have to be prepared to serve three-quarters of its regular clients every day, and all of them on Saturday and Sunday. If there are no changes in purchasing habits all of this will have to be done during the forenoon. Market Basket Study data indicated that 95% of all food purchases were done during the morning. While it would be desirable to spread the consumer flow throughout the day rather than concentrate it during the forenoon hours, we do not know the extent to which this might be possible. The custom of buying food before midday is consistent with the practice, based on technical

considerations, of distributing fresh meat and produce to retail outlets during the early morning hours. The housewife will naturally time her shopping to take advantage of the better conditions of freshness and selection available in the morning.

If this were the only causative factor behind the custom of shopping in the morning, the retailer could fairly easily spread the customer flow over the whole day by such devices as using refrigeration to keep goods fresh, re-stocking his shelves two or more times per day, and offering small premiums to customers patronising the store at slack periods. But if it were the case, as is quite probable, that it is a long-standing tradition in Cali to eat the main meal at midday there is nothing the retailer can do to change the custom of buying food in the morning. It is our opinion that the first explanation is the correct one, but this is purely an opinion.

Table III.2.2 shows the distribution of shopping trips and sales volume by the day of the week. This table indicates that Friday and, particularly, Saturday are the days on which those housewives who do not buy food on a day-to-day basis do their main shopping. This is verified by the data of Table III.2.3, which shows the breakdown of trips between selected retailer types according to the day of the week.

Table III.2.2 Distribution of Shopping Trips and Sales Volume by Day of the Week. Cali, February 1969.

Day	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.	Sun.
Percent of Trips	13	13	13	13	15	17	16
Percent of Sales	10	14	11	10	17	25	13

Source: PIMUR, Market Basket Study

Table III.2.3. Average Number of Shopping Trips Per Family, for Selected Retailer Types. Cali, February 1969.

Retailer Type	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.	Sun.
Tiendas	.73	.74	.73	.75	.73	.73	.74
Truckers	.20	.20	.23	.25	.21	.17	.18
Central Market	.14	.14	.12	.13	.13	.24	.16
Satellite Markets	.12	.15	.16	.15	.14	.16	.18
Others	.23	.24	.18	.20	.24	.29	.21

Source: PIMUR, Market Basket Survey

Here it can be seen that the stores showing rises in customer flow on Saturday are the Galeria Central and "others", the stores associated with trips away from the neighborhood.

A practice which has an effect upon the time patterns of consumer purchasing behavior is that used by many employers in Cali in paying salaries and wages. Payments are made on alternate Fridays, which accounts in part for the purchasing surges on Saturday. Also, the pay-checks are distributed after the banks close on Friday, and in Cali they do not open on Saturday. So the provision of check-cashing or equivalent service can be a matter of some importance to retailers if they are to obtain their share of the Saturday trade.

The foregoing discussion has indicated that food buying in Cali is predominantly a matter of multiple small purchases. This militates against efficient food retailing, since a given installation can process only a given number of purchases. If the purchases are small, the total sales volume will be small, and the margin required to cover the fixed costs will be large. We are therefore faced with contradictory requirements. Good service implies neighborhood stores,

but neighborhood stores imply inefficient retailing, in the sense of high margins.

Consideration of the nature of the purchases indicates a possible way out of this impasse. Three types of purchase can be distinguished:

a) Small purchases, of few items, in which little or no selection is involved. The archetype of such purchases are those involving bread and/or milk.

b) Medium-sized purchases of several items, with some selection involved. Representative of such purchases are those of meats and produce.

c) Large purchases, involving many items. These are the "main" shopping trips, when grains and non-perishables are bought in quantities sufficient to last several days. The selection process is more complex, involving allocation of funds between products as well as selection amongst varieties of any one product.

The first type of purchasing is usually of daily occurrence, the second varies from daily to weekly, most typically occurring two or three times a week. The third type is a weekly phenomenon, although in the Market Basket Study many housewives were found to buy grains and non-perishables in amounts intended to last for two weeks or more. The three types of purchasing can be found singly or in combination, in the sense that in a shopping trip of the second type products characteristic of the first type will often also be bought, while in trips of the third type products of the first two types will also be bought.

The point to be made is that the three types of purchases need different selling and check-out facilities, and the objective in

designing the store should be that of maximising the number of customers that can be processed in the day rather than that of maximising the exposure of customers to the merchandise. We will return to this in Chapter V when we set out our recommendations for an improved food distribution system.

3. Shopping Transportation Costs

The previous section considered shopping trips from the point of view of load upon the stores. Here we consider them as a load upon the consumer. In Section 6 of Chapter II Table II.6.1 presented data upon transportation costs incurred in shopping, expressing them in terms of food expenditures of the population. Table III.3.1 presents the data in rather more detail and in terms of the load upon those people who shop non-locally. For this reason shopping frequencies differ from those quoted in the previous section.

The table brings out some interesting points. The increase of frequency as one goes down the socio-economic scale is presumably related with reducing degree of possession of refrigerators. The cost per trip falls from S.E.L. I through S.E.L. V, as buses replace taxis as transportation. The rise noted for S.E.L. VI is rather surprising. Presumably it reflects the location of most of the barrios of this level on the outskirts of the city, but bus fares in Cali are of the flat-rate type, so that location should not affect the cost of travel. However, the quality of bus service at the edges of the city is relatively poor, in the sense that the routes are more widely spaced than they are nearer the city center. Also, the bus routes serving the two largest barrios of S.E.L. VI, Siloe and La Union, run along the boundaries of these

Table III.3.1. Transportation Costs of Non-Local[1] Shopping Per Family Per Week, by Socio-Economic Level. Cali February 1969.

	Socio-Economic Level					
	I	II	III	IV	V	VI
Average number of trips	1.08	1.06	2.03	2.94	3.48	3.96
Average cost/trip (Col.$)	4.30	4.65	3.66	3.00	2.57	3.17
Average cost/week (Col.$)	4.67	7.44	7.31	8.80	8.93	12.56
Average food exp. week (Col.$)[2]	616	403	393	296	205	159
Transportation cost as percent of food exp. (%)	0.8	1.9	1.9	3.0	4.4	8.0

Source: PIMUR, Consumer Survey

barrios - they do not enter the barrios. Thus many housewives, returning on the bus from the city center with a heavy basket or baskets of foodstuffs, are faced with extra expense because they have to pay someone to help them carry the basket(s) to their homes. Another practice, that of travelling to the city center by bus and returning by taxi, is presumably also caused by the rather inadequate service the buses can offer a housewife carrying heavy baskets. In spite of the greater expense of this mode of travel 23% of those housewives of S.E.L. VI who shopped non-locally were found to use it.[3]

[1] This table applies only to those consumers who did their principal food purchasing non-locally.

[2] These are average weekly food expenditures for consumers buying non-locally. For this reason they are slightly different from the averages obtained in the Market Basket Study, but the differences are small (less than 2%).

[3] PIMUR, Consumer Survey

Table III.3.1. makes it clear that the costs of shopping for food away from the neighborhood become increasingly heavier, both absolutely and as a percentage of food expenditures, as one goes down the socio-economic scale. This indicates that there is a considerable degree of dissatisfaction with the service provided by the neighborhood stores. It also indicates that the establishment of satisfactory stores in the neighborhoods will bring substantial benefits in the form of savings of transportation costs, and that these savings have the very desirable characteristic that the greatest benefits will go to those who most need them, people in the lowest socio-economic levels.

4. Miscellaneous Services

It is widely believed in Cali that consumer credit is an important factor in food retailing, especially in the poorer barrios. For instance, the manager of ACOPI, one of the two Cajas de Compensacion in Cali that operate food stores, told PIMUR interviewers that he had noted that his store was being patronized principally by the higher-paid employees of the affiliated firms. He attributed this to his inability to give credit, and expressed his belief that the tiendas in the barrios used the extension of credit as a device to attract and hold customers. Galbraith and Holton[1] stated that consumer credit was important in food retailing in Puerto Rico, and Nason[2] found it to be moderately important in the marketing mix of neighborhood stores in Recife, Brazil.

Against this, Henley[3] found little evidence that credit was a

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[1] op.cit., pp. 20-21

[2] Robert W. Nason, "Urban Market Processes in Recife, Brazil", unpublished Ph.D. dissertation, Michigan State University, 1968. p.98.

[3] Donald S. Henley and R.Vincent Farace, "Consumer Buying and Communication Patterns in Bolivian Urban Food Retailing", American Marketing Association, Annual Meeting, Washington D.C., 1967.

significant factor in food retailing in La Paz, Bolivia, and PIMUR found the same thing in Cali. Table III.4.1. summarizes the data obtained from the PIMUR Market Basket Study on the use of consumer credit in food purchasing. Note that the classification of consumers in this table is according to income and not according to socio-economic level. There are two reasons for changing the classification here. First, there were few people in the upper socio-economic level amongst the Market Basket Study participants, which, in conjunction with the very limited use of credit, made it difficult to obtain a statistically significant number of responses from credit users. Second, if credit use is important to consumers as a necessity rather than merely as a convenience, as the beliefs mentioned above would indicate, then we would expect to find a strong negative association between income level and credit use. As Table III.4.1. shows, the association is very weak, and is positive. The users of credit are, if anything, those who least need it, indicating that credit is a convenience rather than a necessity.

Table III.4.1 Use of Consumer Credit in Food Purchasing. Cali, February 1969

Credit as Percent of Total	Per Capita Income (Col.$/month) 0-125	126-240	241-500	over 500
No. of Purchases	8.7	8.5	4.4	3.1
Food Expenditures	9.3	9.7	10.0	15.3

Source: PIMUR, Market Basket Study

The small amount of credit used also indicates that it is not an important convenience. This is verified by the fact, shown in the Market Basket Study, that most of the purchases on credit were purchases of milk from truckers. Here the convenience of the vendor is as

important as that of the buyer. (Some milk deliverers will only accept payment on special days when a clerk makes the rounds with the driver of the vehicle.)

Results from the PIMUR Wholesale/Retail Study confirm that credit is not important in food retailing in Cali. Of the tiendas interviwed only 40% gave credit, and these on only 22% of their sales; the corresponding figures for retailers in the public markets were 30% and 20%, respectively. Only the cooperatives do much selling on credit, reporting that 80% of their sales were made in this mode. In this case there is no evidence that credit availability is of significant importance to the customers. Rather, it appears that giving credit by the cooperatives is a ideologically-based policy. The cooperatives have been encouraged in this by having been given the privilege of being able to garnishee the salaries of their debtors.

The conclusion is that consumer credit is not necessary in the marketing mix of the food retailer in Cali. Retailers who refuse to give credit would lose only a negligible amount of business. On the other hand, there are no doubt many families in the poorer districts whose income is irregular or comes from day-to-day casual labor, and for these people credit at the local food store could be important. The Market Basket Study showed that amongst the lowest income consumers 12.8% of the purchases at the tienda were on credit, while in the second-lowest income group 11.4% of purchases at the tienda were on credit. For both of these groups the tienda accounted for about half of all food bought, so that only about six percent of the families in the two lower income groups appear to need credit facilities.[1]

[1] That is, of the half of the people in these income groups who use the tienda about twleve percent use credit. This corresponds to about six percent of all the people in these income groups.

Home delivery is very little used. Milk deliveries accounted for almost all the home deliveries noted in the Market Basket Study, and in the Consumer Survey less than one percent of housewives had used home delivery in their last purchase of foods other than bread or milk. Carry-out service is virtually unknown in Cali, at least as a service provided by retailers. Around the public markets there are usually small boys who will carry the housewife's basket for her for a small fee (usually one peso at the time of the field work).

Almost all food purchasing in Cali is carried out during the morning hours. Fewer than five percent of the purchases recorded in the Market Basket Study were made after midday. As far as service is concerned, the retailer of food in Cali need be open for business only until noon, as is the practice of almost all stallholders in the public markets. Indeed, as we noted earlier in discussing shopping frequency, the problem facing food retailers in this respect is to persuade their customers to spread their purchases over the whole working day, in order to make effective use of the fixed facilities (space, display facilities, check-out facilities).

5. Factors Affecting Choice of Retailer

The previous sections of this chapter have concentrated on the topics of where and in what fashion the Cali housewife buys food. Only in one instance, where we noted the substantial custom-attracting power of locational convenience, have we touched upon the reasons why she allocates her custom as she does. Yet this is an extremely important matter. The most economical and efficient food distribution system would be a failure if it did not take into account the requirements of the consumer.

Unfortunately, it is extremely difficult to ascertain why people do things in one way rather than in another. Motivation research is not by any means a mature science[1], and survey instruments are just not available "off the hook". This means that an investigator who wishes to obtain information using methods of the type associated with motivation research has to design his own specific instrument and is then faced with problems of determining its reliability and validity. Validation of instruments dealing with non-standard situations is virtually impossible.

Nevertheless, in view of the importance of this topic it was felt that an attempt should be made to probe into the more important aspects of food retailer selection on the part of the Cali housewife. There are two objectives for this study. The first is to identify those retailer characteristics or attributes which the housewife seeks in her food suppliers. The second is to test the hypothesis that consumer requirements force retailers to adopt operating formats which entail high operating costs and/or uneconomically small scales of operation. It can be seen that this hypothesis must be shown to be false before the present study can be continued.

A model of the consumer's decision-making process was needed to guide the collection of the data for testing the hypothesis, and a very simple model was assumed. First, the consumer was assumed to be a rational shopper, patronizing the store(s) which best fulfilled her requirements. Second, the dimensions of these requirements were taken to be the store attributes described earlier in this chapter (see page

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[1]Luck, D.J., Wales, H.G., and Taylor, D.A., "Marketing Research", Englewood Cliffs, Prentice-Hall, 2nd. ed., 1961. Chap. 18.

Each consumer was regarded as attaching a level of importance or salience to each attribute, and although these levels could vary from consumer to consumer it was assumed that the profiles were sufficiently similar to make it meaningful to calculate average levels i.e. there were central tendencies in the importances attached to each attribute. Finally, each consumer was assumed to have evaluated all available food retailers in respect of the degree to which they possessed each attribute, and to shop at the retailer for whom some monotonically increasing function of the products of salience and degree of possession of all attributes was greatest.

The assumption of evaluating all food retailers is principally made to simplify the mathematics and data-collecting requirements. Although the assumption is patently false, this does not significantly affect the validity of the analysis. In fact, the assumption is over-rigorous. All that is needed is that the housewife's information be adequate to permit her to identify the store best suited to her requirements and a few (say, two or three) of its nearest competitors. This is a much more realistic assumption than that of evaluating all food retailers, yet the results will be the same in each case, and the more rigorous assumption leads to easier data-collection and analysis.

If this model is a reasonable representation of the consumer's retailer selection process the data that we have to measure are where the consumer shops and how she evaluated the retailers in respect of the attributes. If we compare the two sets of data we should find that attributes of high salience are those for which preferred retailers were highly rated.

We have described earlier (pages 90 - 93) the instrument which was used to collect the attribute rating data. Respondents were asked which of all the retailer types in Cali were best, and which were worst, in respect of each of the fifteen attributes selected as being the primary dimensions of retailer attractiveness. As was described on page 93 , the evidence suggests that the three-point scale thus obtained (best, not mentioned, and worst) contains, in effect, all the information that goes into making the retailer selection. It is effectively equivalent to a scale of good, neutral, and bad.

The analysis consists essentially of determining for each attribute the proportion of people who shopped at the stores they said were best. Supplementary calculations would be those to determine the proportions of people shopped at the stores they said were worst, a high proportion in these cases indicating unimportant attributes.

These proportions can be calculated in two ways, with the denominator either including or excluding those respondents who answered "Don't know". Arguments can be presented for both methods. Table III.5.1. excludes the "Don't know" responses while the results tabulated in Table III.5.2. includes them. It does, however, exclude the 67 respondents (10.5% of the sample) who answered "Don't know" for all attributes, both for best and for worst. In order to show how much difference there is in the denominators under the two bases of calculation the numbers of "Don't know" answers received are listed in the first two columns of Table III.5.1.

It is of interest to note the distribution of "Don't know" answers. Originally it was thought that because respondents were being asked for their opinions in these matters, rather than their experiences

(and the interviewers were instructed to emphasize this point) there would be few such answers. As can be seen, there were many, and the number of them appears to vary inversely as the importance of the attribute. Thus, there are relatively few "Don't know" responses for such primary variables as prices, quality and location, and very many for attributes which are known to be of little interest, particularly home delivery and willingness to give credit. Also, the number of such responses to the questions asking for the worst far outnumber in every case those to questions asking for the best.

Although unanticipated, this pattern is consistent with our assumed model. If home delivery is unimportant to you, you will not ask your retailer whether he provides this service, and similarly for credit. And once a retailer is below an acceptable level in respect of an attribute you are not going to go to any great lengths to estimate just how bad he is in this respect.

The ten percent of respondents who replied "Don't know" to all the questions in this section, and the many more who gave this response to almost all of them, are rather more difficult to fit into the assumed model. Various reasons can be hypothesized to account for this phenomenon. These people might evaluate stores on the basis of an entirely different set of attributes from those in the questionnaire, but it is unlikely that the set of attributes chosen could be entirely, or almost entirely, misplaced. They might be purely passive shoppers, not evaluating stores at all. For instance, they might shop only where their husbands tell them, or on the basis of long-ingrained habits, or simply be passive, as the result of a very low level of education or lack of aquaintance with the stores available, as might be the case with

recent migrants to Cali. Yet again, they might have been too timid to express an opinion or afraid of making "wrong" answers and appearing stupid. Each explanation would predict that such people would be found predominantly amongst the poorest and least-educated members of the population, and indeed the proportion of such responses amongst people of S.E.L. VI was, at 20%, significantly higher (at the .01 level of probability) than the overall proportion of 10.5%.

Table III.5.1. presents, for each of the three principal food product groups, the proportion of respondents who bought that product at the store which they rated as best in respect of the indicated attribute, expressed as a proportion of all those respondents who gave a "best" rating. That is, the "Don't know" responses are excluded. Alternate columns present the same calculations for "worsts". Table III.5.2. includes the "Don't know" responses, and also combines the best and worst evaluations to give a sort of "Index of Attribute Importance", calculated as

$$\text{Index of Importance} = \frac{B - W}{562}$$

where B = number buying at retailer rated best,

W = number buying at retailer rated worst,

and 562 - sample size, excluding the "all don't know" respondents.

It should be observed, incidentally, that the number of "Don't know" responses listed in Table III.5.1. also excludes the "all don't know" responses.

These two tables reveal little that was not anticipated in our earlier discussion. That is, locational convenience and its corollary, low transportation cost, are the most important attributes,

Table III.5.1. Relative Importances of Retailer Attributes, by Method of Estimation and Product Group. Cali, February 1969

Attribute	Number of "Don't knows"[1]		Proportion of People Buying at Retailers Rated Best and Worst					
			Grains		Meat		Fruits and Vegetables	
	Best	Worst	Best	Worst	Best	Worst	Best	Worst
Quality	24	211	.28	.13	.28	.21	.32	.14
Pleasant Clientele	83	210	.28	.12	.25	.18	.25	.19
Gives Credit	278	388	.28	.06	.31	.05	.26	.04
Home Delivery	368	436	.27	.12	.14	.15	.13	.16
Hours of Business	143	304	.34	.15	.33	.19	.28	.18
Cleanliness of Store	58	116	.26	.16	.15	.27	.16	.28
Weights and Measures	58	163	.35	.13	.32	.22	.32	.17
Bargains and Discounts	87	164	.29	.17	.25	.21	.25	.17
Low Transportation Cost	57	166	.39	.10	.44	.13	.39	.14
Can Select Goods Oneself	101	229	.25	.19	.17	.30	.17	.26
Service and Courtesy	41	180	.28	.12	.22	.23	.20	.19
Variety and Stock	39	218	.31	.17	.31	.25	.32	.18
Convenient Location	55	204	.41	.10	.47	.14	.40	.16
Prices of Staples	26	128	.32	.18	.29	.32	.29	.22
Prices of Non-Staples	30	242	.30	.16	.18	.27	.18	.20

Source: PIMUR Consumer Survey

[1]These figures are the number of "Don't Knows" recorded less the number (67) of respondents who answered "Don't Know" throughout.

while home delivery is the least important. Credit facilities appear more important than previously indicated, but a glance at the "Don't know" columns of Table III.5.1 resolves the contradiction. Relatively few people even know which retailers are good or bad as far as giving credit is concerned, but a relatively high proportion of these people are concerned about credit.

Table III.5.2. Indices of Attribute Importances. Cali, February 1969

Attribute	Index of Importance[1]		
	Grains	Meat	Fruits and Vegetables
Quality of Goods	.19	.13	.22
Pleasant Clientele	.17	.10	.09
Gives Credit	.13	.15	.12
Home Delivery	.07	.01	.01
Hours of Business	.18	.16	.13
Cleanliness of Store	.10	-.07	-.08
Weights and Measures	.22	.13	.17
Bargains and Discounts	.12	.06	.09
Low Transportation Cost	.28	.31	.26
Can Select Goods Oneself	.09	-.04	-.01
Service and Courtesy	.18	.06	.06
Variety and Stock	.18	.13	.19
Convenient Location	.31	.34	.35
Prices of Staples	.17	.02	.11
Prices of Non-Staples	.15	-.01	.02

Source: PIMUR, Consumer Survey

"Can select goods oneself" and "Cleanliness of store" are identified by the Indices as rather unimportant, but the remaining attributes all bunch together, and cannot be definitely arranged in order of importance. The instrument and the analysis are not sufficiently precise to distinguish between them.

[1] See text for a definition of this Index.

There is an interesting aspect of this analysis concerned with the attribute "Hours of business", the number of hours per day that retailers are open to customers. There are substantial differences between retailer types in this characteristic, with many stalls in the Galeria Central closing at midday while many tiendas stay open until late in the evening and the supermarkets and Caja stores keep regular business hours. Yet, as we noticed earlier, virtually all food purchasing is done during the morning. This means that in spite of the wide differences between retailers in this respect, hours of business will not be perceived by consumers as a variable which enters into the retailer-selection process, since all retailers are open during the morning. This conclusion is verified by the observation that no less than one-sixth of responses to the Consumer Survey indicated that the Galeria Central was best in respect of hours of business, and less than one-quarter gave the tienda this rating.

Now the Indices described above give some idea of the ranking of the various attributes in order of importance, but some degree of absolute measurement is wanted. In particular, we want to know what attributes warrant some effort on the part of the retailer to achieve, and which do not. By knowing this we can avoid potential waste of time and money. We want, in fact, to identify those attributes which are actually sought by customers and those which customers are willing to sacrifice in favor of 'sought' attributes. If we recognize these two classes of attributes we would like to find one or more attributes on or near the border between the two, because by identifying such attribute(s) we can refer to the Indices and sort attributes into

'sought' and 'sacrificed' categories.

It follows at once that hours of business is such a borderline attribute. Customers can neither seek nor sacrifice this attribute, so that, as far as retailer selection is concerned, it is an attribute of neutral importance. Therefore attributes whose Indices are greater than that of hours of business can be considered to be actively sought by consumers, while those with Indices of lesser magnitude are those which customers are willing to forego.

On this basis, it can be seen that in meat purchasing only locational convenience is actively sought, that in purchasing grains honesty in respect of weights and measures also falls into this category, while in buying fresh fruits and vegetables quality and variety and stock are added to the list of sought attributes. Again, there are several attributes which have indices approximately equal to that of hours of business, and can therefore be considered as effectively neutral as far as the retailer-selection process is concerned.

Further insight into the retailer-selection process can be derived from comparing the attribute profiles for the three product groups. First, however, we must note some characteristics of the products themselves. Meats are characterised principally by their perishability, the shelf-life of meats being measured in hours. This is because meat distribution in Cali is a "hot-meat" system, in which refrigeration is not used. Fresh fruits and vegetables are characterised by the great variety of individual products and by their fairly high perishability. Soft fruits, once at the retailer, have a shelf life of one or two days, while plantain and potatoes can be kept for

a week or so. Grains and processed foods can be kept effectively indefinitely, for periods up to several months.

These characteristics explain some of the phenomena observed in food purchasing, as summarized in the indices of Tables III.5.1 and III.5.2. Nearness to the point of consumption is an over-riding consideration in meat purchasing, (nearness in time, that is,) while freshness (i.e., quality) becomes only important, and of importance comparable with that of variety of offering, in the case of fruits and vegetables. We would therefore expect to find product characteristics over-riding retailer characteristics in the case of meats, and this is the case, locational convenience being the most important attribute and the only one above the neutral point. Similarly, we are not surprised to find quality, interpreted as freshness, and variety of offering becoming sought rather than sacrificed attributes in the purchasing of fruits and vegetables.

When it comes to purchasing grains the imperishability of the product relieves the buyer of time constraints. This also helps to relieve her of place constraints, since she can save up the money required for transport. Therefore we can expect retailer characteristics to dominate product characteristics in the purchasing of grains. That is to say, if we compare the attribute profile associated with grains purchasing with those of purchases of meats and fruits and vegetables the differences in the case of grains, if any, will be indicative of preferred retailer characteristics.

When the comparison is made, we find that the attribute profile of the "preferred" retailer is suggestive of the large, modern store.

The various attributes which increased significantly in the case of grains purchases are those in which the stores of this type made their best showings in terms of consumer perceptions. The chain stores, whose marketing mix is aimed at the popular market, received particularly favorable ratings in these respects. Although bargains and discounts might be taken to suggest market stalls and haggling, the responses to the Consumer Survey indicated that consumers interpreted this attribute principally as meaning the low-prices policies of the Caja groceries and the chain stores. Again, the attribute of service and attention was one in which the personal-service store types, the tienda and the market stalls, did badly. Consumers apparently prefer the impersonal politeness of the personnel of large stores to dealing directly with the store owner.

This is an important conclusion. It means that large, modern stores, with their attendant opportunities for obtaining economies of scale, are not inconsistent with the requirements of Cali's consumers. There is another important point that is brought out by the additional analysis. Prices, as we have seen, are surprisingly low on the scale of attribute requirement. This eliminates, at least partially, what was reputed to be the main attraction of the Galeria Central. The main attraction is now seen to be the quality and variety of the goods on offer, and this attraction is sufficient to overcome, at least in the eyes of many Cali housewives, the locational inconvenience of the city center.

The importance of this conclusion is clear. The retail outlets must be located in the residential areas, and they must offer an adequate selection of foodstuffs - they must be full-line food stores.

This implies stores considerably larger than the existing small graneros, and is consistent with the point made earlier about the need for obtaining economies of scale implying large stores.

6. Conclusions

The formal purpose of this chapter was to test the hypothesis that the requirements of the Cali consumer force the Cali food retailer into high-cost modes of operation and/or an uneconomically small scale of operation.

In testing this hypothesis it was found that:

a) except for the provision of locational convenience, the consumer does not require any services other than those directly associated with the retail function of resolving discrepancies of quantity and assortment. In particular, such cost-inducing services as provision of credit, home delivery, and long hours of business are not necessary.

b) there is no evidence that the consumer prefers small stores.

The hypothesis is therefore disproven, except insofar as the provision of locational convenience, which implies the dispersion of food retail outlets amongst the residential areas of the city, is incompatible with the operation of stores large enough to achieve economies of scale compared with the existing tiendas and small graneros. Later, in Chapter V, it will be shown that size and dispersion are not incompatible.

CHAPTER IV

The Urban Food Distribution System

Introduction

In Chapter III there was developed the primary specification for any new food distribution system for the city of Cali. This specification is that such a system must be based upon retailers situated in the residential areas of the city, in order to provide locational convenience for the housewife. Clearly, these retailers must offer a full line of foodstuffs[1], and probably a selection of household supplies, if the advantages of locational convenience are to be fully realised. Our objective is to design a system that will make food available to the consumer at lower cost than obtains at present, and this implies retail units with large sales volumes, in order to reduce the impact of fixed costs upon margins. This requirement is consistent with the evidence, noted in Chapter III, that the housewife is not averse to shopping in large, modern stores.

The purpose of this chapter is to look for information on two topics. The first is to find whether any of the existing types of food retailers in Cali can reasonably be expected to develop spontaneously into the type of retailer required by the projected system. The second topic is that of determining why the existing retailers and other

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[1] By this we mean that the retailer should offer some selection in all of the main groups of foodstuffs (meats, grains, fruits and vegetables, and processed staples).

institutions of the food distribution system in Cali assumed their present formats and modes of operation.

These two topics are very closely related. In fact, they are two facets of the same topic. Specifically, when and if we find a retailer type which appears to be suitable for developing into the type we require we will immediately be faced with the question of why this development has not already taken place. We will expect to find that there exist barriers to development. In fact, if we do not find such barriers this indicates that our understanding of the existing food distribution system and its environment is incomplete. Even if we do not find any retailer types capable of development we will still need to have a good understanding of the circumstances under which the present food distribution system operates. Otherwise we will run the risk of designing for the new system a types of retailers and wholesalers which are incompatible with other institutions in the food marketing channel.

An important concept which will be used in the analysis is that of capacity for change, and its negative, that of an evolutionary dead end. An institution will be considered capable of change, or to have evolutionary capacity, if it can make small changes in its format or operating methods which result in its being better adapted to its immediate environment. The immediate environment comprises the institution's customers, suppliers of goods, suppliers of services (e.g., transportation), and government. The components of better adaptation are:

a) increasing rewards to the owner or operator,

b) delivering better service to customers,

and c) receiving better service from suppliers.

"Small" changes are those which preserve the nature of the institution, those less in magnitude than a "quantum jump". Thus, if a tienda operator decided to add, say, potatoes to his product line this would be a small change, while going to supermarket format (i.e., self-service and departmentalization) would be a large change. Similarly, a market stall could not evolve directly into a neighborhood store, since this would entirely change the nature of the institution.

These considerations apply only to the institution, not to the operator. There is no reason why a stall operator should not leave his stall and buy a tienda, for example. But he could not, by a series of small changes, convert his stall into a tienda.

Note particularly that change is considered only with respect to the immediate environment. While the operator might optimize the position of his institution within the marketing channel he cannot change the structure of the channel as a whole. It is quite possible to find an inefficient (sub-optimal) channel made up of efficient (optimal) institutions.

We are dealing here with a system composed of many interlinked components. The complexity of the analysis of such systems grows very rapidly as the number of components involved increases. To simplify the analysis it is important to identify those components which have little or no effect upon the behavior of the system as a whole. We can classify such components into two categories. There are the minor components, consisting of a few small units and handling only a small proportion of the food consumed in the city, and the "non-systemic" components. These latter are institutions which are only loosely interlinked with the rest of the system, the "main stream" system, such

that changes in the "non-systemic" components need not induce compensatory changes in the "main stream" components with which they are linked.

This is a suitable point to discuss one of the very few generalizations that can be made about the operators of the food distribution system in Cali. Almost without exception they spend a great deal of time and effort on buying and little on selling. They are active buyers and passive sellers. This applies at all levels of distribution. Suppliers to the system sit back and wait for orders from wholesalers, wholesalers sit back and wait for retailers to come to them, and retailers behave in the same way towards consumers. There are two main exceptions. One is that group of retailers which we have denoted as chain stores. These retailers are vigorous merchandisers. The other exception is provided by processors of branded (i.e., non-staple) processed foods, who tend to maintain large and active sales forces.

We do not know what are the background causes of this behavior. It could be connected with the social values inherited from the warrior caste that colonised the region many years ago, it could be the result of a defensive preoccupation with traditional skills, or it could stem from an "economics of scarcity" philosophy, a belief that demand always presses upon supply. Elucidation of the source would be an interesting and worthwhile research problem. For the moment it is enough to note that the phenomenon exists. We believe that it is an important point to our thesis, and we will return to it in Chapter V.

Retailers

The many types of retailers operating in Cali at the time of PIMUR's field work are described here under the following headings (in order of discussion):

1. Minor retailer types, those having only negligible importance in terms of numbers and of total proportion of food sales.
2. Non-Profit Oriented types, those operated by IDEMA, the Cajas de Compensacion, the Puestos de Salud, and the consumer cooperatives.
3. Non-Systemic retailers, as described above. These are milk dealers and distributors of poultry and eggs.
4. Self-Service stores, supermarkets and chain stores.
5. Public Markets, with their associated street vendors.
6. Centrally-located traditional stores, the wholesaler-retailers and large graneros.
7. Non-Centrally located traditional stores, the small graneros and tiendas.
8. Meat distributors, at all levels of distribution.

Minor Retailer Types

a) Markets in other towns. Analysis of the Consumer Survey data showed that these were of negligible importance, and the requirement of consumers for locational convenience indicates that they will not become more important in the future. The towns involved are Yumbo, some 10 kms. north of Cali, and Jamundi, about 15 kms. to the south. A few people, mostly of socio-economic levels II and III, travel to these towns to buy meat. This practice is probably confined to people who have family connections in these towns.

b) Ambulant Vendors sell house-to-house from a barrow, dealing mostly in fruits and eggs. Although they are patronized by six percent of households their method of operation makes them difficult to include in a survey, so that little is known about them. They are not often seen in the streets, and are of very small scale. They account for less than one percent of the food sales in the city[1].

c) Commissaries: (Comisariatos) are, strictly speaking, stores operated by and for the use of the armed forces, and are thus outside our terms of reference. There is only one in Cali. However, the name is also commonly used to denote the stores operated by the Public Health Service, the Puestos de Salud, which are described below.

d) Farmers' Markets (Mercados Campesinos). This name was given to the practice of setting aside an area in Siloe Market each Saturday for the exclusive use of small farmers (campesinos). The idea was that this would eliminate the gouging middlemen and give a fairer price to both producer and consumer. This practice was started towards the end of 1968, when PIMUR's research program was being formulated, and so was included in the program. Two students in the MBA program at Universidad del Valle, under the guidance of Dr. Hugo Duque, also carried out some research into its operation. It did not show much sign of developing into an important outlet for produce. Only two percent of the housewives interviewed in the Consumer Survey had visited it.

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[1] PIMUR, Consumer Survey

Non-Profit Oriented Retailers

a) Public Health Service Stores (Puestos de Salud). There were ten of these registered with the Secretariat of Public Health in Cali in early 1969. They are operated principally by charitable organizations in conjunction with small neighborhood clinics, and are intended to serve the destitute and the needy. These stores sell a limited range of staples at cost. Although they are presumably of great importance to those who use them (8% of families in S.E.L. VI and 4% of those in S.E.L. V[1]) they are not of any significance to the food distribution system of Cali, and are clearly not candidates for a place in our proposed system. In fact, their operators and everybody else would like to see the need for their services eliminated.

b) Stores operated by IDEMA. IDEMA (Instituto De Mercadeo Agricola, Agricultural Marketing Institute) is a department of the Ministry of Agriculture charged with the promotion of orderly marketing of agricultural products. In order to maintain a downward pressure on prices IDEMA runs stores in various cities in which there are sold grains and some other non-perishables, and has a policy of announcing in the local newspapers the prices at which these products are currently being sold. However, the advertising is only done sporadically, and on a very unobtrusive scale. Only 16% of the housewives interviewed by PIMUR's Consumer Survey knew of this service.

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[1]PIMUR, Consumer Survey

At the time of the field work in Cali IDEMA operated three stores in the city. The main store was located on the Carrera 15, about twelve blocks south of the Plaza Caycedo, the city center. Another was located in the Centro Comercio del Norte, in an upper-class neighborhood, while the third was located in the lower-class barrio of Siloe. Early in 1969 IDEMA began a program of sending mobile stores into the poorer areas of the city, the S.E.L. VI barrios. Sixteen locations are served by these trailer-stores, each location being visited for a few hours once each week. The timing of the introduction of this service was such that PIMUR could make no estimate of its effectiveness, but the cost of the trailers was very high, and the weekly visiting schedule does not correspond well to the practice of the typical S.E.L. VI housewife of buying food on a day-by-day basis. A cost-effectiveness analysis of the trailer-stores would probably show them to be rather poor performers.

Only 2.5% of the families interviewed by PIMUR's Consumer Survey had patronized an IDEMA store in the two weeks preceding the interview. Yet 84% of them knew about IDEMA. The reasons given for not patronizing were, in order of frequency, no IDEMA store near the house, long waits for service, poor quality of the goods sold, and lack of variety of goods sold.

IDEMA's food distribution activities are carried out by a section of a department of a Ministry, and this makes its potential performance as a food distributor completely unpredictable. Its performance will be a function of the ability, beliefs, and prestige of the director of the section (who is liable to be transferred to another section at any time) over-ridden by the corresponding characteristics

of the department head (also liable to transfer) further over-ridden by those of the current Minister, who is likely at any time to find himself given another portfolio. All of these posts are held by political appointees who are changed frequently.

In addition to this, there is the element of unpredictability associated with changes in the relative prestige of government departments. In 1969 the Ministry of Agriculture was very prestigious, and well supplied with funds. This was because current theories of economic development attributed great importance to agriculture. This emphasis could change.

Another possibility is that the food retailing program could develop a momentum of its own, and become a more or less autonomous bureaucracy. While this would make its behavior much more predictable it is to be feared that there could be a total loss of dynamicism, in the manner of bureaucracies everywhere.

An important point to be made in respect to IDEMA's food retailing activities is that the rewards system, under either alternative, will be incompatible with the development of an efficient marketing system for the distribution of economic goods, which requires a consumer orientation. Political appointees seek either ideological ends or highly-visible short-term results (demagogic ends), while the ends of bureaucrats are served by strict adherence to rules and regulations.

A possible justification for IDEMA's continuing a food retailing operation might be that of maintaining a countervailing force against tendencies to monopoly practices on the part of private food retail organizations. However, it would possibly be more

efficient to replace this retail section with a group of officials charged with policing the market behavior of firms in the private sector and using the threat of legal action to enforce good behavior.

c) Grocery stores of the Cajas de Compensacion Familiar (Family Allowance Funds). The Cajas appear to be an uniquely Colombian institution. According to the Colombian Labor Laws each firm above a certain size (with a capital of Col/ $100,000 or more) must pay a sum equivalent to 4% of its payroll into a Caja[1]. The Caja in turn pays a family subsidy, according to the number of dependents, to each employee of the member firms who earns Col/ $1500 per month or less. Any funds surplus to the requirements of the family subsidy must be used in ways which benefit the employees of the member firms. Two[2] of the eight Cajas operating in Cali have used some of the surplus funds to start food stores.

The stores sell at low prices to employees of affiliated firms. One store had been open for about two years when the PIMUR field work was done, the other only a few months. Neither store is located in the city center, although the newer one is accessible from a point where most of the bus routes of the city pass. This "nondescript" location policy probably lies behind the patronization pattern shown in Table IV-1. As can be seen intensity of use is

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[1]The sum involved is actually 7%, but 3% is used to sponsor the National Apprenticeship System.

[2]There are actually three such stores, but one is established in the form of a cooperative.

Table IV-1. Patronization of Caja Grocery Stores, by Socio-Economic Level, Cali, February 1969.

Socio-Economic Level	I	II	III	IV	V	VI	Overall
Percent of Families Using Stores in Each S.E.L.	28	20	15	13	4	2	6.7

Source: PIMUR, Consumer Survey

greatest at high S.E.L. and falls throughout the social scale. This corresponds with the experience of the manager of the newer store, that operated by ACOPI[1]. In the same building ACOPI operates a grocery store and a low-price pharmacy, and the manager had noticed that while the customers of the pharmacy were predominantly blue-collar workers the customers of the grocery were almost entirely drawn from the senior ranks, managers and technologists. A probable explanation for this is that drug purchases are unplanned, of an emergency nature, usually of high unit price, and, most important, necessitate a trip into the center, since there are no pharmacies out in the residential areas. Food purchases are routinized, and even if the housewife finds the service offered by the neighborhood store unsatisfactory a single bus trip, with no changes, will take her to the Galeria Central[2].

[1] ACOPI is the acronym of the Colombian Association of Small Businesses.

[2] The author is indebted to David Lloyd-Clare, then of PIMUR, for this suggestion.

A peculiarity of the Cajas, at least to those accustomed to the industrial scene in North America, is that while their objective is to provide benefits to the workers they are operated by associations which represent manufacturers and businessmen. This becomes less incongruous when viewed in the context of the paternalistic tradition of businesses in Colombia, and it is certainly true that they are in general carrying out the intentions of the Labor Laws in providing benefits to the lower-paid workers. However, the fact that the Cajas are operated by manufacturer's associations gives rise to a basic defect in their potential as food distributors. The associations are in competition with each other for affiliates, and they compete by providing ever more impressive services to the employees of their affiliates.

While this is basically a desirable thing it has two drawbacks. The first is that in the struggle to provide extra services the managers of the Cajas may well find that they have undertaken projects which overtax their resources or their managerial capacities. Failure of a Caja through over-commitment could have serious social repercussions.

Another basic difficulty associated with the Cajas lies in their market orientation. The people who make the decisions concerning affiliation are the manager of industrial enterprises, not the workers; so that the Cajas will offer services which will impress managers. Perhaps this explains the success that the Caja grocery stores in Cali have had in attracting customers from amongst the salaried employees of their affiliated firms.

All things considered, the Caja grocery stores must be rejected as candidates for a significant place in a food distribution system for Cali. The capital resources presently tied up in this activity would probably be better employed in a pension fund, which would benefit both the workers and provide development funds for the national economy. The purpose of the Cajas exposes them to the dangers of economically-unsound philanthropic ventures, while their connections with associations representing the owners and managers renders them politically vulnerable. And as we have seen, they may have a rather dysfunctional idea of what the market is that they should serve.

d) Consumer Cooperatives. In February 1969 there were seventeen consumer cooperatives selling foodstuffs in Cali. Like all cooperatives in Colombia they are officially under the supervision and control of the Superintendency of Cooperatives in Bogota, and enjoy the encouragement and support of the central government. This support takes the form of tax exemptions, preferential prices for transportation, preferential access to IDEMA's stocks of foodstuffs, and various other items. Their power to garnishee the salaries or wages of members who owe them money makes them,of all the retailer types in Cali, the one that does the greatest proportion of sales on credit. Each co-operative is associated with one firm or institution, and draws its members only from that firm. Presumably this results from a too-literal reading of the history of the cooperative movement, but whatever the origin of the practice, it does an immense amount of

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For a fuller description of the privileges accorded the cooperatives see the PIMUR Final Report, pp. 320-321.

damage to the cooperative stores. Since the homes of the members are scattered all over the city the stores are inaccessible for their target customers, and this is virtually a guarantee of failure. A few cooperatives have located close to the factories of the associated employers, so that at least the man of the household can do some buying, but this is only a very partial solution of the locational problem.

PIMUR's Consumer Survey found that 7.3% of the families interviewed had made a purchase at a cooperative during the two weeks preceding the interview, that 6.2% regularly made purchases at a cooperative, and that 12.4% were members of a cooperative. Clearly, loyalty is not a strong sentiment amongst the members, at least not strong enough to counteract the sundry disadvantages of patronizing these stores. In addition to the locational inconvenience there are the drawbacks of a narrow range of goods offered, consisting of non-perishable staples and canned goods, poor stock control resulting in stock-outs, and non-competitive prices without compensatory dividend payments.

In addition to the poor custom resulting from the above drawbacks the cooperatives must also cope with the internal handicaps of poorly-trained personnel, lack of centralized buying, and possibly a misplaced belief that adherence to the principles of cooperativism is an adequate substitute for acquaintance with the principles of merchandising.

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[1] See PIMUR Technical Report #7, p. 67, for a summary of the results of interviews with the managers of several cooperatives in Cali.

We would not write off completely the possibility that cooperatives could play a significant part in food distribution in Cali in the future. But this could only happen if,

a) the cooperatives changed their format from a factory-based to a barrio-based membership criterion, and

b) they were to align under a national purchasing organization such as, for example, the Cooperative Wholesale Societies found in Great Britain, and

c) their formation were based upon a realization that food distribution in Cali is an affair of thin margins and keen competition, and not upon the belief that the spread between farm prices and consumer prices is made up of nothing but profit for the middle-man.

However, even if the cooperatives were to reform according to the above recommendations, we agree with the recommendations of the PIMUR Final Report[1] that their special privileges be revoked without bothering with a review. If cooperatives cannot compete with private enterprises without being subsidized it is difficult to see, on economic grounds, why they should exist. It may be possible to make a case for measures facilitating the establishment (but certainly not the continued operation) of farm producer cooperatives, on the grounds that the food processors cannot negotiate efficiently with large numbers of small producers, but this argument does not extend to consumer cooperatives. Cali in the twentieth century is

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[1]PIMUR Final Report, pp. 320-321 and p. 323.

not remotely like nineteenth-century Rochdale.

In summary, we feel that we can dismiss the non-profit oriented sector of Cali's food distribution system from further consideration. IDEMA should certainly retire from food retailing, and content itself with ensuring that background supplies of foodstuffs are adequate for anticipated demand (at the storage, or pre-wholesaler, level), particularly on occasions when the system is likely to be severely strained, such as the Pope's visit to Bogota or the proposed Pan-American Games in Cali. Further excursions of the Cajas into food retailing should be discouraged, and the cooperatives should be left to fend for themselves, without special privileges. We would, however, recommend that some form of technical assistance be made available to the organizations which operate the Public Health posts. Many of the cases of illness which come to them are undoubtedly caused by malnutrition, and any advice which can improve their techniques of buying and distributing foodstuffs will be advice well worth giving.

Non-Systemic Retailers

The classification "non-systemic" is not one in common use in the marketing literature, but it, or its equivalent, is likely to appear frequently in the future as interest in macro-marketing grows. It is intended to signify the property of not being linked, or only very lightly linked, with the system under analysis. The importance of the concept lies in the fact that non-systemic institutions can be analysed independently of the main system, and that changes in such institutions will have only "simple" effects upon the main system, effects which can be taken into account without having to follow their repercussions

through all the components of the main system. Being able to identify non-systemic institutions can greatly ease the task of the analyst.

Two sectors of food distribution in Cali can be described as non-systemic, the distribution of milk and the distribution of eggs and poultry. These two include the majority of the so-called specialty stores, with the main exceptions being the few specialty meat stores, which will be discussed later. While neither sector is completely independent of the main system, the connections are simple, in the sense described above.

a) Milk Distributors deal in two products, pasteurized milk and raw (unpasteurized) milk, and the two are handled by distinct channels. Raw milk is distributed by truckers (camioneros) who buy from dairy farmers and sell mostly door-to-door. In 1969 there were 190 such truckers who had been licensed by the city to deal in raw milk. Pasteurized milk passes through two pasteurizing plants in the city, and is then delivered to food stores and to homes. Table IV-2. gives details on the retail distribution of both types of milk. We can note here, anticipating later discussion, that sales of raw milk

Table IV-2. Retail Distribution of Raw and Pasteurized Milk, Cali, 1969

Type of Outlet	Percent of Sales	
	Raw Milk	Pasteurized Milk
Food Retailers	13	57
Home Delivery	62	31
Specialized Milk Stores (Expendios)	15	--
Institutions	10	12
TOTAL	100	100

Source: PIMUR Milk Study

accounts for 2% of food sales of the neighborhood stores (tiendas and small graneros) and pasteurized milk for 7.4% of these sales. Although pasteurized milk is an important item in the sales of the neighborhood stores, the interlinkage between the main food distribution system and milk distribution is still weak, this means that changes in one system will have little effect upon the other, and could be neglected unless extreme changes are contemplated in either system. The only point of contact between the two systems is the delivery of milk to the food stores, and the details of how this is done are not particularly critical. We can therefore assume that any recommendations that might be made concerning the main system will have little or no effect upon this matter.

The specialized milk stores (expendios de leche), mentioned in Table IV-2 as outlets of raw milk, are very small operations, using one room of a family dwelling and are located only in the poorer barrios. They would appear to be a means whereby the truckers can obtain distribution in areas where purchasers are too few and purchases too irregular to warrant regular delivery service. In 1969 there were 121 of these establishments holding licenses to sell raw milk, and there may well have been many more operating without licenses. Little is known about the expendios, their margin structure, whether they are independent dealers or tied to particular suppliers, nor even why the truckers deal with them instead of with tiendas.

b) Poultry and Egg Distributors. The only important point of contact between poulty and egg distributors and the main food distribution system is in egg distribution, where tiendas and small graneros account

for 57% of retail sales. Specialized retailers and wholesaler-retailers account for 31% of retail egg sales and 69% of broiler retail sales in Cali[1]. The wholesalers in the channels for poultry and eggs are all specialists, and many are owned by producers or producers' associations.

The main point about this sector is that broiler and egg production on a commercial scale is a relatively new industry in Colombia, and the move towards forward integration in marketing these products is newer still[2]. Therefore we can anticipate that the industry will be flexible enough (not tradition-bound) to adapt to changes in the main system, and we can drop the poultry and egg marketing institutions from further consideration.

Self-Service Stores

This category comprises the supermarkets and the chain stores. The Caja groceries and the several cooperatives that use a self-service format have been discussed earlier. The reason for distinguishing this group of stores it that they are profit-oriented stores which are large enough to pay substantial salaries for trained full-time managers and which are not cast in the traditional mold of Colombian food retailing. If there were any significant innovations developing in food retailing in Cali, it would be most likely to be found amongst this set of retailers.

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[1] PIMUR Final Report, Tables 3.12 and 3.13

[2] ib., p. 141, p.144

institutions of the food distribution system in Cali assumed their present formats and modes of operation.

These two topics are very closely related. In fact, they are two facets of the same topic. Specifically, when and if we find a retailer type which appears to be suitable for developing into the type we require we will immediately be faced with the question of why this development has not already taken place. We will expect to find that there exist barriers to development. In fact, if we do not find such barriers this indicates that our understanding of the existing food distribution system and its environment is incomplete. Even if we do not find any retailer types capable of development we will still need to have a good understanding of the circumstances under which the present food distribution system operates. Otherwise we will run the risk of designing for the new system a types of retailers and wholesalers which are incompatible with other institutions in the food marketing channel.

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We do not know what are the background causes of this behavior. It could be connected with the social values inherited from the warrior caste that colonised the region many years ago, it could be the result of a defensive preoccupation with traditional skills, or it could stem from an "economics of scarcity" philosophy, a belief that demand always presses upon supply. Elucidation of the source would be an interesting and worthwhile research problem. For the moment it is enough to note that the phenomenon exists. We believe that it is an important point to our thesis, and we will return to it in Chapter V.

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8. Meat distributors, at all levels of distribution.

Minor Retailer Types

a) Markets in other towns. Analysis of the Consumer Survey data showed that these were of negligible importance, and the requirement of consumers for locational convenience indicates that they will not become more important in the future. The towns involved are Yumbo, some 10 kms. north of Cali, and Jamundi, about 15 kms. to the south. A few people, mostly of socio-economic levels II and III, travel to these towns to buy meat. This practice is probably confined to people who have family connections in these towns.

b) Ambulant Vendors sell house-to-house from a barrow, dealing mostly in fruits and eggs. Although they are patronized by six percent of households their method of operation makes them difficult to include in a survey, so that little is known about them. They are not often seen in the streets, and are of very small scale. They account for less than one percent of the food sales in the city[1].

c) Commissaries: (Comisariatos) are, strictly speaking, stores operated by and for the use of the armed forces, and are thus outside our terms of reference. There is only one in Cali. However, the name is also commonly used to denote the stores operated by the Public Health Service, the Puestos de Salud, which are described below.

d) Farmers' Markets (Mercados Campesinos). This name was given to the practice of setting aside an area in Siloe Market each Saturday for the exclusive use of small farmers (campesinos). The idea was that this would eliminate the gouging middlemen and give a fairer price to both producer and consumer. This practice was started towards the end of 1968, when PIMUR's research program was being formulated, and so was included in the program. Two students in the MBA program at Universidad del Valle, under the guidance of Dr. Hugo Duque, also carried out some research into its operation. It did not show much sign of developing into an important outlet for produce. Only two percent of the housewives interviewed in the Consumer Survey had visited it.

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[1] PIMUR, Consumer Survey

Non-Profit Oriented Retailers

a) Public Health Service Stores (Puestos de Salud). There were ten of these registered with the Secretariat of Public Health in Cali in early 1969. They are operated principally by charitable organizations in conjunction with small neighborhood clinics, and are intended to serve the destitute and the needy. These stores sell a limited range of staples at cost. Although they are presumably of great importance to those who use them (8% of families in S.E.L. VI and 4% of those in S.E.L. V[1]) they are not of any significance to the food distribution system of Cali, and are clearly not candidates for a place in our proposed system. In fact, their operators and everybody else would like to see the need for their services eliminated.

b) Stores operated by IDEMA. IDEMA (Instituto De Mercadeo Agricola, Agricultural Marketing Institute) is a department of the Ministry of Agriculture charged with the promotion of orderly marketing of agricultural products. In order to maintain a downward pressure on prices IDEMA runs stores in various cities in which there are sold grains and some other non-perishables, and has a policy of announcing in the local newspapers the prices at which these products are currently being sold. However, the advertising is only done sporadically, and on a very unobtrusive scale. Only 16% of the housewives interviewed by PIMUR's Consumer Survey knew of this service.

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[1]PIMUR, Consumer Survey

At the time of the field work in Cali IDEMA operated three stores in the city. The main store was located on the Carrera 15, about twelve blocks south of the Plaza Caycedo, the city center. Another was located in the Centro Comercio del Norte, in an upper-class neighborhood, while the third was located in the lower-class barrio of Siloe. Early in 1969 IDEMA began a program of sending mobile stores into the poorer areas of the city, the S.E.L. VI barrios. Sixteen locations are served by these trailer-stores, each location being visited for a few hours once each week. The timing of the introduction of this service was such that PIMUR could make no estimate of its effectiveness, but the cost of the trailers was very high, and the weekly visiting schedule does not correspond well to the practice of the typical S.E.L. VI housewife of buying food on a day-by-day basis. A cost-effectiveness analysis of the trailer-stores would probably show them to be rather poor performers.

Only 2.5% of the families interviewed by PIMUR's Consumer Survey had patronized an IDEMA store in the two weeks preceding the interview. Yet 84% of them knew about IDEMA. The reasons given for not patronizing were, in order of frequency, no IDEMA store near the house, long waits for service, poor quality of the goods sold, and lack of variety of goods sold.

IDEMA's food distribution activities are carried out by a section of a department of a Ministry, and this makes its potential performance as a food distributor completely unpredictable. Its performance will be a function of the ability, beliefs, and prestige of the director of the section (who is liable to be transferred to another section at any time) over-ridden by the corresponding characteristics

of the department head (also liable to transfer) further over-ridden by those of the current Minister, who is likely at any time to find himself given another portfolio. All of these posts are held by political appointees who are changed frequently.

In addition to this, there is the element of unpredictability associated with changes in the relative prestige of government departments. In 1969 the Ministry of Agriculture was very prestigious, and well supplied with funds. This was because current theories of economic development attributed great importance to agriculture. This emphasis could change.

Another possibility is that the food retailing program could develop a momentum of its own, and become a more or less autonomous bureaucracy. While this would make its behavior much more predictable it is to be feared that there could be a total loss of dynamicism, in the manner of bureaucracies everywhere.

An important point to be made in respect to IDEMA's food retailing activities is that the rewards system, under either alternative, will be incompatible with the development of an efficient marketing system for the distribution of economic goods, which requires a consumer orientation. Political appointees seek either ideological ends or highly-visible short-term results (demagogic ends), while the ends of bureaucrats are served by strict adherence to rules and regulations.

A possible justification for IDEMA's continuing a food retailing operation might be that of maintaining a countervailing force against tendencies to monopoly practices on the part of private food retail organizations. However, it would possibly be more

efficient to replace this retail section with a group of officials charged with policing the market behavior of firms in the private sector and using the threat of legal action to enforce good behavior.

c) Grocery stores of the Cajas de Compensacion Familiar (Family Allowance Funds). The Cajas appear to be an uniquely Colombian institution. According to the Colombian Labor Laws each firm above a certain size (with a capital of Col./ $100,000 or more) must pay a sum equivalent to 4% of its payroll into a Caja[1]. The Caja in turn pays a family subsidy, according to the number of dependents, to each employee of the member firms who earns Col./ $1500 per month or less. Any funds surplus to the requirements of the family subsidy must be used in ways which benefit the employees of the member firms. Two[2] of the eight Cajas operating in Cali have used some of the surplus funds to start food stores.

The stores sell at low prices to employees of affiliated firms. One store had been open for about two years when the PIMUR field work was done, the other only a few months. Neither store is located in the city center, although the newer one is accessible from a point where most of the bus routes of the city pass. This "nondescript" location policy probably lies behind the patronization pattern shown in Table IV-1. As can be seen intensity of use is

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[1]The sum involved is actually 7%, but 3% is used to sponsor the National Apprenticeship System.

[2]There are actually three such stores, but one is established in the form of a cooperative.

Table IV-1. Patronization of Caja Grocery Stores, by Socio-Economic Level, Cali, February 1969.

Socio-Economic Level	I	II	III	IV	V	VI	Overall
Percent of Families Using Stores in Each S.E.L.	28	20	15	13	4	2	6.7

Source: PIMUR, Consumer Survey

greatest at high S.E.L. and falls throughout the social scale. This corresponds with the experience of the manager of the newer store, that operated by ACOPI[1]. In the same building ACOPI operates a grocery store and a low-price pharmacy, and the manager had noticed that while the customers of the pharmacy were predominantly blue-collar workers the customers of the grocery were almost entirely drawn from the senior ranks, managers and technologists. A probable explanation for this is that drug purchases are unplanned, of an emergency nature, usually of high unit price, and, most important, necessitate a trip into the center, since there are no pharmacies out in the residential areas. Food purchases are routinized, and even if the housewife finds the service offered by the neighborhood store unsatisfactory a single bus trip, with no changes, will take her to the Galeria Central[2].

[1]ACOPI is the acronym of the Colombian Association of Small Businesses.

[2]The author is indebted to David Lloyd-Clare, then of PIMUR, for this suggestion.

A peculiarity of the Cajas, at least to those accustomed to the industrial scene in North America, is that while their objective is to provide benefits to the workers they are operated by associations which represent manufacturers and businessmen. This becomes less incongruous when viewed in the context of the paternalistic tradition of businesses in Colombia, and it is certainly true that they are in general carrying out the intentions of the Labor Laws in providing benefits to the lower-paid workers. However, the fact that the Cajas are operated by manufacturer's associations gives rise to a basic defect in their potential as food distributors. The associations are in competition with each other for affiliates, and they compete by providing ever more impressive services to the employees of their affiliates.

While this is basically a desirable thing it has two drawbacks. The first is that in the struggle to provide extra services the managers of the Cajas may well find that they have undertaken projects which overtax their resources or their managerial capacities. Failure of a Caja through over-commitment could have serious social repercussions.

Another basic difficulty associated with the Cajas lies in their market orientation. The people who make the decisions concerning affiliation are the manager of industrial enterprises, not the workers; so that the Cajas will offer services which will impress managers. Perhaps this explains the success that the Caja grocery stores in Cali have had in attracting customers from amongst the salaried employees of their affiliated firms.

All things considered, the Caja grocery stores must be rejected as candidates for a significant place in a food distribution system for Cali. The capital resources presently tied up in this activity would probably be better employed in a pension fund, which would benefit both the workers and provide development funds for the national economy. The purpose of the Cajas exposes them to the dangers of economically-unsound philanthropic ventures, while their connections with associations representing the owners and managers renders them politically vulnerable. And as we have seen, they may have a rather dysfunctional idea of what the market is that they should serve.

d) Consumer Cooperatives. In February 1969 there were seventeen consumer cooperatives selling foodstuffs in Cali. Like all cooperatives in Colombia they are officially under the supervision and control of the Superintendency of Cooperatives in Bogota, and enjoy the encouragement and support of the central government. This support takes the form of tax exemptions, preferential prices for transportation, preferential access to IDEMA's stocks of foodstuffs, and various other items. Their power to garnishee the salaries or wages of members who owe them money makes them,of all the retailer types in Cali, the one that does the greatest proportion of sales on credit. Each co-operative is associated with one firm or institution, and draws its members only from that firm. Presumably this results from a too-literal reading of the history of the cooperative movement, but whatever the origin of the practice, it does an immense amount of

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For a fuller description of the privileges accorded the cooperatives see the PIMUR Final Report, pp. 320-321.

damage to the cooperative stores. Since the homes of the members are scattered all over the city the stores are inaccessible for their target customers, and this is virtually a guarantee of failure. A few cooperatives have located close to the factories of the associated employers, so that at least the man of the household can do some buying, but this is only a very partial solution of the locational problem.

PIMUR's Consumer Survey found that 7.3% of the families interviewed had made a purchase at a cooperative during the two weeks preceding the interview, that 6.2% regularly made purchases at a cooperative, and that 12.4% were members of a cooperative. Clearly, loyalty is not a strong sentiment amongst the members, at least not strong enough to counteract the sundry disadvantages of patronizing these stores. In addition to the locational inconvenience there are the drawbacks of a narrow range of goods offered, consisting of non-perishable staples and canned goods, poor stock control resulting in stock-outs, and non-competitive prices without compensatory dividend payments.

In addition to the poor custom resulting from the above drawbacks the cooperatives must also cope with the internal handicaps of poorly-trained personnel, lack of centralized buying, and possibly a misplaced belief that adherence to the principles of cooperativism is an adequate substitute for acquaintance with the principles of merchandising.

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[1] See PIMUR Technical Report #7, p. 67, for a summary of the results of interviews with the managers of several cooperatives in Cali.

We would not write off completely the possibility that cooperatives could play a significant part in food distribution in Cali in the future. But this could only happen if,

a) the cooperatives changed their format from a factory-based to a barrio-based membership criterion, and

b) they were to align under a national purchasing organization such as, for example, the Cooperative Wholesale Societies found in Great Britain, and

c) their formation were based upon a realization that food distribution in Cali is an affair of thin margins and keen competition, and not upon the belief that the spread between farm prices and consumer prices is made up of nothing but profit for the middle-man.

However, even if the cooperatives were to reform according to the above recommendations, we agree with the recommendations of the PIMUR Final Report[1] that their special privileges be revoked without bothering with a review. If cooperatives cannot compete with private enterprises without being subsidized it is difficult to see, on economic grounds, why they should exist. It may be possible to make a case for measures facilitating the establishment (but certainly not the continued operation) of farm producer cooperatives, on the grounds that the food processors cannot negotiate efficiently with large numbers of small producers, but this argument does not extend to consumer cooperatives. Cali in the twentieth century is

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[1]PIMUR Final Report, pp. 320-321 and p. 323.

not remotely like nineteenth-century Rochdale.

In summary, we feel that we can dismiss the non-profit oriented sector of Cali's food distribution system from further consideration. IDEMA should certainly retire from food retailing, and content itself with ensuring that background supplies of foodstuffs are adequate for anticipated demand (at the storage, or pre-wholesaler, level), particularly on occasions when the system is likely to be severely strained, such as the Pope's visit to Bogota or the proposed Pan-American Games in Cali. Further excursions of the Cajas into food retailing should be discouraged, and the cooperatives should be left to fend for themselves, without special privileges. We would, however, recommend that some form of technical assistance be made available to the organizations which operate the Public Health posts. Many of the cases of illness which come to them are undoubtedly caused by malnutrition, and any advice which can improve their techniques of buying and distributing foodstuffs will be advice well worth giving.

Non-Systemic Retailers

The classification "non-systemic" is not one in common use in the marketing literature, but it, or its equivalent, is likely to appear frequently in the future as interest in macro-marketing grows. It is intended to signify the property of not being linked, or only very lightly linked, with the system under analysis. The importance of the concept lies in the fact that non-systemic institutions can be analysed independently of the main system, and that changes in such institutions will have only "simple" effects upon the main system, effects which can be taken into account without having to follow their repercussions

through all the components of the main system. Being able to identify non-systemic institutions can greatly ease the task of the analyst.

Two sectors of food distribution in Cali can be described as non-systemic, the distribution of milk and the distribution of eggs and poultry. These two include the majority of the so-called specialty stores, with the main exceptions being the few specialty meat stores, which will be discussed later. While neither sector is completely independent of the main system, the connections are simple, in the sense described above.

a) Milk Distributors deal in two products, pasteurized milk and raw (unpasteurized) milk, and the two are handled by distinct channels. Raw milk is distributed by truckers (camioneros) who buy from dairy farmers and sell mostly door-to-door. In 1969 there were 190 such truckers who had been licensed by the city to deal in raw milk. Pasteurized milk passes through two pasteurizing plants in the city, and is then delivered to food stores and to homes. Table IV-2. gives details on the retail distribution of both types of milk. We can note here, anticipating later discussion, that sales of raw milk

Table IV-2. Retail Distribution of Raw and Pasteurized Milk, Cali, 1969

Type of Outlet	Percent of Sales	
	Raw Milk	Pasteurized Milk
Food Retailers	13	57
Home Delivery	62	31
Specialized Milk Stores (Expendios)	15	--
Institutions	10	12
TOTAL	100	100

Source: PIMUR Milk Study

accounts for 2% of food sales of the neighborhood stores (tiendas and small graneros) and pasteurized milk for 7.4% of these sales. Although pasteurized milk is an important item in the sales of the neighborhood stores, the interlinkage between the main food distribution system and milk distribution is still weak, this means that changes in one system will have little effect upon the other, and could be neglected unless extreme changes are contemplated in either system. The only point of contact between the two systems is the delivery of milk to the food stores, and the details of how this is done are not particularly critical. We can therefore assume that any recommendations that might be made concerning the main system will have little or no effect upon this matter.

The specialized milk stores (expendios de leche), mentioned in Table IV-2 as outlets of raw milk, are very small operations, using one room of a family dwelling and are located only in the poorer barrios. They would appear to be a means whereby the truckers can obtain distribution in areas where purchasers are too few and purchases too irregular to warrant regular delivery service. In 1969 there were 121 of these establishments holding licenses to sell raw milk, and there may well have been many more operating without licenses. Little is known about the expendios, their margin structure, whether they are independent dealers or tied to particular suppliers, nor even why the truckers deal with them instead of with tiendas.

b) Poultry and Egg Distributors. The only important point of contact between poulty and egg distributors and the main food distribution system is in egg distribution, where tiendas and small graneros account

for 57% of retail sales. Specialized retailers and wholesaler-retailers account for 31% of retail egg sales and 69% of broiler retail sales in Cali[1]. The wholesalers in the channels for poultry and eggs are all specialists, and many are owned by producers or producers' associations.

The main point about this sector is that broiler and egg production on a commercial scale is a relatively new industry in Colombia, and the move towards forward integration in marketing these products is newer still[2]. Therefore we can anticipate that the industry will be flexible enough (not tradition-bound) to adapt to changes in the main system, and we can drop the poultry and egg marketing institutions from further consideration.

Self-Service Stores

This category comprises the supermarkets and the chain stores. The Caja groceries and the several cooperatives that use a self-service format have been discussed earlier. The reason for distinguishing this group of stores it that they are profit-oriented stores which are large enough to pay substantial salaries for trained full-time managers and which are not cast in the traditional mold of Colombian food retailing. If there were any significant innovations developing in food retailing in Cali, it would be most likely to be found amongst this set of retailers.

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[1] PIMUR Final Report, Tables 3.12 and 3.13

[2] ib., p. 141, p.144

Supermarkets were defined by PIMUR as profit-oriented food stores satisfying three criteria:

a) more than 30 sq. meters of selling and storage space

b) self-service format

c) departmentalization by product lines (which also implied offering a full line of foodstuffs)

Nineteen such stores, of which six were branch stores, were operating in Cali in early 1969. All were located in or near upper-class neighborhoods. While 7.6% of respondents to the Consumer Survey used them, almost all their patronage (83%) came from people in socio-economic levels I, II, and III. Their total sales account for close to five percent of total retail food sales in Cali[1]. When one notes that upper-class households spend much more than lower-class households upon food (per family) the above figures indicate that the supermarkets are only capturing about one-fourth of their patrons' food expenditures. This checks with the figures presented in Table III.1.3., which show that the self-service stores in general are of importance only in grains and canned foods. For meats and fruits and vegetables people in the upper socio-economic levels patronise the public markets and specialty stores. This is not really surprising. The supermarkets carry a good selection of canned, bottled, and packaged foods, and of wines and liquors. In produce they are poor, the produce section usually consisting of a set of grimy bins at the back of the store holding a

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[1]PIMUR, Consumer Survey

very limited and rather sad-looking selection of fruits and vegetables. The meat departments are a bit better, but are still not good. The supermarkets, in fact, might be described as being production-oriented or product-oriented, in the sense that they devote most of their effort to doing the things that they find easy to do, such as handling non-perishable articles. They are certainly not marketing-oriented. Of the firms interviewed one advertised in newspapers, three on radio, and two used both media. Other advertising was limited to a few firms which used posters. Price-based advertising or promotion was conspicuous by its absence.

The supermarkets in Cali, in short, are not mass-merchandisers but rather neighborhood stores of a large and showy format. At present they exhibit no characteristics that would lead us to believe that they will naturally become the dominant mode of food retailing in Cali in the near future. In fact, they have as a class been rather unsuccessful in Cali. While poor management (in the sense of day-to-day administration) has probably contributed to this, the main barrier to development is almost certainly their lack of a marketing orientation. Also, as we shall see later, the wholesale sector is not compatible with efficient supermarket operation. There is a thriving chain of supermarkets in Bogota, which indicates that supermarkets are not incompatible with the Colombian ambience, but the secret of its success seems to lie in the quality of its management. Most of the managers are members of the family which owns the chain, and they receive very elaborate training. While there is no obvious reason why supermarkets, properly managed, should not play a part in a new food distribution system, there is no evidence that supermarkets

are presently generating changes that could bring about such new systems.

Although the expectation of finding constructive innovation in the supermarket sector has been disappointed, there is one point about them that is instructive. They attract to their stores a large proportion of those living near. The PIMUR Consumer Survey indicated that most (72%) housewives of S.E.L. I patronized supermarkets, as did many housewives of S.E.L. II and III (34% and 25% respectively). Yet, as was noted above, they do this without any significant amount of advertising or publicity. It would appear that their visibility is an important factor. They are large stores by Cali standards, with distinctive formats and large neon signs. By reason of this visibility they provide their own reminder advertising. To summarise, the supermarkets in Cali provide some interesting and useful insights, but do not at present give any evidence of developing into the type of store needed for our proposed food distribution system.

Chain Stores

These are large stores of the type known as "five-and-tens" in the U.S.A.. They sell a wide variety of household goods, including a good selection of canned and bottled foods and grains. There were five firms, of which at least two were national in scope, operating 14 stores in Cali in early 1969. Most of the stores were situated near the Galeria Central.

This group is not important in food retailing, accounting for only about 2% of the total sales of this sector. They are most widely known for their practice of using rice as a leader in their

frequent promotions.

The principal importance of these stores lies in their potential as the "new wave" in Colombian retailing. Prices, products, promotion, and place all give the impression of being aimed, with few exceptions, at a specific target market, the working-class and lower-middle class consumer. As far as we know, they are the only organizations of Colombian origin that give evidence of having successfully solved problems of organization, training, delegation, and control. They would well repay intensive study by those interested in economic development. Dissemination of their problem-solving ability and methods would be more valuable than any other form of economic aid so far devised. It is interesting to note that in 1958 Peter Drucker[1] described a type of enterprise which, he said, would be an extremely effective catalyst of economic development.

His description corresponds precisely to these chain stores.

Public Markets

Cali's public market system comprises a central market, the Galeria Central, and five satellite markets, the plazas satelites, dotted around the city[2]. They are administered by EMSIRVA, an agency of the municipal government.

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[1]Peter F. Drucker, "Marketing and Economic Development", Journal of Marketing, Vol. 22, no. 3., January 1958.

[2]Since the PIMUR field work was done in early 1969 a new satellite market has been opened at Alfonso Lopez, on the eastern edge of the city, and the public markets of the Galeria Central area have been demolished.

Until 1929 the hub of Cali's food retailing was an open-air market in the Plaza Cayzedo, the square which is now in the heart of the city's business district. Taking advantage of the opportunity offered by the centennial celebrations in 1929, the city government built a market building in Calvario barrio, and moved the stalls down there. The move was not large in terms of distance, being only six blocks south and one block east of the original location. Calvario barrio was then, and still is, the district where the food wholesalers operated. In those days food was brought in on mules and horses, now it comes in by truck and bus, but otherwise there has been little change in the area.

While the name Galeria Central officially applies only to the building constructed in 1929 (and since expanded) in practice it is commonly applied also to Calvario I and Calvario II, markets which occupy the two blocks east of the Galeria Central proper. Also associated with the public markets in this area are swarms of street vendors (vendedores ambulantes) who sell primarily fruits and vegetables in the streets immediately around the market buildings. Some of these are officially recognized by the authorities, and pay a day-by-day rental to EMSIRVA, but about 75% of them are operating illegally. The police attempt to curtail the activities of the unofficial vendors, but with little effect.

In addition to the food retailers associated with the public markets there are large numbers of traditional food retailers located in the vicinity of the Galeria Central. Some of these, the wholesaler-retailers, also sell foodstuffs at wholesale. Altogether, the Galeria Central area accounts for about one-quarter of Cali's retail sales of

food, the public market and the traditional retailers sharing this volume roughly equally.

A major problem with the Galeria Central area is the extreme congestion in the streets, compounded of the heavy flow of shoppers, the activities of the street vendors, and the movement of trucks and buses associated with the presence of food wholesalers in the vicinity. This congestion imposes a fairly heavy social cost in wasted time, and makes refuse removal difficult. It also attracts numbers of pickpockets and purse-snatchers.

The satellite markets each consist of one large building and a fenced-in area in which street vendors can rent space. They have not attracted the concentrations of customers, traditional retailers, illegal street vendors, and wholesalers which characterise the Galeria Central (although Alameda market was showing signs of moving this way in 1969) and as they are of more modern design EMSIRVA is better enabled to keep up with the removal of refuse. Of the satellite markets, Cristobal Colon, Porvenir, and Floresta are located in working-class barrios, Alameda is in a middle-class barrio, and Siloe, which was intended to serve the slum area of Siloe, now finds itself used increasingly by the residents of the upper-middle class housing developments nearby.

Each public-market building houses several hundred stalls (most of the stalls in Porvenir and Siloe markets are not occupied), and each stall specialises in the sale of one line of goods. The principal specialties are meats, grains and processed foods, fruits and vegetables, and dry goods (low-priced housewares and kitchen utensils). Stalls are segregated by specialty, all the meat stalls being located together in one part of the building, etc.. Table IV.3.

gives the breakdown of stalls by specialty and market.

Table IV.3. Distribution of Market Stalls by Specialty and Market, Cali, February 1969.

Specialty	Galeria Central	Alameda	C.Colon	Floresta	Siloe	Porvenir	Total
Fruits and Vegetables	628	243	37	65	26	66	1065
Meats and Fish	268	44	42	38	15	31	438
Grains and Staples	126	27	33	29	10	18	243
Dairy	65	7	10	--	4	--	86
Poultry and Eggs	40	4	--	2	--	6	52
Bread and Pastas	24	2	3	4	--	--	33
Others	334	47	46	23	8	23	481
Total Stall Operators	1485	374	171	161	63	144	2398
Street Vendors	925	90	219	57	31	35	1357
TOTAL	2410	464	390	218	94	179	3755
% of Total	64%	12%	10%	6%	3%	5%	100%

Source: EMSIRVA and PIMUR, Wholesale-Retail Survey

The public markets handle 20% of Cali's retail food sales, with the Galeria Central accounting for 12% and the satellite markets for 8%. Of the total public market sales 81% are done by fixed stalls and 19% by street vendors[1].

[1] PIMUR Final Report, p.47

The Galeria Central constitutes the standard of food retailing in the city. It is here that the prices are lowest, that the greatest variety of goods are offered, and that the best quality is available[1]. There are some exceptions; the lowest price for rice is found in the chain-store promotions, some supermarkets offer a better selection of luxury processed foods, and the specialty stores offer consumers in the upper income brackets a better range of cuts of meat and better quality. But in general the Galeria Central is the institution to which others are compared. The satellite markets follow close behind, having slightly higher prices and offering a somewhat more restricted selection of foods.

One explanation for this is the fact that the public markets approximate the "perfectly competitive market" of the price-theorists. There are large numbers of buyers and sellers, the goods involved are homogeneous (not branded nor otherwise differentiated), perfect information exists since customers only have to walk a few feet to obtain other price quotations, and mobility of the customers is very high indeed. There is even a close approximation to frictionless entry and exit on the part of sellers. It is therefore natural to expect that so-called "normal" profits will be returned to sellers and that margins and prices will be low.

The stallholders in the public markets also receive a hidden subsidy, in that they do not pay an economic rent for their stalls. PIMUR estimated that EMSIRVA's rental income from stalls only covered about half of the costs of the public market system.

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[1]PIMUR Wholesale-Retail Study, Price Study, and Consumer Survey.

It should also be noted that the prices in the Galeria Central are not, in a sense, the final prices to consumers. The stallholders of the Galeria Central provide no place utility, and so the consumer is faced with the expense of travelling to and from the city center. As we saw in Chapter III, these travel expenses are quite significant.

Although the market stalls are small operations in terms of physical size some of them do a surprisingly large volume of business. Meat stalls have average monthly retail sales of Col./$26,500, with beef stalls in the Galeria Central averaging Col/ $46,500 monthly when their wholesale business is included. Grains stalls average Col. $16,850 per month, fruits and vegetables Col./$4,765 per month, and street vendors Col./$3,860 per month. These averages conceal significant differences between the Galeria Central and the satellite markets. Sales per stall in the Galeria Central of fruits and vegetables are about 15% higher than in the satellite markets, while those of grains are about 20% lower, presumably reflecting the competition of the concentration of traditional stores in the Galeria Central area[1].

The average stallholder had 3.8 years of formal education, and only 13% of stallholders had more than 5 years. Thirty percent had been in business two years or less, twenty-five percent had been in business more than twelve years, and the average was eight years. Fewer than ten percent of stallholders are under thirty years old, their average age being 45 years. They were a rather suspicious and distrustful group, approximately 60% of them believing that their competitors

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[1]PIMUR Final Report, p.62

sold adulterated goods, cheated their customers in the matter of weights and measures, and were hoarders and speculators. It is somewhat surprising to note that while 80% of them believed that their competitors sought new techniques to improve their businesses only 43% said that they themselves would like to receive technical assistance. Another odd thing, surprising in view of the state of atomistic competition which should theoretically obtain in the markets, is that only 29% of the stallholders said they set their prices in accordance with prices prevailing in the market. Twenty percent price on a"cost plus fixed percentage" basis, while 48% use a "cost plus fixed sum" basis.

These figures are self-consistent, with a not-unfamiliar picture emerging from them. The market stallholder in Cali is a man whose age and lack of education renders him unwilling to change his customs and/or unable to change them. He sees changes in the environment (Cajas, cooperatives, etc.) but cannot understand them. He prefers to attribute his troubles to sharp practices on the part of his competitors, perhaps because this relieves him from any obligation to change his own style of operation. He is inward-looking, preferring to do what he is accustomed to do rather than to keep a check on the state of the market or to find out what his customers want of him. In many ways he is an urban equivalent of the stereotype of the peasant farmer.

One conclusion that can be drawn immediately is that any recommendations we might make about introducing changes in Cali's food distribution system will have to be based upon the assumption that the stallholders will operate in the new system in exactly the same way that they operate in the present system. While changes

might be possible in the public markets, they will have to be changes at the level of EMSIRVA, the agency responsible for administering the markets.

Hitherto in this chapter we have been able, for various reasons, to dismiss the retailer types discussed from further consideration as potential participants in a new food distribution system for Cali, in the sense that none of them had the potential to become the "new wave" in the city's food distribution. While the discussion above would indicate that the public-market stallholders have only a very small capacity for adapting to change, we cannot summarily dismiss them from further consideration. In the first place the public markets account for an important proportion of total retail food sales in Cali. In the second place the meat vendors in these markets are, as we shall see later, intricately intertwined with meat wholesaling activities, and in the third place, it seems that for some time to come a market stall system will provide the best method of retailing fresh fruits and vegetables, products which do not lend themselves easily to routinized mass merchandising.

Centrally Located Traditional Stores

By traditional stores we mean those stores in which customers stand on one side of a counter and are served by a shopkeeper and/or his assistants on the other side. PIMUR found it convenient to distinguish four types of such stores, tiendas and small graneros, which are located in the barrios, and large graneros and wholesaler-retailers, which are located in the near vicinity of the Galeria Central. Table IV.4. summarizes some characteristics of these

centrally-located traditional stores.

Table IV.4. Characteristics of Large Graneros and Wholesaler-Retailers, Cali, February 1969.

	Large Graneros	Wholesaler-Retailers
Monthly Sales - Range Col.($)	50,001-200,000	160,000-350,000
Mean Col.($)	102,600	231,600
Selling Area, sq. m.	55	121
No. of Paid Employees	3.0	4.5
Investment - Fixed Col.($)	13,000	34,540
Liquid Col.($)	22,627	49,096

Source: PIMUR Wholesale-Retail Study

These stores deal in grains, non-perishables, and processed foods. They do not carry fresh fruits and vegetables, presumably because the competition from nearby stallholders and street vendors is so strong. While they do not sell meat themselves they rent space in their stores to butchers, thus providing their customers with a wider range of offerings. As is to be expected from the intensely competitive nature of selling activities in the Galeria Central area, their prices have to be in line with those of the market stallholders, and so their gross margins are low. PIMUR estimated that the margins, inclusive of spoilage, were 9.2% for grain stalls in the market, 9.5% for the large graneros, and 7.2% for the wholesaler-retailers. It is not clear whether the prices are set by market stallholders, acting as atomistic competitors, with the traditional stores meeting the price, or vice-versa, with the wholesaler-retailers and large graneros acting as price-leaders.

PIMUR counted 152 large graneros and 24 wholesaler-retailers, who accounted respectively for 11.4% and 4.8% of Cali's retail food sales. This means that these two groups of stores together sell rather more food than do the stallholders of the three Galeria Central markets, and that slightly over one-quarter of all retail sales of food in Cali are made in the Galeria Central area.

These two groups of stores are very similar in their operating styles. Neither gives credit to any great extent, and neither offers delivery service. They can be differentiated on the basis of size, as in Table IV.4., but the primary difference between the two is a functional one. The wholesaler-retailers make a substantial proportion of their sales to other retailers while the large graneros sell entirely to consumers. These other retailers are operators of small tiendas in the barrios, who by reason of their small scale cannot buy by the sack or case, and so need a bulk-breaking service. The specialist wholesalers in the city do not provide such a service, and the wholesaler-retailers have stepped into the space. PIMUR's interviewers reported that most of the wholesaler-retailers were originally retailers who had developed "backward" into wholesale activities rather than wholesalers who had developed "forward".

Another report made by the interviewers was that the wholesaler-retailers found some difficulty in estimating the proportion of their sales made at wholesale. This is understandable, since a housewife buying once per week for a large family could well make larger unit purchases than the operator of a small tienda buying daily, so that it would be impossible to distinguish between wholesale and retail sales solely on the basis of size of unit purchase. It indicates, however,

that the wholesaler-retailers do not operate separate wholesale and retail departments. This checks with the results of the interviews, which show that only four out of the twenty-four wholesaler-retailers offer volume discounts. But this raises the question of explaining how the wholesaler-retailers attract the custom of the small tienda operators. It is also difficult to explain how the lower margins of the wholesaler-retailers, which presumably are reflected in lower prices, can be maintained in the intensely competitive conditions of the area around the Galeria Central.

There are some other interesting points to be noted about the operators of these two groups of stores. As Table IV.5. shows, the operators of the large graneros are much younger than the operators of the wholesaler-retailers and have been in business for a much shorter time. It is tempting to suppose that there has recently been an influx of young entrepreneurs into the large granero sector. A 2 x 2 cross-split of operators above and below average age against those above and below average time in business lends moderate support to this idea. The four-way split is significant, by the chi-square test, at the 10% level of probability but not quite at the 5% level.

Table IV.5. Characteristics of Operators of Large Graneros and Wholesaler-Retailers, Cali, February 1969.

	Large Graneros	Wholesaler-Retailers
Average Age, years	33.3	42.3
Average Time in Business, years	4.9	7.6
Average Level of Education, years	6.5	6.3

Source: PIMUR, Wholesale Retail Survey

From the point of view of potential for change this result is very interesting. It indicates that there is a substantial body of people in the food retailing sector who have had experience of operating stores under tightly-competitive conditions,whose level of education is high enough to enable them to benefit from training in management techniques, and who are still young enough to be able and willing to change their operating methods to a substantial degree. Such people could well play an important role in any changed food distribution system we might recommend.

As far as the wholesaler-retailers are concerned, the potential for change is less apparent. However, they take a rather less distrustful view of their competitors than do the market stallholders or the operators of small graneros and tiendas, reversing the 60-40 split that the latter show in believing that their competitors cheat their customers, adulterate their goods and hoard and speculate. Again, two-thirds of the wholesaler-retailers said that they would like to receive technical assistance, as compared to only 43% of market stallholders.

Non-Centrally Located Traditional Stores

The small graneros and the tiendas are the neighborhood stores of the city. PIMUR distinguished the two types on the basis of volume of sales, tiendas having sales up to Col./$20,000 per month and graneros having sales of from Col./$20,001 to Col./$50,000 per month. There are also qualitative differences between the two types. For instance, almost all small graneros offer fresh meat, while tiendas rarely do. Also, the small graneros is a grocery store pure and simple while the

tienda, though it may be a very small grocery store in the same sense, may be a specialty store (bakery, delicatessen, etc.) or it may make a substantial proportion of its sales in beverages, to be consumed on or off the premises. In the limit it may be a sidewalk cafe, or a bar. It was estimated that beverage sales in the tiendas accounted for 18% of their sales volume and 35% of their profits[1]. There is a corresponding difference between the physical plants of the two store types. The tienda tends to be located in the front room of a dwelling, while the small granero is usually located in a building intended (or suitably modified) for use as a store, which may or may not have living quarters attached.

Table IV.6. Characteristics of Small Graneros and Tiendas, Cali, February 1969.

	Tiendas	Small Graneros
Monthly Sales - Range Col.($)	0-20,000	20,001-50,000
- Mean Col.($)	6,900	33,100
Selling Area, sq. m.	22	35
No. of Paid Employees	1.9	2.7
Investment - Fixed Col.($)	4,450	7,500
- Liquid Col.($)	1,180	7,136

Source: PIMUR Wholesale-Retail Study

[1] PIMUR Final Report, p. 46

Since the tiendas and the small graneros are, for a large proportion of Cali's population, the sole food suppliers they carry all lines of foods - meats, grains, processed foods, and fruits and vegetables. But the selection is very limited compared with that offered by the larger stores, and very often an individual store will not offer all lines. This is particularly true in the case of tiendas. For example, only 30% of the tiendas carry meat[1].

PIMUR's Wholesale-Retail Study estimated that at the time of the field work there were 2,700 tiendas and 670 small graneros operating in Cali, accounting respectively for 13.6% and 16.3% of total retail food sales in the city, or, between them, for 29.9% of these sales[2]. The neighborhood stores thus constitute an important component of Cali's food distribution system.

Their margins are high compared with those of the large graneros. Inclusive of spoilage, margins for tiendas were 13.7% and for small graneros 12.2%[3].

There is little that is surprising about the operators of these stores. Table IV.7. gives some of their characteristics, showing that, as is probably to be expected, the operators of the larger stores, the small graneros, are rather better educated and have been in business longer than the operators of the smaller stores. One interesting point, not noted in this table, is that 28% of the small

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[1]PIMUR Final Report, p.46

[2]This agrees well with the PIMUR Consumer Survey's estimate of 31.3%.

[3]PIMUR Final Report, Table 2.19 (p.62)

granero operators and 41% of the tienda operators have been in business for one year or less[1]. This checks with PIMUR's experience that about one-quarter of the tienda operators on the interview list went out of business during the three months that elapsed between preparing the list and starting the interviews. There can be little doubt that in many cases operating a tienda is a form of concealed unemployment. While

Table IV.7. Characteristics of Operators of Small Graneros and Tiendas, Cali, February 1969

	Tiendas	Small Graneros
Average Age, years	44.9	44.8
Average Level of Education, years	5.0	5.7
Average Time in Business, years	4.7	6.4

Source: PIMUR Wholesale-Retail Study Data

concealed unemployment or underemployment is preferable to no employment at all, this particular form of it has the undersirable aspect of bringing with it the total or partial loss of the money, usually hard-earned savings, invested in the operation. This is not only disastrous for the individuals concerned, it is also a serious matter for the national economy, which is chronically short of investment funds. Admittedly, there is virtually no machinery set up to attract these funds into the national economy, but we wish to point out the wastage involved in dissipating these saved accumulations.

[1] PIMUR Wholesale-Retail Study Data

Meat Distribution[1]

As was shown in Chapter II, meat is an important item in the Cali family's food budget. In total, meat accounts for 31.5% of food expenditures in the city, and of this the "red meats", beef and pork, account for 21.5% and 3% respectively.

We shall confine our attention in this section to beef distribution. Pork distribution is less complex, yet sufficiently similar to beef distribution that our recommendations will be applicable to both systems.

There are two main flows of beef into the city. The larger flow, which amounts to about 80% by weight of the total, goes through Cali's municipal slaughterhouse, while the remainder goes through the slaughterhouses of other cities of Valle. This latter flow, the so-called *forranea* beef, is handled by dealers licensed by the Cali municipal government and pays municipal taxes.

Over half the cattle comprising the main flow come through the cattle market in Medellin, the rest being assembled from cattle grazers in Valle. Note that the activities of the Medellin cattle market provide a price basis for transactions in other areas. This is effectively the only national-scale commodity market in Colombia. This stage of the marketing process is handled by assemblers, of which 30 were active at the time of PIMUR's field work, although their association, ASADEGA, has 40 registered members.

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[1]The source of the data quoted in this section is the PIMUR Meat Study, the findings of which are reported in PIMUR Final Report, pp. 124-140.

Cattle are purchased from the assemblers on the basis of inspection on the hoof. The cattle then pass through the slaughterhouse and the carcasses are delivered to the buyers. Since this is a hot-meat system (refrigeration is not used) the slaughtering takes place at night and delivery is done in the early hours of the morning. The slaughterhouse is operated by EMSIRVA, the agency which is also responsible for the administration of the public markets, and the delivery of carcasses is done only by EMSIRVA's trucks. Deliveries are made only to the satellite markets and to dealers in the Galeria Central area. Dealers located elsewhere in the city have to make arrangements with other dealers in the Galeria Central area to take delivery of their carcasses and to arrange for shipment to their places of business.

The minimum unit of transaction with the assemblers is one animal, so that only butchers who can count on selling at least one carcass per day (one day is the shelf-life of meat in a hot-meat system in a climate such as Cali's) can deal directly with them. This effectively limits their clients to the butchers located in the Galeria Central area and to stallholders in the public markets. Although these stallholders usually sell less than one carcass per day, the conditions of close proximity in the public markets make it feasible to form small syndicates for buying purposes. This option is not available to the tienda or the small granero.

There were in 1969 172 public-market stalls dealing in beef, and 119 butchers (the so-called bancos de carne) operating in the Galeria Central area. These bancos de carne, which are stalls like those in the public markets, are located in six famas (establishments devoted exclusively to renting space to butchers) or in the traditional

stores (large graneros and wholesaler-retailers), 39 of which rent space to butchers. Since the average daily throughput of the slaughterhouse in 1968 was 288 cattle, 154 hogs, and 30 calves, it can be seen that the operators described above usually handle only one or two carcasses per day.

The public-market stallholders account for 25% of retail beef sales in Cali, and the bancos de carne of the Galeria Central area for 8%. They also supply at wholesale, the tiendas and small graneros who account for 47% of retail beef sales[1]. This wholesaling must be considered as most unsatisfactory, since the prices charged at wholesale are the same as at retail, and the buyer gets no choice of cuts. The custom is to sell by the arroba revuelta, a 25-lb. bag of mixed cuts. In effect, the only service provided is that of making beef available in the early-morning hours, when the operators of the tiendas and small graneros are in the Galeria Central area making their purchases.

The 42 licensed dealers in forranea beef buy at the slaughterhouses of other cities in Valle, and sell to institutions in Cali, to supermarkets, and to the 12 specialized meat stores in Cali. The reasons given for patronizing the forranea beef dealers were lower prices, better quality of beef, and the greater choice of cuts available. The first reason is important to the institutions, and the others to the supermarkets and specialized meat stores, who cater to customers in the upper socio-economic levels.

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[1] 959 of these establishments sell beef directly, and 607 rent space to bancos.

The assemblers take a gross margin of about 12% on sales. Slaughterhouse charges take rather over half of this. Other operating expenses include the transportation of live animals to Cali, losses on weight shrinkage, and losses due to the death or crippling of animals. The gross margin appears to be in line with the services rendered.

The margins taken by other operators in the system are shown in Table IV.8.. Note that the margins for tiendas and small graneros should be added to those of the wholesale-retail outlets in considering the prices to consumers.

Table IV.8. Average Margins Taken by Meat Dealers, Cali, February 1969.

Outlet Type	Beef (%)	Pork (%)
Wholesale-Retail Bancos	15.5	12.2
Tiendas, Small Graneros	8.3	9.5
Public Market Stalls	14.5	9.2
Supermarkets	10.4	8.1
Specialist Meat Stores	14.2	14.0

Source: PIMUR Final Report, Table 3.4, p.133.

The margins taken by the wholesale-retail bancos and by stallholders seem high compared with the rather rudimentary services offered. That they are not the consequences of small scale of operation is evidenced by PIMUR's estimate that the bancos netted over Col./$13,000 per month and stallholders almost Col./$5,000 per month, which are very good incomes by the standards obtaining in Cali. The margins are much higher than needed to cover the fixed costs of being in business and to support the operator and his family.

All the symptoms of market imperfection are here, high profits, high margins, and poor service. The question is, how are these imperfections kept in existence?

We argue that the imperfections can be ascribed to the fact that the minimum transaction with the assemblers is one animal, a unit purchase of about Col./$2,300. This is a sizeable amount of money to tie up in a product with a shelf-life of only one day, unless there is a virtually assured sale for it. A new entrant to the beef retailing business has no such assurance; indeed, he will have to throw away a good deal of each carcass each day while he is building up his business, a process which could take weeks or months. Thus the capital requirements for entry are quite substantial. Added to this is the need to acquire a certain amount of knowledge of meat cutting, which can only be done by working for a while as a butcher's assistant. These two requisites for entry, capital and skill, are mutually contradictory, except in rare instances. Someone possessing the amount of capital needed will not work as a butcher's assistant, and a butcher's assistant will seldom be able to command the required capital. Beef suppliers typically give one or two days credit, which is of little help to someone trying to build up a clientale. In any case, it is by no means certain whether this credit will be given to other than established butchers.

The large unit transaction is also a barrier to the growth of already established enterprises. A butcher selling one carcass per day will only purchase another carcass per day if he is convinced that his potential market is at least twice as large as his existing market, while for the man selling two carcasses per day the potential increase in

sales has to be at least 50%. (A further consideration is that a butcher selling three or more carcasses per day will probably have to delegate the meat-cutting to assistants and spend his time in supervision, a substantial change in his method of operating.) This potential sales increase will be almost impossible for the stallholders and operators of the bancos to perceive because of their operating methods. First, since they operate in open stalls, customers can see from a distance whether they have any meat left to sell, and if they do not the customers will not bother to make known their unsatisfied demand. Secondly, it is their practice, as soon as they have sold what they have in stock, to clean up and close up. They do not keep fixed hours. Thus their sales estimates are self-fulfilling prophecies, and they see no unsatisfied demand.

Therefore, we find a situation in which each seller adopts the logical policy of stocking as many units as he expects to sell, but in which supply is so restricted in comparison with demand that each seller, without collusion, can make excess profits. Sound business policy is socially dysfunctional.

The culprit seems to be the practice of dealing in units of one animal at the wholesale level. The associated problems of indivisibility prevent adequate adjustment of supply to demand. While a shortage of meat stalls in the Galeria Central area might be a contributing factor, by acting as a barrier to entry, the fact that in some of the satellite markets, especially Siloe, many meat stalls are unrented, indicates that this particular barrier to entry probably does not play a significant part in restricting supply.

Retailers - Evaluation of Performance

With the exception of the traditional (personal service) stores and the public markets, we have rejected all the types of retailers in Cali as candidates for the primary positions in future food distribution systems for the city. The prospects for the two types excepted from this conclusion will be discussed in Chapter V. In this section we shall make some comparisons between the main retailer types which could not be fitted into our previous type-by-type discussion format.

Table IV.9. brings together data that has been used earlier, illustrating the relative importance of the principal groups of retailer types in the distribution of food in Cali. This table reinforces our previous discussion of the overall importance of the traditional (personal service) stores, and the rather specialized part played by the public markets.

Table IV.9. Relative Importance of the Main Retailer Types in the Distribution of the Principal Foodstuffs. Cali, February 1969.

Product	Percent of Total Sales of Each Product Made by:			
	Public Markets	Traditional Stores[a]	Self-Service Stores[b]	Specialty Outlets
Meat	30.5	54.0	7.0	8.5
Fruits and Vegetables	51.5	24.9	7.0	16.6
Grains	13.7	72.4	13.9	--
Dairy Products	3.0	41.1	10.6	45.3
Poultry and Eggs	4.6	37.5	16.6	41.3
Processed Foods	6.7	65.9	23.5	3.9
TOTAL	20.1	55.2	12.5	12.2

Source: PIMUR Consumer, Retail, and Commodity Studies, 1969
Notes: a. Includes non-centrally and centrally-located stores.
b. Includes supermarkets, cooperatives, chain stores and Cajas.

An important desideratum of any economic system is that it be efficient, which can be defined roughly as making goods or services available at an acceptably low price while still returning acceptably high profits to the operators. The difficulty with making this definition operational is that what is "acceptable" must always be determined by social values on the one hand and the expectations of businessmen on the other. Neither of these is particularly susceptible of measurement, and both change with time in unpredictable ways. However, it is safe to deduce that, of two systems with the same level of profits the one with the lower prices is the more efficient, and if the levels of prices are the same then the one with the higher profits is the more efficient. There are, of course, other factors affecting social efficiency. Chief amongst these are the efficiency of use of labor and capital, and what constitutes "efficient" use will depend upon circumstances. If economic prices are set upon these factors they can be subsumed under prices and profits, but very often such economic prices are not socially desirable.

Using margins as a measure of prices, Tables IV.10. and IV.11. would seem to indicate that larger retail establishments are more efficient than smaller ones, and that outlets specializing in a narrow line of goods are more efficient than retailers offering a wide line. These conclusions cannot be rigorously justified from these tables, because there are several variables which are not taken into consideration in the tables. Chief amongst these are the differences in the nature (perishability, etc.) of the goods offered by the various retailer types, the management philosophies of the cooperatives and the Cajas de Compensacion, and the economic subsidies received by these stores

and, to a lesser extent, by the public market stallholders. EMSIRVA does not charge stallholders economic rents, in the sense that the rents do not cover the costs of administration and depreciation of the market buildings[1].

Table IV.10. Retailers' Gross Margins by Outlet Type, Cali, February 1969.

Outlet Type	Price Spread %	Spoilage Loss %	Gross Margin %
Self-Service			
Supermarkets	14.5	1.2	13.3
Cooperatives	10.9	1.0	9.9
Cajas de Compensacion	8.6	0.8	7.8
Chain Stores	8.0	0.5	7.5
Traditional Stores			
Tiendas	13.7	0.8	12.9
Small Graneros	12.2	0.9	11.3
Large Graneros	9.5	0.9	8.6
Wholesaler-Retailers	7.2	0.5	6.7
Public Market Stallholders			
Fruits & Vegetables	24.7	12.5	12.2
Grains & Processed	9.2	0.5	8.7
Beef	20.0	5.5	14.5
Street Vendors	26.4	15.0	11.4

Source: PIMUR Retailer Survey, 1969

Table IV.11. shows that operating tiendas and fruit and vegetable stalls is tantamount to concealed unemployment (the official

[1]PIMUR Final Report, pp. 66-67.

minimum wage in Cali in 1969 was Col.$450 per month), while beef stallholders are making grossly excessive profits. The low returns to management of fruit and vegetable stalls can be explained as the natural consequence of the great ease of entry forcing profits down to a sort of acceptable minimum.

Table IV.11. Financial Comparison of Outlet Types, Cali, February 1969.

Outlet Type	Sales Col.$	Investment[a] Col.$	Profits Before Taxes as:		
			% of Sales	% on Investment (per month)	Return to mangt.[b] Col. $
Self-Service	385,000	219,700	2.4	4.2	3,739
Wholesaler-Retailer	231,600	83,600	2.9	8.1	4,677
Large Graneros	102,600	35,600	3.6	10.6	2,782
Small Graneros	33,100	14,600	4.1	9.1	978
Tiendas	6,900	6,300	6.7	7.4	306
Public Market Stalls					
Grains & Processed	16,900	3,500	6.7	32.5	1,050
Fruits & Vegetables	4,800	558	8.9	76.0	410
Beef	45,300	2,600	10.7	189.0	4,773

Source: PIMUR Final Report, Tables 2.20, 2.21, 2.22.

Notes: a. Excluding buildings.

b. Taken as before-tax profits less opportunity cost of 2.5% per month on investment.

With tiendas, several factors are at work. Tiendas tend to locate as far as possible from competitors, in order to obtain the maximum locational monopoly, but they are so numerous that any such monopoly is very limited in areal extent. Any attempts they might

make to increase their sales volume can be countered by their competitors on the next street corner, so they are cut off from any possible economies of scale. At the same time, their small area of influence makes it impracticable for them to specialise in a narrow line of goods, so they are also cut off from any economies of specialisation. They are therefore locked into a state of profitless monopolistic competition.

Table IV.12. presents comparative data on prices for some standard food items as sold by various retailer types.

Table IV.12. Relative Prices of Foodstuffs by Retailer Type (Base: Galeria Central = 100), Cali, February 1969.

Food Item	Galeria Central	Satellite Markets	Super-markets Area I	Tiendas and Small Areas II-IV	Area V	Graneros Area VI
Beef, 1st.qual.	100	100	103	103	102	101
Beef, 2nd.qual.	100	105	111	112	112	114
Beef, 3rd.qual.	100	99	114	114	113	116
Beef viscera	100	101	108	106	107	110
Rice, 1st.qual.	100	103	104	104	106	110
Calima beans	100	101	103	98	106	108
Eggs, medium	100	102	103	108	110	116
Pan Sugar	100	99	97	100	106	104
Potatoes,guata	100	97	109	110	111	119
Tomatoes,green	100	100	126	132	137	143
Plantain,green	100	115	164	159	138	165

Source: Adapted from PIMUR Final Report Table 2.18, p.59.

It can be seen that the highest prices are generally to be found in the tiendas of the barrios of socio-economic levels V and VI. This lends support to the hypothesis that poor people pay more for their food than do the rich. On the other hand, calculations based on the data of the Market Basket Study gave the following results for comparative prices on an average market basket purchased in the indicated outlets:

Galeria Central	100
Satellite Markets	103
Supermarkets	106
Traditional Stores	
Central[1]	103
Non-central	101

These results contradict the figures given in Table IV.12. However, the two sets of figures are not comparable. Table IV.12. is based on similar qualities of foodstuffs, while the Market Basket data referred to the prices of the foods actually purchased. It is reasonable to suppose that poor people buy low-quality foodstuffs while rich people buy high-quality foods. The conclusion would seem to be that while poor people might not pay significantly more for their food, and might indeed pay less, they receive a poorer quality of food for their money. Another possible confounding factor is that weights and measures might be rigged to bring the apparent prices of certain foods, such as rice and beef, into line with those obtaining in the city center.

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[1]Since these stores sell only a limited range of foods their index is based on the assumption that the foods not offered (meat, fruits and vegetables) were purchased in the nearby Galeria Central.

The Wholesaler-Retailer Interface

As we will see in the next section of this chapter, wholesalers in Cali carry very limited ranges of goods. The only exceptions are the wholesaler-retailers. The most important wholesalers, those dealing in grains and non-perishables, typically specialize in two or three products, carrying five to ten others as sidelines, while the typical wholesaler of fruits and vegetables handles only one product. Wholesalers also fall into line with the custom, mentioned at the beginning of this chapter, of being passive sellers. They do not advertise their wares, nor merchandise, nor provide support services. They expect their customers to take the initiative in any contacts.

In consequence, when the operator of a tienda or small granero goes to the city center each morning to make his purchases he finds this activity very demanding of time and effort. There are several hundred suppliers, all selling homogeneous, unbranded, and undifferentiated goods, spread over some ten city blocks for all the world like stallholders in a huge market. This may make for a "perfectly competitive market" in the economists' sense, but introduces inefficiency into what ought to be largely routinized buying. To illustrate, consider the case of a granero who handles five fruits or vegetables. Since he customarily buys these 25 times per month[1] and has to buy each one from a different dealer this implies 125 purchases per month. If he gets quotations from four dealers each time before purchasing, a reasonable figure if he wants to approximate the best price-quality

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[1]PIMUR Final Report, Table 2.33, p.82

combination available, he must take part in 500 negotiations in connection with just a small sub-set of his stock.

All this has to be done in time for his tienda to be opened at 8 a.m., and in competition with 3,370 other tienda and small granero operators and 2,600 market stallholders. Finally, when all his purchases are complete he has to arrange to have the goods collected and transported to his store. Since the transportation facilities available are not really adequate for the load put upon them at this time[1] the negotiations involved in this stage of the purchasing process could be rather protracted, with the transport operator holding the better hand.

In practice, it is unlikely that the buying process is as complicated as the foregoing description implies. It is improbable that a daily activity should not be routinized to at least some extent. That this is the case is indicated by Table IV.13.,which shows that two-thirds of store operators and slightly under half of all stallholders

Table IV.13. Percent of Retailers Purchasing From Regular Suppliers, Cali, February 1969.

	Self-Service	Traditional Stores	Public Market
Purchasing from regular suppliers	68%	68%	44%
Contacting only one supplier before purchasing	11%	38%	30%

Source: PIMUR Retailer Study, 1969

[1] PIMUR Final Report, p.283.

habitually buy from the same suppliers. This is not to be interpreted as meaning that each of these operators uses only one supplier. In fact, only 11% of self-service store operators, 38% of tienda and small granero operators, and 30% of stallholders talk to only one supplier before purchasing. The more usual practice appears to be for each retailer to contact favored sub-groups of wholesalers. This practice should effectively maintain a "perfect" market in the sense of preventing price discrimination by the wholesalers, but it could also limit the extent to which retailers approximate their optimal price-quality targets.

In keeping with their "passive seller" philosophy, wholesalers offer very little in the way of services to their customers. Only 20% provide delivery service on more than 50% of their sales, and 60% provide no delivery service at all[1]. Credit is rather restricted, as shown by Table IV.14.,and no re-grading or re-packaging is done, except insofar as the bulk-breaking service provided by the wholesaler-retailers can be considered in this light.

Table IV.14. Extent and Terms of Credit Received by Retailers, Cali, February 1969

	Self-Service		Traditional		Public Market	
	%	Days	%	Days	%	Days
Grains	85	14	36	14	65	12
Processed Staples	86	12	30	14	45	14
Fruits and Vegetables	25	10	9	11	32	3
Meat	28	14	1	2	100	3
Poultry and Eggs	58	12	3	10	29	5

Source: PIMUR, Retailer Survey, 1969

[1] PIMUR, Wholesale-Retail Study

The general conclusion to be drawn here is that the existing wholesale structure is very ill-conditioned to supply the tiendas and small graneros. Only the wholesaler-retailers are making any attempt to cater for these operations, and even then in only a rather limited fashion. The passive selling methods of the suppliers compel the operators of the small traditional stores to spend an excessive amount of time and energy in purchasing, and must tend to induce in them an attitude that buying is more important than selling, thus extending the "active buyer - passive seller" philosophy further down the line of distribution. Also, this attitude will unduly inhibit the small operator from finding or seeking items which could effectively be added to his product mix.

On the other hand, the structure of wholesaling is almost ideally suited to the needs of the market stallholders. Each stallholder handles only a narrow line of foods, so that the need to contact several wholesalers in connection with each product purchased is not a significant burden. Transportation is not a problem for him, because even if he does not have his stall in the Galeria Central (within walking distance) he can consolidate his shipping requirements with those of other stallholders from the same satellite market. This arrangement is attractive to the transport operators and economical for the stallholders.

It can be argued that the nature of wholesaling in Cali is a result of the requirements of stallholders. Denied the opportunities of economies of scale, the stallholders are forced to seek economies of specialization, and will demand corresponding services from their suppliers. The cheek-by-jowl competition in the markets and the

impossibility of differentiating themselves from their competitors in selling leaves buying as the only activity over which they have some control. This in turn forces wholesalers into very specialized behavior.

It is not surprising that the wholesale sector in Cali should be stallholder-oriented. In the compact towns of Latin America, until the populations reach levels of about 100,000 the central market is a very efficient mode of food retailing. Everyone in town lives within walking distance of the market and market stalls are the only type of retailer small enough to exist in numbers sufficient to provide competitive discipline. Such a system is probably at its highest effectiveness when the population is around 20,000 to 50,000, with tiendas starting to become viable when the population is about 100,000, and becoming more effective as it increases beyond this level.

Until a few years ago cities with populations greater than 100,000 were limited to two or three in Colombia, so that food distribution grew with a strong stallholder orientation. The major cities of the country have grown so rapidly that the system has not had time to change, and in Cali the efforts of the municipal government to extend the public-market system have tended to obscure the need for change. The situation in Cali in 1969 was that the city needed non-centrally located food stores, but that such stores were incompatible with the stallholder-oriented wholesale sector.

Two alternative solutions are available for remedying this situation. Either the public-market system must be drastically extended, providing markets within walking distance of everyone in the city, or the wholesale sector must be modified to supply non-centrally located food

stores in an efficient manner.

The Wholesale Sector

Wholesalers fall naturally into four groups according to the products they handle. The four groups are:

a) Meat wholesalers,who have already been described.

b) Wholesalers of grains and unbranded non-perishables. There are two sub-groups in this category, the specialist wholesalers and the wholesaler-retailers.

c) Wholesalers of fruits and vegetables, who can be further divided into dealers in potatoes, plantain, tomatoes, and minor fruits and vegetables.

d) Distributors of branded processed foods.

Meat Wholesalers have already been described. In pork there is only one set of wholesalers, the bancos de carne that specialise in this product. In beef there are two sets, the bancos de carne and the forranea dealers. We have already noted how the size of the unit transaction, one carcass, poses problems of divisibility that create barriers to growth and to entry in the traditional (bancos de carne) wholesaler group. Presumably it is these barriers that perpetuate the high margin - low service mode of operation observed amongst these dealers. As we noted before, they are wholesalers only as a result of being open for business at the time that retailers are doing their purchasing in the Galeria Central area.

The forranea dealers constitute an interesting phenomenon, illustrating how marketing institutions come into being to provide for unsatisfied needs. At present they are supplying only the most desirable customers, large accounts with steady demand. This would be consistent with limitation of their activities by the Cali municipal authorities, who license these dealers, but the PIMUR Meat Study did

not state whether such limitation was practised.

Wholesalers of Grains and Processed Staples

There were 46 specialist wholesalers in Cali at the time of PIMUR's work, of which 36 were interviewed. They deal in grains and processed goods for which brand identification is not of marketing importance, staples such as pan sugar, lard, cooking oils, and chocolate[1]. The typical specialist wholesaler does the bulk of his business in one or a few commodities, and might handle up to a dozen or so others as sidelines. In volume of sales they range from Col.$130,000 to Col.$4,000,000 per month, with a mean of Col.$1,200,000 and median approaching Col.$700,000 per month. Amongst those interviewed the four largest (11%) accounted for 32% of total sales, which is only a very moderate degree of concentration. As far as the Cali market is concerned the concentration is even less, since the seven largest wholesalers make over 60% of their sales in other cities of Valle[2]. The smaller the business the lower is the proportion of sales made outside Cali.

The average age of the operators of these businesses was 44 years, and ages ranged from 23 to 77. Virtually all had completed elementary school, but only 15% had finished high school. They had been running their businesses for an average of 14 years. The distribution of "length of time in the business" was virtually uniform between 1 year and 22 years, indicating that this is a rather stable sector.

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[1] Although these goods are often branded, in the sense of identifying the manufacturer or packer, this branding is rarely of importance in the marketing of these goods.

[2] PIMUR Final Report, p.74

Gross margins are low in this field of food distribution. The PIMUR Wholesale-Retail Study quotes margins realized at about 3.4%[1], and this agrees well with figures quoted by PIMUR's Grain Study[2]. Table IV.15. details the answers given to two interview questions:

a) what margin, on the average, do you need to make to stay in business? and

b) do you usually make this margin?

Table IV.15. Margins Needed and Obtained by Wholesalers, Cali, February 1969

No. of Respondents	Gross Margin %							
	2	3	4	5	7	8	10	15
Needing this margin	4	6	3	8	1	2	10	3
Needing and obtaining this margin	3	5	1	3	0	0	2	0

Source: PIMUR Wholesale-Retail Study, 1969

Not surprisingly, the greater the margin desired the greater the proportion of those disappointed. Respondents obviously had only a somewhat vague idea of the margins they needed, as evidenced by the tendency of responses to bunch at the round numbers, 5 and 10. Comparison of these responses with sales volume indicated that there was no correlation between the two, although one would have expected to find an inverse relationship. It appears that these wholesalers do not perceive economies of scale.

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[1] PIMUR, Final Report, p.88.

[2] PIMUR Final Report, p.211.

Two-thirds of the specialist wholesalers interviewed said that their selling prices were based upon competitors' prices, i.e., current prices in the market. Of those who used other ways of deciding prices (principally, adding a fixed sum to the purchase price) half also took competitors' prices into consideration.

Three-quarters of those interviewed do no promotion at all. Of the nine who claimed to do some advertising six used only posters (which may have been merely the signs over their doors). Four employ salesmen.

Only one-third of these wholesalers provide delivery service, while almost all give credit. Typically they give credit on about 50% of their sales for a period of 15 or 30 days. PIMUR's interviewers received the impression that most wholesalers intended to tighten their credit policy, and this is corroborated by their statements concerning the uses to which they put borrowed money. Of the twenty-nine who use borrowed money twenty-eight use it to increase their purchases of merchandise and one to give credit. No re-packaging or re-grading services are provided.

The selling practices of this group are consonant with our previous observation that the wholesale sector in general is well-prepared to serve stallholders, if not other retailer types. The grains dealers in the public markets are specialist retailers, who offer a few lines of foods in great depth. They neither need nor want re-grading, re-packaging nor delivery services. Their "active" buying of undifferentiated goods exerts pressure on margins and creates market, as opposed to administered, prices, and their specialist format does not require that their wholesalers stock broad lines of goods but

rather great depth in one or a few lines.

Purchasing practices of the specialist wholesalers resemble those of retailers. While 80% consistently buy from the same group of suppliers they contact an average of 3.75 suppliers before buying[1]. The nature of the people who supply them depends upon the product. Country assemblers are the suppliers for most grains, rice mills for rice, and producers or brokers for products such as lard, oils, and pan sugar.

One of the characteristics of the agricultural sector in Colombia is that nobody has reliable information about acreage planted, harvests, or quantities in stock. Figures compiled by G.Trant and his co-workers at Universidad del Valle show estimates for past harvests from different sources varying by factors of two or more. Data for current harvests and stocks must presumably be no better and probably a great deal worse. Another characteristic of Colombian agricultural marketing is that there are no commodity exchanges, except for the Medellin cattle market.

In the developed countries market prices for agricultural goods are determined by a process which requires the timely dissemination of crop information and the recording of transactions, neither of which are available in Colombia. How, then are market-clearing prices determined?

The clue to finding the answer to this question was provided by a corn assembler in Cartago, in the north of Valle, who said that he

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[1]PIMUR, Wholesale-Retail Study, 1969

set his prices according to the number of telephone calls he received from wholesalers asking for price quotations. He said that the quantities involved also entered into his price-setting process, but secondarily.

Market-clearing prices, then, are set by each supplier individually, each supplier knowing his own stock position and estimating the state of the demand side of the market from the number of requests he gets for price quotations. The wholesalers, by making multiple contacts, and by closing more or less rapidly, provide the feedback that brings the prices of the individual sellers into line. For this system to work effectively and for price adjustments to be smooth it is necessary that there be many wholesalers, each making multiple contacts with suppliers.

Such a system has some interesting consequences. The lack of crop and stock information makes speculation very risky, particularly for suppliers and wholesalers. The only people who could take speculative positions would have to be in a position to do a good deal of travelling in the producing areas to see for themselves the crop situation. While such people may, and probably do, operate in Colombia they are not country assemblers, who only operate locally, or urban wholesalers. This may explain why PIMUR's Grain Study was unable to discover who carried out the necessary function of storing crops between harvests.

This situation also explains a puzzling feature of the specialist wholesale sector in Cali, the number of operators. Simple economic theory would predict that there would be either very few such wholesalers, say, five or six, or very many, upwards of a hundred. In fact there are forty-six. The answer to this question appears to be that there are no

economies of scale to be obtained in purchasing. While it is as easy to order ten or a hundred truck-loads as one truck-load, the absence of stock information makes it too risky to order more than is needed immediately. That is, the Economic Order Quantity is rather small, and each subsequent purchase has to be fully negotiated. Far from there being volume discounts available, it is more likely that asking a supplier for a quotation on a large shipment will lead him to believe that demand is increasing and thus to quote a higher price[1]. Therefore economies of scale in specialist wholesaling taper off rather rapidly, which explains why such economies are not perceived by the wholesalers, as we noted earlier.

The operating format of these wholesalers is such that their primary assets are not financial resources nor established markets (in the sense of having a customer franchise) but rather a thorough understanding of the markets in which they are buying. This understanding can only be acquired by experience and instruction from practitioners. Outsiders cannot prepare themselves for entering this sector by studying past performance of the markets, since transactions are not made public. The result is that while entry is fairly easy, requiring only a few thousand pesos and a few square meters of storage space accessible to retailers, successful entry is very difficult.

The number of specialist wholesalers operating must therefore lie between a lower limit set by the limited economies of purchasing

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[1]This is contrary to U.S. business practices, where buyers placing large orders usually receive quantity discounts.

in any one line of food and the risks involved in taking on lines of which the operator has no experience, and an upper limit set by such economies of scale as do exist (e.g., truckload purchases) and the very narrow margins available in this sector. Economically, this sector appears to be very efficient, though the system of which it is a part (stallholder-based food distribution) is not economically efficient in a city the size of Cali.

It can be seen from our analysis of the functions performed by the specialist wholesalers that their primary contribution to food marketing is the establishing of market-clearing prices. Since commodity exchanges cannot instantly come into being the specialist wholesalers will be needed in the foreseeable future, no matter what type of food distribution system is developed for Cali. However it should be an easy, even natural, transition for them to move away from being stock-holding wholesalers towards acting as brokers, where they would perform the same price-establishing function but at lower margins, of the order of 1% as opposed to the 3.4% currently obtaining. The enabling factor for this change to take place would be the emergence of large retailers or the emergence of full-line wholesalers catering to food stores rather than to market stallholders.

It is likely that the lines of goods handled by this sector will change in the future. They will lose many processed foods, as branding becomes more common and brings with it administered prices. On the other hand, they will find more scope for their talents in handling the major fruits and vegetables (potatoes, plantain, tomatoes, etc.) as and when these become subject to grading and can be marketed by specification rather than by inspection. Already in Cali potatoes are being handled in this manner.

Wholesaler-Retailers

The retailing aspects of these operators have already been discussed in this chapter (pp.158 to 162). Their wholesaling functions are comparable to those of the wholesale-retail beef dealers, the bancos de carne. Like the bancos de carne the wholesaler-retailers sell at retail prices and provide no other wholesale services. They are not so much concerned with catering to a target market as exploiting the opportunity of making sales by being open for business at the time the retailers are in the Galeria Central area doing their purchasing. That is, they are passive marketers, exploiting an existing market rather than creating new markets.

As suppliers to the non-centrally located traditional stores they play a significant but not important part, supplying 19% of the grains and processed staples that flow through these stores[1]. Although we are not able to verify this, it is likely that they are important suppliers to certain sub-groups of these stores. For example, tienda operators in the outlying barrios use taxis to transport their purchases to their stores, and might find that being able to pick up all, or almost all, their goods at one location brings significant savings in transportation costs.

PIMUR was interested in the wholesaler-retailers because they appeared to be the forerunners of a store-based food distribution system. It seems that this expectation must be discarded. They are passive marketers, and their attitudes, average age, and education, which were

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[1]Estimated from PIMUR Wholesale-Retail Study data.

discussed earlier, hold out little hope that they will constitute a new wave in food distribution.

Fruits and Vegetables Wholesalers

It is convenient for our purposes to consider the wholesalers of fresh fruits and vegetables as divided into four groups. The first three groups are the wholesalers of the three most important products, potatoes, plantain, and tomatoes, while the fourth group is made up of the dealers in the minor fruits and vegetables, such as onions, carrots, mangos, pineapple, etc..

Wholesalers of the first three groups as a rule have permanent places of business, while those in the fourth group typically rent space on a daily basis in the bodegas, large halls near the Galeria Central which specialise in this activity. Table IV.16. shows some general characteristics of these wholesalers. The most obvious aspect is that they are small operations, doing about the same volume

Table IV.16. General Characteristics of Wholesalers of Fruits and Vegetables. Cali, February 1969.

	Potato	Tomato	Plantain	Other
No. of operators	39	72	120	220
Average monthly sales, Col.$	66,700	23,500	32,800	20-30,000
Sales and storage area, sq.m.	32	4	11	6
Average time in business, years	4.0	5.3	7.6	7.6
No. of types of products handled	1.1	1.2	1.1	1.6
Average age, years	37	40	43	40
Average years of schooling	3.8	5.8	3.5	3.3

Source: PIMUR, Wholesaler Study, 1969

of business as a small granero. Another aspect is their extreme specialisation by product. As we shall argue below, this is a consequence of the differences of production conditions and rural marketing practices between the various products.

Potatoes are grown in two regions of Colombia, in the hills near Bogota and in the extreme south of the country, on the border with Ecuador. Both regions are several hundred miles from Cali. In consequence potato wholesalers operate very much like the specialist grains wholesalers, buying by telephone from country assemblers in the producing regions. Since there are obvious economies in buying by the truckload this accounts for the small number of dealers in potatoes and their relatively large-size operations.

Plantain has some very unusual characteristics for a fruit. It is a staple which is grown as a by-product of coffee cultivation, the plantain's broad leaves being used to shade coffee bushes. It is almost a non-seasonal crop, it can be marketed green or ripe, and it has a long shelf-life. The main growing area is Quindio, about 100 miles north of Cali. This steady source of supply fairly close to Cali reduces the need for high skill in buying and makes for only very moderate economies in truckload buying, which explains the large number and small size of the plantain wholesalers. Another factor contributing to this situation is the large number of small farmers in the hills around Cali who have a few plantain trees and who send a few stems of fruit into Cali to market. This accounts for only a small proportion of total plantain sales but a large proportion of transactions.

Tomatoes consumed in Cali are grown in the flat part of Valle, within a radius of about 60 miles of the city. Producers are small in scale and fairly widely scattered. There are well-developed markets for this product operating in the Valle cities of Palmira and Tulua. These keep the marketing of tomatoes fairly well-ordered, subject to seasonal variations in production, and the short distance from Cali limits economies of scale amongst urban wholesalers in this city. These considerations probably account for the fact that there were 72 urban wholesalers of tomatoes in Cali in 1969, as shown in Table IV.16., while there were only 33 rural assemblers[1].

Marketing channels for the minor fruits and vegetables vary enormously. The most distinctive characteristic of most channels is the widely-scattered, small-scale production. In most cases the producing unit is a small farmer in the hills with a few fruit trees in a corner of his land, most of his land being used for subsistence crops. At the other end of the scale are such operations as orange producers who grow on a commercial scale with fully integrated marketing, a cooperative marketing set-up that handles the output of pineapple growers in Risaralda, and, perhaps the most sophisticated, a channel which deals in lettuce flown to Cali from Bogota to be sold to upper-income consumers. In general, marketing of the minor fruits and vegetables has to deal with the smallness and inaccessibility of the producing units, seasonality and other variations in the supply, and thinness of the market for individual products, which must make for

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[1] PIMUR Final Report, p.184, Table 3.34.

protracted and fully-negotiated transactions at each state of the marketing process.

The factor that dominates the structure of wholesaling of fruits and vegetables is the need to buy by inspection from small scattered producers. Stallholder-orientation does not shape the wholesale structure, as seems to be the case with grains and processed staples.

However, changes are evident in this sector. Potatoes are already being marketed on the basis of specification rather than inspection, and tomatoes for processing are being grown under purchase contracts, which will spread the acceptance of specifications and grading amongst the growers of this crop. Changes in coffee cultivation will probably lead to plantain being grown as a primary crop instead of as a by-product[1]. And INCORA, the National Colombian Agrarian Reform Institute, an agency of the Ministry of Agriculture, is encouraging the formation of producer cooperatives, which will spread the use of grading to other products. It is likely that it will eventually become possible to market some 70% to 80% by value of the fruits and vegetables consumed in Cali on the basis of grades and specifications rather than on inspection. The effects of this will be widespread, but as far as urban food distribution is concerned the principal effect will be to make it practical for food stores to handle a wider range of these products than they can do at present. However, during the foreseeable future there will be many varieties of fruits and vegetables which will have to be marketed in the same way as at

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[1] PIMUR, Final Report p.179.

present, through small specialist dealers at the wholesale and retail levels.

Wholesale Distribution of Branded Foods

Although there is in Colombia nothing like the variety of branded processed foods that there is in the U.S.A. these foods form an important part of the sales of supermarkets and a not-insignificant part of the sales of other outlets. Pastas are widely used to thicken soups, and processed oats have been consumed by all classes for many years. Experience in the more developed countries indicates that this sector will grow in importance at the expense of grains and unbranded processed foods.

Distribution of these foods is done either by the processor (directly or through wholly-owned subsidiaries) or by agencies. In either case the selling is done by the processor, since the agents are passive sellers to the point of being apathetic. We were told by the marketing manager of a major food processor that there are only two agencies in all Colombia who employ salesmen. Not only are they passive sellers, but since they are operating in an environment of administered prices they are also, perforce, passive buyers. Surprisingly, the policy of attacking the remaining profit-determining variable, turnover, does not seem to have been developed amongst these operators. The only distributive services provided by the agencies are storage close to the point of sale and, in some cases, credit collection.

As can be imagined, this situation has some dysfunctional aspects:

a) Small food processors, otherwise viable, could fail to survive through being unable to obtain effective distribution.

b) Firms which are too small to justify doing their own distribution are forced into doing it, with unnecessary increases in costs.

c) Retailers are bothered by having to deal with large numbers of processors' salesmen, each handling one or a few products. The manager of a Cali supermarket told us that he spoke to 600 salesmen each month (equivalent to one every 20 minutes of the working day). This seems excessive.

Although the situation at present is bad, prospects for improvement in this sector are good. Branded foods and other household necessities are a "modern" growth sector of the Colombian economy, and it should only be a short time before some bright young entrepreneurs step in to provide the distribution services so urgently needed. Entrance requirements are not great. Ten thousand pesos (say, U.S. $600) in capital, a guarantor to provide respectability, and the ability to talk persuasively to both processors and retailers should be enough to start such an enterprise. The figure of ten thousand pesos is only a ball-park estimate, but it would appear that the capital requirements involved would be minimal.

Summary

The food distribution system in Cali is based upon the old-fashioned concept of a central market in which the stalls are operated by small-scale retailers specialising in individual lines of foodstuffs.

Such a system is an efficient distributor of food in towns and small cities, but is not well adapted to the operation of non-specialised food stores. In Cali the public market system supplies only about 20% of the food consumed, the rest being supplied by food stores of various types. The result is that in Cali food distribution is inefficient, in the sense of costing too much, although individual operators are efficient, in that their margins and profits are low. (Meat distributors constitute an important exception in this respect.)

To reduce food prices to consumers it is important that the system change from being stallholder-oriented to being store-oriented. Unfortunately, there is no evidence of such a change being presently in process in Cali.

CHAPTER V

Conclusions and Recommendations

In the preceding chapters we have examined the components of the food distribution system of the city of Cali. In this chapter we shall evaluate the performance of the existing system, discuss the capacity for spontaneous evolution of its component institutions, and make recommendations concerning a food distribution system which will avoid at least some of the major shortcomings of the existing system.

Cali's basic food distribution system, the public market system, is a holdover from the days when Cali was a small city. For a small city a public-market system is desirable. Only in this way can a small community support enough food retailers for their numbers to ensure that market discipline will be enforced. But we show in the appendix to Chapter IV, that market stalls are less efficient retailers than stores. Therefore a market-based system is less satisfactory than a store-based system for a city as large as Cali. A further advantage of the store-based system is the fact that system coordination (such as, for example, in voluntary chains) is much easier to obtain than in a stall-based system.

Another way of looking at the situation is to note that market stallholders are, because of the physical size of their operations, unable to obtain economies of scale, but that the large number of

operators that a central market can support enables them to obtain economies of product-specialization. Indeed, the cheek-by-jowl conditions in these markets impose competitive pressures that force operators to take advantage of any such economies. This specialization emphasizes active buying, since small differences in price become critical, and this in turn imposes the same type of behavior upon the suppliers of the stallholders. They also become active buyers and specialize by product.

The stallholder and stallholder-oriented sectors of the food distribution system, then, are adapted to each other so that the stallholders can operate at close to their potential effectiveness. Unfortunately, this adaptation by the wholesale sector prevents the store-based food retailers from reaching their potential. Each storekeeper has to assemble his assortment of goods from the elementary offerings of a large number of wholesalers. The costs of thus resolving discrepancies of assortment are duplicated for each store, instead of being incurred principally by one or a few full-line wholesalers and then shared over large numbers of retailers. Socially, these excess costs should be charged to the account of the public-market system. Also from the point of view of the community, the public market system imposes upon the society the costs of resolving the discrepancies of assortment of goods sold through the markets. There are the direct costs to the consumer of getting herself to and from the market, and there are the indirect costs of public funds needed to construct and administer the market buildings (insofar as these costs are not covered by the rents charged to stallholders).

We have already noted the active buyer-passive seller behavior

shown by almost all food distributors in Cali. This is indicative of product- or technique-orientation, as opposed to marketing- or consumer-orientation. The failure to develop a marketing orientation could well have its roots in the public-market origin of food retailing in the city. One of the peculiarities of such a system is that it is the market as a whole that attracts customers, not the individual stallholders, and the conditions within the markets inhibit attempts by stallholders to obtain differentiation in their selling methods.

This failure to develop a marketing orientation has some undesirable effects upon the operators of food stores:

a) it leads them to try to operate like stallholders, concentrating their efforts upon buying. Since they do not specialize by product they have little to gain by such efforts. Therefore there is waste of managerial resources in this respect.

b) they are not led to realize that a store must offer its customers a package, a combination of variety, selection, price, and service. The stallholder, by contrast, need offer only price, the rest of the package being offered by the market as a whole, through the multiplicity of sellers.

c) they are induced to regard their market as a given, an exogenous factor. This constitutes a psychological barrier to growth. This attitude will do little harm to a stallholder, whose potential sales are sharply limited by his operating format in any case, but is a severe handicap to a store operator.

d) their active-buying behavior has inhibited the development of the broad-line food wholesalers which are needed to support a store-based food retailing sector.

In Cali, then, food distribution is dominated by the public-market system, in the sense that the operating methods and philosophies of the other components of the food distribution system have been determined, or at least strongly influenced, by the requirements of market stallholders. Yet the public markets do only one-fifth of the city's retail food sales, so that any benefits which might accrue from this conformance with the needs of stallholders are being made available to, or being enjoyed by, only a small proportion of the population.

Worse, the adaptation to stallholder needs has inhibited the development of efficient store-based food retailing. Therefore the greater part of the population has not only received little or no benefit from the public-market system, but has actually been indirectly penalized by it. A particularly unfortunate aspect of this is that it is the poorer consumers who have been the more severely penalized.

Evaluation of Existing Food Distribution Institutions

As we have seen, the existing food distribution system provides consumers with either locational convenience at high prices or with low prices in inaccessible locations. Our assignment is to devise a system which will provide both low prices and locational convenience because, as we have seen in Chapter III, locational convenience is the primary determinant of where the Cali housewife does her shopping. Also, these low prices and locational convenience must be offered in conjunction with an adequate selection of foodstuffs. We shall describe such an 'adequate' selection later in this chapter.

The most desirable way of devising such a system is to design it round any existing institutions that can be suitably modified. This

has the advantages of minimising disruption and making the least calls upon human and capital resources. We reviewed the existing food distribution institutions in Chapter IV, where for various reasons we removed from further consideration all but two types of retailers. These two types were the public markets and the non-centrally located traditional stores, the tiendas and small graneros.

At first sight the obvious solution is to extend the public market system. The existing satellite markets exhibit generally good performance in terms of prices, variety, and quality, and the wholesalers are well attuned to the needs of stallholders. However, even a superficial examination of this option shows it to be impractical.

1) The existing five (in 1969) satellite markets supply 8% of food consumption in Cali, or an average of 1.6% for each market. On this basis, sixty markets would be required to supply all the city's food. More generously, assuming that each satellite's drawing power is increased by 50% by the disappearance of the Galeria Central, and that self-service stores (supermarkets, cooperatives, and Cajas) and specialty stores maintain their 25% share of the total market, thirty satellite markets would be needed. Since Cali can afford to build markets only at the rate of one every two or three years it would be a very long time before this strategy would show any results.

2) Current meat distribution practices in Cali are such that the consumer pays excessively high prices for meat, which accounts for about thirty percent of food expenditures. These practices have their origins in the limitations of meat stalls. Therefore extending the public market system would merely perpetuate the

existing high meat prices which so heavily tax the resources of the poor.

3) As was noted above, the package of services offered by a public market is the result of there being a large number of stalls operating. It follows that there is a minimum number of stalls a market must have if it is to be an effective food retailing unit. This is particularly true of satellite markets, which do not enjoy a central market's advantage of being located at a focal point of transportation.

We have no model of public markets which would enable us to predict the number of stalls required for effectiveness, but examination of Table V.1. suggests that Siloe market has too few operators in each product line to be effective. Visual observation of the satellites in operation suggested another criterion of effectiveness, the amount of "bustle". Bustle can best be described as a compound of crowdedness, busy-ness, and air of purposeful activity, and intuitively can be taken as closely related to effectiveness.

Table V.1. Distribution of Vendors in Satellite Markets, by Product Type. Cali, February 1969.

Product Type	Alameda	C.Colon	Floresta	Porvenir	Siloe
Fruits and Vegetables	243	37	65	66	26
Meats and Fish	44	42	38	31	15
Grains and Staples	27	33	29	18	10
Dairy	7	10	-	-	4
Poultry and Eggs	4	-	2	6	-
Bread and Pasta	2	3	4	-	-
Others	47	46	23	23	8
Total Stall Operators	374	171	161	144	63
Mobile Vendors	90	219	57	35	31
Total Vendors	464	390	218	179	94

Source: PIMUR Final Report, Table 2.12

On this basis Siloe is ineffective, Alameda and Cristobal Colon are highly effective, and Floresta and Porvenir are just about at the level of effectiveness. Translating this into number of vendors, Table V.1. suggests that if a market is to be viable it should have at least 150 vendors in operation.

Average monthly sales of market stalls in 1969 were Col./$7,300, so our minimum-sized market would have to have monthly sales of Col./$1,100,000. This is equivalent to supplying all the food requirements of a 40-block area in barrios of S.E.L. V or a 67-block area in barrios of S.E.L. VI. A service area of forty blocks means that 55% of the clientele must walk more than three lineal blocks to get to the market, and 20% more than four blocks[1].

A service area of this magnitude could, at a pinch, be considered as being consistent with locational convenience for the consumer. Unfortunately, this does not help consumers living in barrios of S.E.L. VI. Also a network of markets of minimum size will not be stable. Some markets will benefit more than others from such factors as transport facilities and will grow. This will increase their effectiveness, drawing custom away from the less-favored markets and forcing these below the minimal effectiveness level. The consequence will be that large areas will be left with deficient service.

4) Market stalls are not efficient distributors of foodstuffs whose purchase is susceptible of routinization. The converse of this is that market stalls can obtain no advantages from handling products

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[1] See Figure V.1. (page 212)

which have been graded, standardized, or pre-packaged. In fact, the additional costs of these services will be a handicap to the stall operator, in that they will make him less competitive, less able to obtain any returns from active buying. So extension of the public market system will certainly not encourage, and will probably inhibit, the development of the food processing industry and the acceptance of grading and standarization in Colombia.

These considerations combine to eliminate the extension of the public market system as a serious contender for the role of the basis of an improved food distribution system for Cali. While the existing public markets can be expected to play a useful part in Cali in the future, their importance will more and more be confined to dealing in fresh fruits and vegetables.

What about the existing tiendas and small graneros? Could they, perhaps, modify their operating methods so as to become the low-price neighborhood stores that are needed? Here again the answer is no. The reason is, quite simply, that they are too small. As can be seen from Table V.2. (page 213) a full-line store will have to have sales of upwards of Col./$250,000 per month if it is to operate with low margins. This is an order of magnitude greater than the sales of the average small granero(Col./$33,100) or tienda (Col./ $6,900). Worse,the existing operators cannot grow to the required volume of sales by a program of reducing prices to generate more volume to enable further price reductions, etc. The reason for this is that these stores are perceived as charging high prices, offering low quality, and having no desirable attributes other than locational

convenience. Therefore they face demand curves which are price-inelastic around their present operating points, at least in the short run. Under such conditions price reductions bring reduced money sales volumes, so a program of growth relying on positive feedback between price reductions and sales volume increases cannot work. Large neighborhood stores will have to start large. There is no modification of the existing neighborhood stores that could bring about the needed quantum jump in scale of operation.

There are various other reasons why large neighborhood stores will have to start large. Perhaps the most important is that of being visible. PIMUR's Consumer Survey indicated that word-of-mouth diffusion of shopping information between consumers in Cali was virtually non-existent. So if a consumer is to become aware that she has alternative shopping outlets the alternatives have to be visible, to be obvious. Store size and appearance are the most effective ways of conveying the information that something new is available. As was mentioned in Chapter IV, in connection with supermarkets, visibility is a potent form of reminder advertising for a neighborhood store. It is also an important factor in informative and persuasive advertising.

It follows that if the operator of a neighborhood store is to develop fully his potential market he cannot afford to rely on a "better mousetrap" philosophy of marketing. He will have to be an active merchandiser. Not only must he be an efficient food retailer, he must make sure that everybody in the neighborhood knows that he is an efficient food retailer. This factor, as we shall see later,

is of some significance in deciding upon how the new food distribution system should be organised. For the present it is enough to note that this requirement is more consistent with a large store format than with that of a typical tienda or small granero.

Again, a small non-specialist store cannot cope with the assortment of goods required to satisfy the demands of all, or nearly all, the consumers in the neighborhood. Meats, produce, and non-perishable staples must all be offered, and offered in some degree of depth. They must also be handled with a high degree of skill if they are to be sold at low prices. To devote scarce human resources with these skills to small stores would be wasteful, and in any case the presentation of such an array of goods would require what is, in Cali, a large store. On either count the store would have to start large.

An Improved Food Distribution System

We have shown that none of the existing food retailers can be developed into the basis of an improved food distribution system for Cali. A new form of institution is needed.

The basic requirement of this new institution is that it should be viable when located in the residential areas. That this property is essential was shown in Chapter III. Location in the residential areas means that this store will not be one of a group of stores forming a shopping center (except in a few cases), so it cannot specialise by product. It will have to be a full-line food store. While it need not carry all lines of foodstuffs at the depth of specialist stores it should nevertheless be prepared to supply substantially all the food requirements

of its customers.

The requirement that the new institution be a full-line distributor has some interesting consequences. The Market Basket Study showed that eighty products accounted for 97.6% of food expenditures. Each product will have to be made available in a number of grades, varieties, and, in the case of most processed foods, brands. So our new retailer will have to stock about eight hundred different items. With this range of inventory efficient stock control will become important in the retailer's profit picture.

Operating efficiency will require a high stock turnover rate on these eight hundred items, which implies that there will be frequent, routinized purchases for inventory replenishment. This is inconsistent with the nature of the existing specialist wholesale sector. Therefore a new type of wholesaler will have to be created to support our new retailer. This new wholesaler will be a broad-line wholesaler, able to supply all, or almost all, of the goods required by the new retailers, and able to supply considerable managerial services as well.

These new wholesalers will not replace the existing specialist wholesalers. As we saw in Chapter IV, the principle marketing function of the specialist wholesalers is that of establishing market-clearing prices. This function will still have to be carried out, and the specialist wholesalers are the only people who can do it. <u>It is important that this function not be entrusted to a government agency</u>. Such an agency would concentrate great power into a single decision-making unit, so that any mistakes it might make would have far-reaching consequences, and the unreliability of agricultural statistics in Colombia would make mistakes inevitable.

At first sight it appears as though we have merely added another middle-man to an already inefficient system, so that our new system, far from being an improvement, would have higher costs than the existing one. This is not the case. The costs of the new wholesalers will be more than offset by the economies its appearance upon the scene will make available to the other components of the distribution system. Retailers' unit costs will be lowered through the achievement of economies of scale, and the existing wholesalers will be relieved of most of their cost-incurring activities by the new institutions. In effect, the specialist wholesalers will become brokers, and their margins will be reduced correspondingly, becoming of the order of 1% instead of the 3½% presently obtaining. In the case of processed foods, distribution costs will probably be directly reduced as the new wholesalers replace the existing, practically non-functional, agencies.

Locational Analysis of Proposed Retailers

A key factor of the proposed system is that the retailers should be able to obtain economies of scale. This implies high sales volumes. It is vital to show that retailers located in barrios of S.E.L. V and VI can realistically expect to generate sales volumes high enough to permit these economies.

The reason for locating retailers in the barrios is that, as shown in Chapter III, locational convenience is the determining factor in the consumer's choice of retailer for the majority of the population of Cali. We should note here that by locational convenience we mean accessibility, in terms of both time and money, particularly money. We have noted previously the extra monetary burden carried by those who do

not, or cannot buy food locally. The natural criterion of locational convenience is being located within reasonable walking distance of the consumer's home. On this basis the retailer's area of influence, his potential market, would include all homes within walking distance of three or four lineal blocks. For the purpose of determining the viability of the proposed retailers we will take three lineal blocks (about 300 meters) as the distance defining locational convenience.

Figure V.1. depicts the geometry of the situation. It will be seen that the retailer can expect to serve an 18-block area in which no consumer has to walk farther than three lineal blocks to reach the store.

The store will not handle all the food consumed in the area. PIMUR estimated that it could reasonably take its realizable share of the market as:

90% of meat sales
90% of grains and non-perishables staples sales
75% of fruits and vegetables sales
54% of dairy products sales

which, when weighted by the relative importances of the four product groups, amount to 84% of food expenditures in the service area.

The estimates above reflect consumer behavior as described in Chapter III. As was noted there, the local store has great competitive advantages in meat selling. Our new retailer, by offering low prices, should be able to get the great bulk of the more-or-less "discretionary" purchases on non-perishables. The public markets should remain strongly competitive in the retailing of the minor fruits and vegetables,

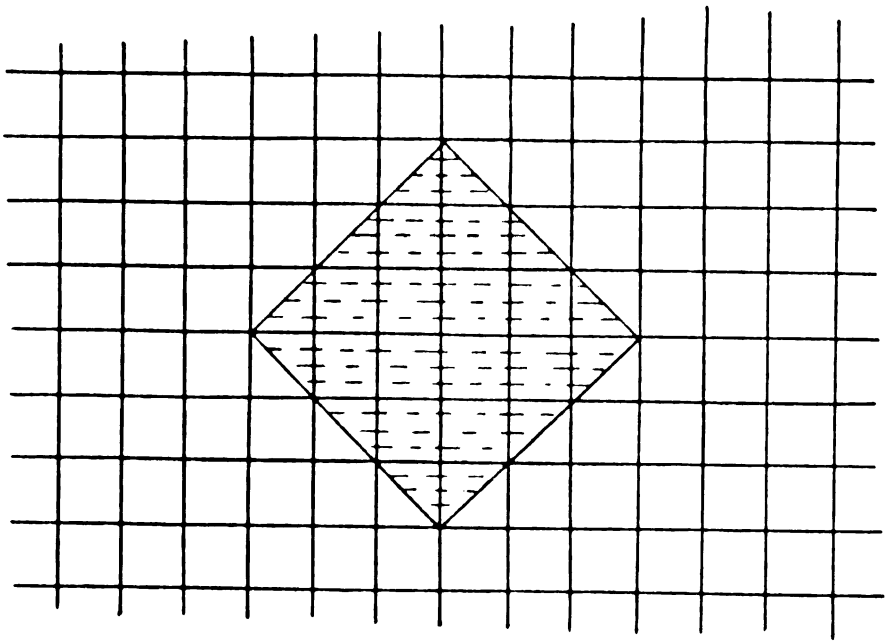

Figure V.1.

Nobody living within the cross-hatched area has to walk more than three lineal blocks to reach point A, thus defining the service area of a store at A. As can be seen by counting squares, the service area (inside the diamond-shaped figure) comprises 18 city blocks. (Each small square represents one city block.)

particularly the more perishable types. And door-to-door sales of milk will not be affected by the advent of our new retailers.

Table V.2. presents the results of calculations based on the above estimates and the results obtained from the Market Basket Study. It can be seen that even in the poorest barrios, those of S.E.L. VI, the potential market is large enough to make possible economies of scale.

Table V.2. Potential Sales of Retailers Serving 18-Block Areas, by Socio-Economic Level of Location. Cali, February 1969

Socio-Economic Level	I-III	IV	V	VI
Monthly food expenditures (Col.$ per family) (a)	1,730	1,220	789	636
Families per block (b)	20	25	35	30
Food expenditures for 18-block unit (Col.$ per month)	623,000	500,000	500,000	340,000
Potential sales of proposed retailers (Col.$ per month)(c)	523,000	420,000	420,000	285,000

(a) from PIMUR Market Basket Study
(b) based on house counts. See PIMUR Final Report, Table 2.40
(c) calculated as 84% of total food expenditures.

These figures refer only to sales of foodstuffs. Sales of non-foods should add at least ten percent to the potential sales estimated.

The results of Table V.2. are average figures which will be locally affected by topographical factors (in some localities the blocks may be laid out in such a way that there are not 18 blocks within the three block walking distance), by industrial areas replacing dwelling houses, by the availability of bus routes, and by proximity to satellite markets.

There is an interesting consequence of defining the service area in terms of walking distance. It can be shown that service area and walking distance are related by the equation

$$A = 2n^2$$

where A = service area, in blocks

and n = defining walking distance, in lineal blocks.

Manipulation of this equation, or inspection of Figure V.1, shows the great importance of the fringe of the retailer's service area. If the retailer, by increasing the attractiveness of the package he offers, can increase his service area to one defined by a walking distance of four lineal blocks his service area, and hence his sales volume, increases by 78%, from 18 blocks to 32. On the other hand, if he loses the customers living more than two lineal blocks distant his service area falls by 56%, from 18 blocks to 8. To take a less extreme case, suppose that a retailer's service standards fall to the extent that he loses all customers living more than 2½ blocks distant. In a barrio of S.E.L. V his sales would drop from Col./$420,000 per month to Col./$292,000, in line with the drop in service area from 18 blocks to 12½. Consideration of Table V.3. (on page 218) shows that his profits would be completely wiped out, leaving a loss of Col./$1,000 per month.

This points up the need for the proposed retailers to be consumer-oriented. The operators of these stores must be able to sense consumer dissatisfaction before it reaches dangerous levels, they must be able to discover the causes of such dissatisfaction (i.e. they must have a good deal of empathy with their customers), and they must be prepared to remedy them. The analysis also shows how judicious proportioning of equity and loan capital in these enterprises can force the operators to adopt a competitive attitude. If, in our example, the owner/operator had a 40% equity in the business, the rest being borrowed at 30% interest, he would have been able to keep up with his

interest payments but would have received no salary, and no return on his investment.

Similarly, the owner/operator who can extend his area of influence by as little as half a block of walking distance will reap a rich harvest. The importance of the service area fringe is such as to provide a strong force encouraging retailers to pass any cost benefits accruing from increases in volume along to their customers in the form of reduced prices.

A potential danger in this situation could arise at later stages in the development of the system. If rival chains start using advertising as a competitive tool for obtaining larger service areas they could end up in a costly stand-off, with large advertising expenditures being required just to maintain the status quo.

Cali is a compact city, its layout characterized by regularly-spaced streets running orthogonally. It should therefore be suitable for a network of food stores arranged on a grid with stores located six or seven blocks apart. But there will be areas where the regular grid of stores will not be applicable. The most important of these distortions of the grid will be caused by the presence of main roads. These thoroughfares have several effects upon the flow of shoppers. They constitute boundaries between the areas they separate, they facilitate the flow of shoppers along their length, and stores of all types tend to concentrate on them. The potency of these effects is such that the retailer grid should be laid out using the main roads as the basis. That is to say, in planning the grid the stores along the main roads should be allocated their sites first, and then sites chosen so as to fill in the gaps left over. "Planning" is perhaps

too strong a word in this context, since it is not proposed that the municipal government be responsible for allocating sites for retailers. Rather, it is meant that prospective retailers should bear these considerations in mind when buying sites for their stores, and wholesalers when accepting affiliations to their chains. These considerations are economic in nature and should prove persuasive to profit-oriented entrepreneurs as long as they are aware of them.

There is another topic of some importance in this area. There will be certain spots, usually determined by the intersections of main roads at which the flows of shoppers and traffic will be great enough to support shopping centers, concentrations of stores. PIMUR[1] has described the assortment of store types which would form suitable nuclei for such shopping centers. The location of these shopping centers is a matter in which the municipal government should be represented. The reason is that such centers strongly influence traffic flows (as well as being dependent upon them), and can give some shape and coherence to the districts in which they are located. These qualities are absent in most of Cali, particularly the east and south-east in which the bulk of the barrios of S.E.L. V and VI are located. Properly situated, shopping centers could be useful tools of urban development, while if poorly situated they could severely hamper desirable development. Therefore the location of shopping centers must be done in consultation with the municipal government in order to facilitate such things as re-routing of buses and to ensure compatibility with urban development planning.

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[1]PIMUR Final Report, p.116

Economic Analysis of Proposed System Components

Table V.3. presents pro-forma income statements for the proposed retailers for several levels of monthly sales, and Table V.4. presents the corresponding projected investment requirements. The main point about the figures of Table V.3. is that at a sales level of Col./ $300,000 per month the retailer is already enjoying substantial economies of scale. This means that our proposed retailers will be viable even in barrios of S.E.L. VI. Although Table V.2. indicates that retailers in such barrios will sell only Col./$285,000 of food each month, sales of non-foods should push total sales to well above Col./$300,000 monthly.

The statements of Table V.3. are based upon profits equivalent to a rate of return on capital of 30%, or 2½% per month, the standard rate on borrowed funds in Colombia in 1969. The salary budgeted for the manager is very handsome by Cali standards, being equivalent to an income of Col./$7,000 per month when fringe benefits are included. This is a good deal more than the manager of such a store would normally receive, but it is not intended to represent the manager's salary so much as the enterprise's return to management. The profit as budgeted is actually an opportunity cost, a minimal "normal" profit, and any "pure" profits have been subsumed under the manager's salary. This makes sense, because during the early stages of the proposed system these stores will not be operated by paid managers but by the owners, the entrepreneurs. It will only be later, when the system is firmly established and administrative rather than entrepreneurial talent is required, that paid managers will be used.

The other estimated salaries and wages are also high by 1969

Table V.3. Projected Income Statements of Proposed Retailers, at Varying Levels of Monthly Sales. Cali, 1969

a)				
Sales	Col./$300,000	$350,000	$400,000	$450,000
Purchases	270,125	318,960	362,585	412,285
Gross Margin	29,875	31,040	37,415	37,715
Expenses				
Manager/Owner	5,000	5,000	5,000	5,000
Meat Manager	2,500	2,500	2,500	2,500
Perishables Supervisor	1,250	1,250	1,250	1,250
Cashier @ $1,000	1,000	1,000	2,000	2,000
Casual Labor @ $600	3,000	3,600	4,200	4,200
Fringe Benefits	5,100	5,340	5,980	5,980
Total payroll	Col/$17,850	$18,690	$20,930	$20,930
Utilities	1,500	1,500	2,000	2,000
Insurance	250	250	250	250
Depreciation	1,300	1,300	1,835	1,835
Transportation	300	200	200	200
Packaging	575	650	725	800
Supplies and Maintenance	300	350	400	450
Promotion Expenses	800	800	1,000	1,000
Miscellaneous	500	500	600	600
Total Expenses	Col./$23,275	$24,240	$27,940	$28.065
Profit Before Taxes	6,600	6,800	9,475	9,650
Profit After Taxes	6,350	6,500	9,100	9,250
Overall Gross Margin	10.0%	8.9%	9.35%	8.4%

Source: PIMUR Final Report, Table 2.41 (p. 100), with modifications.

Note: a) All figures in Colombian pesos.

Table V.4. Projected Investment Requirements of Proposed Retailers, at Varying Levels of Monthly Sales. Cali, 1969

a)				
Sales Level	Col./$300,000	$350,000	$400,000	$450,000
Fixed Equipment	88,600	88,600	122,600	122,600
Working Capital	34,900	40,800	46,600	52,300
Lands and Building	130,000	130,000	195,000	195,000
Total Investment	Col./$253,500	$259.400	$364,200	$369,900

Source: Adapted from PIMUR Final Report, Table 2.42 (p.100)

Note: a) All figures in Colombian pesos.

Cali standards. This should help to attract capable people into food distribution and raise its operating standards. The investment estimates are also affected by the same up-grading objective, since rather more equipment has been budgeted than is found in stores outside the self-service group. This has an effect upon the income statement, since the increased investment raises expenses by raising depreciation charges and raises the profits needed to provide the required return on investment. However, the equipment should pay for itself in reduced spoilage, and in facilitating the handling of perishables.

The allowances for salaries for meat and perishables managers mean that some savings are available for owner/operators who have specialized knowledge in these areas, but the owner/operator we envisage, particularly in the early days of the system, is a man with administrative and marketing skills rather than experience in product handling. Later, when the system is firmly established and its operation well understood, owner/operators could well rise from the ranks of the meat and perishables supervisors.

It is important that the proposed retailers sell meat directly rather than rent space to butchers as is currently widely practiced. Existing margins on meats are so high that they can be brought down enough to significantly reduce food prices while still providing a large proportion of the profits of the new retailers. This, together with the desirability of raising the standards of meat-handling in Cali, means that the new retailers must keep control of their meat operations. Some training in meat handling may need to be provided for the new retailers if this control is to be effective. It is, of course, possible that the various departments of the new stores could be

operated by separate entrepreneurs, with control and coordination being exercised by the wholesaler through some form of franchise agreement. The key issue here is control and coordination, and any arrangement that can guarantee control and coordination will be satisfactory.
The ideal people to hold control would be the wholesalers, but a wholesaler would have difficulty exerting control over, say, a butcher renting space from a retailer.

Although the new retailers will probably be very similar in appearance to the existing supermarkets they will in reality be very different. The supermarkets are located in upper-class barrios and cater to upper-class consumers. They sell staple foods at very competitive prices, but the nature of their clientele permits them to carry large stocks, and presumably to obtain large sales, of luxury items such as liquors, candies, and toilet articles, as well as canned foods, which are luxury items in Cali. These are high-margin articles, and the gross profits provided by their sales allows the supermarkets some operating slack. Again, the upper-class families who patronize the supermarkets spend far more, per capita, on foods than can the lower-class families to whom our new retailers will cater. Therefore the supermarkets can develop substantial sales volumes even though their clients obtain most of their meat at the specialist stores and most of their fruits and vegetables in the public markets. The supermarkets can afford, within limits, to handle only the products they wish to handle.

In contrast, our new retailers will have very limited sales of those non-staple foods that offer comfortable margins of profits. They will have to run a very tight operation, in the sense of being

unable to afford any inefficiencies. At the same time, they will be unable to afford the luxury of offering only easily-handled articles. It is part of their assignment to act as full-line food suppliers, and in any case they cannot ignore anything that will help them to build their sales volumes.

Projected income statements for the proposed new wholesalers are given in Table V.5. These operations are quite different from any existing institutions in Cali's wholesale sector. It is vital that the operators and their assistants have some training in marketing, for these men will be the keys to the success of the whole proposed system. In addition to their functions as wholesalers they will have to provide management services to retailers in such areas as accounting and stock control, and coordinate promotional activities. They will also have the responsibilities of channel captains, chief amongst which will be that of setting and maintaining policies of low margins and high turnover. All these responsibilities will devolve upon the wholesalers because there are very few people in Cali with the appropriate training and ability to carry out the necessary tasks, and these people will be most effective when working as channel captains with the wholesalers. In this way their contributions can be made available to the greatest number of firms.

Since such services cannot easily be supplied to a randomly fluctuating clientele a chain form of organization will be required. Each wholesaler will be linked in a contractual relationship with ten to twenty retailers, supplying about two-thirds[1] of their stock. The retailers will benefit from the help they receive in connection with management problems, while the wholesaler's buying will be made easier

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[1] PIMUR's estimate (PIMUR Final Report, p.102)

and risks reduced, by the steady demand from his retailers.

Table V.5. Projected Income Statement of Proposed Wholesaler. Cali, 1969

Sales	Col./$	2,738.000	
Purchase		2,600,000	
Gross Margin	Col./$	138,000	5.0%
Expenses			
Manager/owner		15,000	
Meat Supervisor		5,000	
Perishables Supervisor		5,000	
Operations manager		5,000	
Butchers @ $2,000		4,000	
Secretary		1,500	
Bookkeeper		2,000	
Casual Labor @ $600		6,000	
Fringe Benefits		17,400	
Total payroll	Col./$	60,900	
Rent		6,000	
Utilities		3,000	
Transport (incoming)		4,500	
Delivery		8,000	
Insurance		1,000	
Packaging		12,000	
Depreciation		1,600	
Maintenance		1,000	
Bad debts		5,000	
Promotion expenses		2,500	
Miscellaneous		2,500	
Total expenses	Col./$	107,000	
Profit before taxes		30,000	
Profit after taxes	Col./$	25,000	

Source: PIMUR Final Report, Table 2.43 p.103 (adapted)

Table V.5. is based upon returning the going rate of 2½% per month on investment as profit after taxes. The figures given are estimated for a wholesaler supplying ten retailers. The returns to management are high, amounting to Col./$21,000 per month (Col./$15,000 salary plus 40% in fring benefits).

In conjunction with the 2½% per month return on investment this should suffice to attract competent entrepreneaurs. The gross margin of 5% in line with existing wholesale margins in Cali, and the services provided (delivery and packaging, which includes grading and throwing-out of spoiled goods) should reduce the expenses of retailers enough to take several percentage points off the margins they require. These services account for one-fifth of total wholesale expenses. PIMUR estimated the investment required for the wholesaler at Col./$1,006,000, made up of Col./$193,000 of fixed equipment and Col./$813,000 of working capital[1].

We have already noted PIMUR's estimate that the wholesalers would supply about two-thirds of the needs of their affiliated retailers. The one-third which they would not handle would be made up of non-foods (household supplies), soft drinks and liquors, processed foods, and items like milk, poultry, and eggs, for which efficient wholesale distribution is already available in Cali. This figure will certainly apply in the early stages of development of the proposed system. However, as the wholesalers become established it will probably happen that food processors will find it more economical to deal with them rather than with the ineffective independent agents presently used, and, in many cases, more economical than doing their own distribution direct to retailers. Similarly, the poultry and egg distributors, who in many cases are outlets owned by producers' associations, may find it more economical to deal through the wholesalers and operate as sales offices instead of holding stock themselves.

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[1] PIMUR Final Report, Table 2.44 p.104

Organisation

The basis of the proposed food distribution system is the chain of stores of ten to fifteen stores associated with a broad-line wholesaler. The form of association should be that of the voluntary chain, with the wholesaler as the channel captain. Although fully-integrated chains would be good there are few entrepreneurs in Colombia who command the amount of capital required to start such a chain, and fewer still who have the marketing and other skills required to operate it. Cooperative chains would have problems in that the members would be reluctant to let the wholesaler have the powers that he would need if he were to act as channel captain.

The wholesaler will need a good deal of authority over the operations of his affiliated retailers, especially in the early stages of development of the system. The proposed retailers are the very antithesis of the neighborhood stores presently operating in Cali. Instead of avoiding competition they will have to compete vigorously for the custom of people living on the fringes of their service areas, instead of being technique-oriented they will have to be consumer-oriented, and instead of taking their markets as givens they will have to adopt a low price - high turnover philosophy and regard their markets as functions of their own skills as marketers. It will be some time before these ideas are full assimilated, and during this time the new retailers will be frequently tempted to relapse into the old ways of doing things. The wholesaler should have enough power to prevent this, particularly with regard to pricing policies.

A characteristic of the voluntary chain is that the wholesaler is the channel captain, and can exert a very strong influence over the behavior of his associated retailers. Chains of this type have been in existence in the U.S. for many years, and a considerable amount of experience has been accumulated with them. It is strongly recommended that use be made of this experience, especially in drawing up the contracts between the wholesalers and retailers.

We describe below a public body, one of whose functions would be that of aiding in the financing of the new wholesalers and retailers. This power of the purse-strings could be very effective in persuading retailers to accept the idea of having the wholesalers "interfere" in their operation. The public body, in effect, would be in a position to impose a "supervised credit" form of control over the new system during the time that such control would be most needed. A primary objective of this control would be to make the best use of the managerial capabilities which we propose to concentrate in the wholesale sector.

The system we propose would be composed of institutions which would be independent of each other financially, except for the control of the above-mentioned public body. Each participant would be the owner of his own operation. This would have the disadvantage that each participant would, in order to enter the business, have to be able to invest rather substantial sums of money in his operation. This would limit very severely the number of potential entrants into our new food distribution system.

An alternative organizational and financial possibility is to lease out a proportion of the retail operations. This alternative is confined to the retail sector. While we can visualise a syndicate type of wholesale operation, with many operating partners, the wholesale sector is too critical to permit the extension of decision-making and policy-making powers to lessors. The reasons will become clear after we have discussed the application of leasing in the retail sector.

Leasing-out of operations in the retail sector could vary widely in degree of application. At one extreme a retailer could rent out a few square meters in a corner of his store to a baker for two or three hours each day. The baker might come into the store at the appropriate times just to sell fresh-baked bread. The bread could even be baked on the premises.

At the other extreme the wholesaler might build and equip the retail outlet, as far as physical facilities are concerned, instal an administrator and undertake to supply management services, and lease out the operations, department by department, to concessionnaires.

The principal advantage of this would be that the potential entrants to the retail sector would need much less capital than the new retailers we described earlier. This would greatly widen the ranks of potential entrants. In particular, it would permit some of the existing stallholders, with their specialised product-handling skills, to enter the new system. Unfortunately, there are two serious disadvantages to this idea.

First we have already noted that there should be a

contractual relationship between the wholesalers and retailers of the new system. This is required to permit the provision of management services by the wholesaler. Particularly during the early stages of development of the system, it will not be easy to specify in the contracts precisely what are the rights and duties of each party to the contract. The addition of a third level of distribution, the lessees, will make it difficult to contractually formalise the relationships between components of the marketing channels.

Second, as we have already noted the key to the success of the whole system is that the participants must be marketing-oriented. This is absolutely essential. But marketing orientation is a new concept in food distribution in Cali, which means that exposure to the marketing concept will be through a diffusion process. Diffusion of ideas is more rapid amongst the better-educated, and the Consumer Survey showed that in Cali education is closely correlated with income. Income, in turn, is closely correlated with wealth, or command over capital. It seems safe to conclude that the lower the requirements of capital to potential entrants to the retail sector of our proposed system the slower will be the adoption of the marketing concept. In the developmental stages of our proposed food distribution system the risks associated with lack of a marketing concept far outweigh the advantages of being able to select from amongst a larger number of potential retailers.

We must therefore reject leasing of operations as a feasible strategy during the developmental stages of the proposed system. On the other hand, once past the developmental stage and into the growth stage-leasing out of operations could well prove to be a very effective

strategy. At this stage the operation of the system will be well understood, and the rights and duties of participants well defined through experience. Actual operation in a marketing-oriented environment will probably be the best way of communicating a marketing orientation to potential entrants. The best apprenticeship for potential retailers will be the operation of a concession.

On several occasions we have noted that the wholesalers must have some power over the retailers. This can take any of several forms. The most extreme form would be actual dispossession, in cases where the wholesalers owned and leased-out the retail facilities. Less dramatic manifestations of power would be the withdrawal of management services or the refusal to allow use of the chain's trade-mark. As was suggested earlier, the experience of voluntary chains in the U.S.A. should prove a useful guide.

The greatest weakness of the system as proposed is the difficulty of getting it started. The proposed wholesalers and retailers are mutually dependent, and in the existing system neither can exist as planned without the other. There will therefore be a difficult period while the first few chains become established. Some subsidization of the first operators will certainly be needed, but even more important will be a program of sponsorship by a public body.

This body will be charged with a variety of difficult but extremely important tasks. One of the most important will be to recruit retailers for the new system, in order to build up new chains to viable size, in order to keep the needed subsidies as small as possible. Along with this will go the task of finding the loan capital needed by the new entrants. This body will also have to be responsible for administering the programs of training and technical assistance

that will be needed. Not the least of its tasks will be that of being the public relations agent for the entire system. This will be needed to find new entrants to the system, and also to offset the political pressures that will undoubtedly come from those who feel threatened by the changes in food distribution. Another function of this body will be that of helping to resolve the conflicts that are bound to arise between the members of the chains. This will be more important in the early stages, while the members of the chains are still unsure of their rights and responsibilities, and while the public body has the considerable influence that goes with being the disburser of subsidies and raiser of funds.

It follows from the above that this body must be carefully chosen. It must have a substantial amount of technical skill at its disposal, it must have enough prestige to enjoy the confidence of the public, the government (at both national and municipal levels), and the new food distribution institutions it is working with, and it must have extensive contacts with financial institutions in Colombia and, possibly, elsewhere.

Organizationally, therefore, the new system will include three closely-linked institutions, the retailers, the wholesalers, and the sponsoring/regulating public body. The public body should fade from the scene as the system becomes established. Any formal contacts with other institutions in the food distribution sector should be straightforward. There will be arm's-length dealings with suppliers and with transporters, but these pose no special problems.

Social Consequences

When and if the proposed food distribution system comes into operation it will reduce food prices. PIMUR has analyzed the costs-added structure of food distribution[1] and has shown that the proposed system could distribute food at prices 6% lower than those under the existing system.

This is an undeniable social good. It means that a large proportion of the population of Cali will be better fed. It also implies a large proportional increase in the effective demand for elaborated goods, manufactures, processed foods of a luxury nature, etc. Properly handled, this increase in demand could be a powerful stimulant to economic growth and to increased employment.

Against this must be set the social costs of disruption in the existing food distribution system, particularly the dislocation of the operators of the tiendas and small graneros. There were 3,300 of these stores operating in Cali in 1969, giving employment to their owners and perhaps 700 paid employees, thus providing the livelihoods of 4,000 families. What about these people?

Let us examine this figure of 4,000 families rather more closely. The first thing is to note that at least 30% of the operators of these businesses can best be described as transient. They will go out of business whether the new system comes into operation or not, and the only effect of the new system will be to discourage others from coming in to replace them. As we noted on page 165 , the dissipation of personal savings involved makes this type of concealed unemployment a particularly undesirable one, so that in this respect the advent of the new system will probably be a net social benefit. Although the

[1] PIMUR Final Report, pp.105-107

underemployment or unemployment of the 1,200 people involved is a matter for serious concern it cannot be attributed to the proposed system.

This leaves 2,800 people whose lives will be affected adversely by the new stores. Against this can be set the employment which these stores will bring about. When it is fully established the new system will sell between Col./$80 million and Col./$100 million of food each month, and involve from 200 to 250 stores. These stores will employ an average of eleven people each, so that the retail sector of the system will be responsible for employing between 2,200 and 2,750 people[1]. In addition, the salaries paid (ranging from Col./$600 to Col./$2,500 per month plus 40% fringe benefits) are rather greater than the net profits of the existing neighborhood stores. (See Tables V.1. and IV.11)

So the new system roughly balances out livelihoods lost and livelihoods created. As far as disruption is concerned, this should be minimal. The growth of the system should take at least five years, more probably ten, leaving ample time for normal attrition to reduce the numbers of tiendas and small graneros and allow orderly withdrawal. This also applies to the reduction in numbers of stallholders in the public markets, although here some redeployment will be necessary as numbers in individual markets fall below the levels at which the markets are effective.

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[1]The population of Cali has been assumed constant for the sake of comparability. This does not affect the argument.

In fact, when the opportunities for small neighborhood businesses as cafes and high-convenience (e.g. during evening hours) stores are taken into account it would seem that there would be a net social benefit to be derived from the new system entirely apart from the benefits of reduced prices. This is a somewhat surprising conclusion. Usually the introduction of more efficient techniques causes a good deal of dislocation. However, our argument appears to be sound. The possible weak point is our assumption that underemployment with dissipation of savings is no better than no employment at all, which is a point open to question.

The losses suffered by the centrally-located traditional stores can be offset by the opportunities created by the new wholesalers[1], and only negligible disruption should be felt by the existing wholesalers as they move up-channel to become brokers. This move only relieves them of the task of selling, which they are not good at, and leaves them free to concentrate upon the thing they can do well, buying.

A substantial loss of business will be felt by the intra-city transport sector, since it is in transportation between wholesaler and retailer that the new system will realize a great part of its cost savings. However,

a) the barrows, an important segment of this sector, will lose most of their business anyhow, if the proposal to construct a wholesale center on the edge of the city comes to fruition, and

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[1]These businesses will be hurt by the clearance of the Galeria Central whether the new system comes in or not.

b) this sector has trouble in keeping up with the demands made upon it by the existing system, so that the major loss will be in excess profits. The personnel transportation sector, the buses, will also lose some trade. This will be fairly serious, since it will bring into prominence in Cali the problem which plagues mass transportation everywhere, the problem of profitably using during the slack hours of the day the large numbers of vehicles needed to cope with rush-hour traffic. The answer to this, of course, is to adopt a policy of staggered hours of work, but this appears to have disadvantages which outweigh its benefits to transportation.

There are a further 3700 stallholders in the public markets who will, in the long run, be displaced by the new system. However, this will take a long time to accomplish. It should be noted that the last stall operators to be affected will be those dealing in fruits and vegetables, amounting to 2400 people. It would appear that natural attrition, through retirement, could be used to phase out the public markets faster that the competition from the new system.

The social disadvantages of the proposed food distribution system would appear, on the whole, to be minor. They are certainly negligible compared with the major advantages the new system offers in terms of reduced food prices.

The Contribution of Government

The various levels of government intervene quite substantially in Cali's food distribution, both directly and indirectly. Direct intervention includes activities such as policing controlled prices and the operation of the IDEMA stores by the central government, and the operation of the slaughterhouse and administration of the public markets

by the municipal government. Indirect intervention includes economic legislation such as the laws against peculation, licensing of dealers, and the support and encouragement of non-profit organizations, the cooperatives and the Cajas.

In general these efforts have been either ineffectual or dysfunctional. PIMUR has analyzed the effects of the major activities, and made recommendations for changes as necessary[1]. We are concerned here with the contribution that government can make towards helping the proposed food distribution system to become successful.

Several problem areas can be foreseen in which help from the government will be useful or necessary. One such area will be problems within the new institutions, such as conflicts between retailers and wholesalers. Another will be in public relations between the new institutions and the public, and between them and the existing institutions. A third will be in mobilizing the financial and human resources the new system will need, and a fourth will be the question of subsidies to wholesalers in the early stages of development of the system. A fifth possible problem area lies in conflicts between the concepts involved in the new system and existing laws and regulations.

The key contribution from the government will be the establishment and support of the public body discussed earlier, which will be responsible for fomenting the proposed system and for certain aspects of its regulation when it is established. It is particularly

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[1]PIMUR Final Report, Chapter 6.

important that this body enjoy the confidence of those levels of government with which it will have to deal. This implies that the government have a good understanding of the purpose of the proposed system and the methods by which it is expected to achieve that purpose.

Raising the funds required to create the system will be difficult. In order to combat inflation Columbia has embarked on a policy of credit restriction such that fully-secured corporate loans cost 25% to 30% per year. Personal loans, secured on real estate, can cost 60%. On the other hand, there are special lines of credit available for agriculture and for most manufacturing industries, the so-called "development industries". The shortage of funds available for lending will severely hamper the development of the proposed food distribution system unless the central government provides a line of credit for this purpose. This will be particularly true for wholesalers in the early stages, because of the novelty of the institutions and the relatively large amounts of capital required for each enterprise.

Finding and developing the human resources required will need help from the government. There are three main forms that this help can take. There must be vocational instruction in various aspects of retailing, particularly meat management, which could be handled by SENA, the national apprenticeship system. Technical assistance teams will be needed to advise the wholesalers while they find their feet, and the wholesaler's responsibility to provide management services to his retailers will create a need for people with training in cost accounting and operations research. This training is at university level, so that some scholarships will be needed, probably to universities outside

Columbia. University-level instruction in marketing will also be highly desirable for the wholesalers and retailers themselves.

Evolution of the Proposed System

The major defect of the proposal described is the difficulty of visualizing how the first few chains will come into being. Once they are established and shown to be profitable imitators will enter the field. But how the first chains will start is not immediately obvious.

Historical precedent does not help. Voluntary and cooperative chains started as associations formed by existing institutions with the objective of meeting the challenge of the integrated chains. They were change-averting rather than change-inducing movements.

It appears that present pressures in Cali's wholesale sector are not such as to encourage the natural evolution of wholesalers of the type proposed. In particular, the fact that they will be buying from existing wholesalers will generate resistance to their activities, because the simplistic theory that middlemen only add costs finds wide acceptance in Columbia.

An attractive strategy would be for the pioneer wholesalers to start as meat wholesalers only. This is the high-risk stage, because of the losses through spoilage and the small volume over which fixed costs can be spread during the period while business is being built up. The next stage would be to provide delivery service to their clients, making a charge for delivery of goods bought from other wholesalers. Retailers' transportation expenses are high enough that this service could be made quite profitable through consolidating shipments. A buying service, for which a charge would be made, could be made acceptable to clients by suitably offsetting the delivery

charges, and from here it should be only a short step to becoming a wholesaler holding stocks. As their volume increases, the new wholesalers will arrive at a position where they will be able to demand volume discounts from the specialist wholesalers, thus putting pressure on them to stop holding stocks and become brokers.

It should be noted that the clearance of the Galeria Central, with the subsequent removal (if EMSIRVA's plans come to fruition) of wholesalers to a wholesale center on the outskirts of the city, will disrupt the meat wholesale system as it presently exists. This will provide an excellent opportunity for the new wholesalers to enter meat wholesaling. It will also provide an excellent, possibly unrepeatable, opportunity to modernize the meat wholesaling function in Cali.

A danger with this strategy is that the new wholesalers might, probably will, develop a product orientation rather than a marketing orientation during the time they are entirely dependent upon meat sales. Also, people who would be prepared to enter the business in this manner would probably already be butchers with a strong product orientation. They would be unlikely to be bringing in the new ideas the new system would require.

On the whole, therefore, this strategy must be rejected, unless some exceptional individuals come forward who want to enter food wholesaling in this manner. A better source of entrepreneurial talent would appear to lie in the opportunities made available by the moribund state of the agencies which at present handle processed foods. As we noted earlier, it should not be long before some bright young men enter this branch of commerce, and the better operators among these should be excellent candidates for the jobs of channel captains for our proposed

voluntary chains.

Under this strategy the tactics will be straightforward. The governmental body discussed in the previous section would wait until these new entrepreneurs could be identified, and then would approach them with offers of supervised credit, technical assistance, and such other help as might be useful in starting them off as wholesalers for our proposed retailers. The evolutionary development of the new wholesalers would not be complicated. Initially, they would act as wholesalers carrying a more-or-less complete line of processed foods. Then they would proceed through stages of providing delivery service, managerial services, and buyer services (not necessarily in that order), until they end up as full-line, full-service wholesalers.

There is, of course, a final possibility. A sponsor might be found, willing to finance one, or even two, chains of the type described, as a philanthropic action rather than as a profit-seeking action. Although very unlikely, it is possible that such a "deus ex machina" could be found in one of the large charitable foundations.

More realistically (but with still only a low probability of occurrence), one or more of the chain stores might decide to diversify into full-range food distribution. Any which made such a decision would constitute ideal candidates as integrated chains. However, such decisions are unlikely for two reasons.

1) There was, as of 1969, plenty of room for expansion for these chains. For example, there are six cities in Valle, besides Cali, with populations approximating one hundred thousand, yet only one of the chains had set up a store in one of these cities (Palmira, near to Cali).

2) In 1969, and into the foreseeable future, it would appear that the gross margins available on small manufactured good are far larger than those on foodstuffs, and the handling costs are lower. We have no direct authority for this, except the observation that the laws regulating prices in Colombia are presently concentrated upon the so-called "articles of primary need", comprising principally foodstuffs.

Summary

We have shown that the existing food distribution system in Cali is not satisfactory. The growth of the city has outstripped the evolutionary capacity of a food distribution system which was originally designed to serve market stalls.

The most important requirement of the Cali consumer is that food retailers be located near their homes. We have shown that public markets cannot fulfil this requirement, and that a food distribution system built around neighborhood stores is needed. Such stores can be large enough to enjoy economies of scale and thus sell food at low prices, but they will have to be operated by people with a marketing orientation and be supplied by wholesalers of a type which does not at present exist in Cali. A food distribution system has been proposed, based upon these new wholesalers and retailers, which could reduce the food bills of three-quarters of Cali's population by about 6%. An important characteristic of the proposed system is that the new institutions will be sufficiently profitable to attract able entrepreneurs.

The most serious problem envisaged lies in the novelty (to Cali) of the new holesalers and retailers. This will slow initial

development, and the lack of experience will heighten the probability of making errors. We have outlined strategies for easing the problems of the initial stages.

APPENDIX I

POPULATION ESTIMATES

APPENDIX I

Population Estimates

The only data available concerning the population of Cali are the censi of 1951 and 1964. These showed populations, as of those dates, of 241,000 and 639,000, with an implied growth rate of 7.7% per year during the intervening period. If this growth rate is extrapolated the population of Cali at the time of the field work, February 1969, would be 928,000. PIMUR used slightly different growth rates to arrive at an estimate of 895,000.

Both of these estimates, however, depend upon an exponential or quasi-exponential growth model, in which the observed growth is the resultant of vegetative growth (i.e. the natural net growth rate of the population), plus immigration from other areas. This immigration is also assumed, in the exponential model, to be proportional to the size of the city. But it is difficult to conceive of a mechanism existing in the rural areas which will adjust the inflow of migrants to a set proportion of the current population of the city. In short, an exponential growth model, while applicable to closed biological system, is not relevant in the case of open systems such as cities.

We suggest the following as a more plausible model. We assume first that the rural population of Colombia is, to a first approximation, steady. Given the fact that no substantial land areas have been opened recently for exploitation, and the absence of a primegeniture system

of land inheritance, this assumption seems to be reasonable. Assuming population constancy, it follows that the movement of people from rural to urban areas must be such as to offset the rural net reproductive growth rate. The mechanism behind this balancing outflow is probably population pressure on the rural areas. The vast majority of the rural population lives on plots of land which are now (and have been for at least the last twenty years) as small as is consistant with supporting one family, and that employment in commercial agriculture, (sugar, coffee, stock raising) is stable.

If this assumption is accepted, we can calculate the number of people leaving the country for the city each year in the following manner. The annual growth rate for Colombia is 3.2%[1], and demographers in Colombia believe that the rural growth rate is higher than the urban growth rate, though this has not yet been conclusively proved. It would seem that taking the urban rate at 3.1% and the rural rate at 3.3% would fit these conditions pretty well. In 1964 the population of Colombia was 17,485,000, and of this 51.5% lived in rural areas. Thus each year the rural population would have an excess of

17,485,000 x .033 x .515 = 297,000 people who would migrate to the cities.

Let us now assume as a first guess, that this flow divides itself amongst the various cities in proportion to their populations. It can be argued that the spatial distribution of urban centers with respect to the settled rural areas will be an important factor. However,

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[1]Pearson, Lester B. Partners in Development, Praeger, New York, 1969, p.250.

we feel that this effect will be relatively insignificant since the urban centers in Colombia are interconnected by all-weather roads and transportation costs are not very high. Cali, then, with 7.5% of the country's urban population would receive 7.5% of the flow, or 21,600 people. Would a yearly flow of this approximate size account for the growth of Cali between 1951 and 1964?

Our model of the city's growth is of the form

$$P(n) = aP(n-1) + k$$

where $P(n)$ is the population at the end of year n

$P(n-1)$ is the population at the end of year $n-1$

a is the vegetative growth factor (1.031 for Cali) and

k is a constant influx rate

If we solve this difference equation using the populations in 1951 and 1964 as boundary points, we find that k comes out at 19,000. This close agreement, 19,000 versus 21,6000, is probably rather better than is warranted by our first-cut guess about how the flow splits itself between the various cities, but it is very encouraging as a test of our model.

Data from the Consumer Survey make another test possible. Respondents were asked whether the household head was native to Cali, and if not how long he had lived in that city. We can assume that the number of immigrants who are heads of households is in a fairly constant proportion, through time, to the total number of immigrants, or that the time distribution of length of residence of immigrant household heads is similar to that of immigrants as a whole, and from the Consumer Survey data we have a sample of this distribution. This was tested against the distribution that would be expected from an immigration

rate proportional to the population of the city, and against a rectangular distribution. The differences between the exponential model and the observed rate were significant at the 1% level of probability virtually throughout the entire time period tested, while the rectangular distribution agreed with the observed data to well within the 10% level of probability except for the years 1951 to 1953. Since these were the years when the "violencia" was at its peak, and a vigorous industrial building boom was in progress in Cali, it is to be expected that the immigration rate during this period would exceed the normal rate.

We feel, therefore, that we are justified in adopting the constant-influx model, perhaps adjusting it to suit temporary conditions. For instance from 1964 until 1969 Cali was in a state of economic stagnation while in 1967 and 1968 there was a construction boom in Bogata in preparation for the Pope's visit to that city in 1968.

We will therefore use 17,000 instead of 19,000 for k for the years 1965 through 1969, 21,000 for the years 1970 and 1971 (in consideration) of the Pan-American Games which are to be held in Cali in 1971, the preparations for which will involve considerable construction activity) and 19,000 for 1972 forward. On this basis we find that our own estimates of the city's population work out at

Year	1969	1979	1989
Population	835,000	1,238,000	1,880,000

The estimates for 1979 and 1989 must be taken as upper limit estimates, since it is to be hoped that birth control programs will have started to show results by these dates, at least in the urban sectors of the country. However, there is no way of telling when, or to what degree the programs will become effective (if indeed they ever

start), so we have to stay with the figures as tabulated.

The above figures refer to the month of July for the various years listed. The field work upon which this study is based was carried out in February 1969, at which time the above model shows the population to have been 813,000.

APPENDIX II

CONSUMER SAMPLING AND SURVEY METHODOLOGY

APPENDIX II

Consumer Sampling and Survey Methodology

The consumer sampling and surveys consisted of the Consumer Survey and the Market Basket Survey (Market Basket Study). The latter was the basis upon which sample sizes were determined.

In the Market Basket Survey the original intention was to record the food purchases of 100 families for one month. At the suggestion of Dr. James Shaffer of Michigan State University the objective was changed to that of recording the food purchases of 400 families for one week each. The decision to aim for 100 family-months (or 400 family-weeks) was almost entirely arbitrary, since no secondary data concerning food purchasing was available. Perhaps the main criterion was that of availability of human and financial resources.

It was estimated that two-thirds of those asked to participate would do so, and since "those asked" would be the respondents to the Consumer Survey this consideration set the sample size of the Consumer Survey at 600 families. This number appeared to be large enough for the purposes of the Consumer Survey.

Simple random sampling offered several advantages which led to its selection as the sampling technique. It was the method which would be least affected by the paucity of demographic data about Cali, it simplified the analysis of the data which was to be obtained, and it guaranteed that there would be adequate representation of the sector in which we were most interested, the families in socio-economic levels V and VI.

The sampling itself was enormously simplified by the courtesy of Empresas Municipales de Cali in letting us use their list of electricity meters. This list was sampled, at a sampling intensity of 0.6% using Monte Carlo methods, giving us a list of addresses in those barrios which enjoyed electric power service. The barrios outside this category were, without exception, of sufficiently recent origin for all housing therein to be registered in the municipal cadastral office, from whose lists population estimates for these barrios were prepared. The houses in these barrios were then sampled at the same sampling intensity of 0.6%, using two-stage random sampling by blocks and houses.

The principal weakness of this method of sampling was that it makes no allowance for the case where more than one family occupies one house. There was a housing shortage in Cali in 1968-69, which together with the poverty of the people made the multi-family case one of common occurrence. The Consumer Survey showed that roughly one house in four or five was occupied by more than one family. In many cases all the occupants ate as a unit, but to the extent that they did not the sampling method was not truly simple random. Since the practice of sharing a one-family residence amongst several families is more frequent amongst low-income families the lower socio-economic levels are under-represented in our results. Unfortunately, we did not anticipate how widespread this practice was, and the interviewers were not instructed to obtain the appropriate data, so we cannot make the corrections required. As it happens, the only results affected by this oversight are those constructed for the entire population. Results pertaining to individual families are unaffected, and these are the ones most germane to the

present paper. Nevertheless, we should note that the figures presented for total (city-wide) consumption are biased in the upward direction in consequence of the under-representation of the lower-income families. The magnitude of the error involved is unlikely to exceed 10%.

In the event, 629 interviews were carried out in the Consumer Survey. The rate of participation in the Market Basket Survey was disappointingly low, as only 323 housewives agreed to take part, and of these only 240 "finished the course". This high drop-out rate could, we believe, have been substantially reduced by better preparation of the housewives for the ordeal of having the privacy of their kitchens violated. Interview supervisors should have visited those who offered to participate and explained in detail what was involved, making much of the importance of their cooperation to the success of the study and of the importance of the study to the future of the city.

Surveys with a high rate of refusal are always subject to criticism on the grounds that the factors associated with the refusals may also be systematically associated with the variables which are the subjects of the study. That is the sample as finally composed may not be representative of the population. To avert as far as possible such criticism we present in Table A.II.1 comparison of several characteristics of the samples involved in the Market Basket and Consumer Surveys. In no case is the difference between the two samples significant at the 5% level of probability.

Table A.II.1. Comparison of Selected Characteristics of Participants in the PIMUR Consumer Survey and Market Basket Survey, Cali, February 1969

	Income Level			
	1	2	3	4
No. of Families in Market Basket	31	56	62	40
Sample Composition (%)				
Consumer Survey	20.2%	27.8%	28.8%	23.2%
Market Basket	19.7%	28.0%	32.6%	19.7%
Average Family Size[1]				
Consumer Survey	8.0(2.8)	6.6(2.5)	5.6(2.1)	5.5(2.3)
Market Basket	8.5(2.6)	7.2(2.6)	5.6(2.1)	5.6(2.6)
Years of Education of Household Head				
Consumer Survey	4.0(3.5)	5.3(3.9)	7.1(4.2)	10.8(4.7)
Market Basket	4.0(2.6)	5.1(2.8)	6.5(3.9)	9.9(4.4)
Cali-Born Heads of Household (%)				
Consumer Survey	41%	51%	43%	47%[2]
Market Basket	35%	53%	45%	62%[2]

[1]Figures in parentheses are standard deviations

[2]Of all the comparisons in the table this has the highest "z" value. In this case "z" is 1.9, compared with 1.96 which would be required for significance at the 5% probability level.

The evidence therefore is that the Market Basket sample is representative of the Consumer Survey sample as far as these demographic

variables are concerned, and we infer that the similarity extends to food purchasing patterns. With the exceptions mentioned above, we are taking the Consumer Survey sample to be representative of the population of Cali, so we consider the results of the Market Basket Survey to be representative of the food purchasing habits of this population.

APPENDIX III

EXPERIENCE WITH THE ATTITUDE-MEASURING SECTION OF THE QUESTIONNAIRE

APPENDIX III

Experience with the Attitude-Measuring Section of the Questionnaire

This part of the Consumer Survey started with the interviewer saying "Continuing our talk about places where you can make food purchases, I'm going to read out certain characteristics of these places. For each characteristic please indicate which place, in your opinion, is best and which is worst."

The respondent was then handed a piece of paper on which all the various types of retailers were listed in a circular (pie-chart) fashion, in order to avoid biases against the first or last items listed, and asked to read the names to refresh her memory. Then the interviewer read out the following list of characteristics:

1) Quality of Foodstuffs
2) Agreeable clientele
3) Gives credit
4) Delivers to the home
5) Hours of business
6) Cleanliness and tidiness of the establishment
7) Weights and measures
8) Price and reductions and discounts
9) Low cost of transport
10) One can serve oneself
11) Service and attention
12) Variety of foodstuffs
13) Convenient location for the housewife
14) Prices of staple foods
15) Prices of non-staple foods

These were chosen as being the most important factors in the consumer-retailer interactions. Unfortunately we have not been able to devise any method of determining how exhaustive the factors listed are, and

the extent to which they account for observed retailer-selection patterns. However the discussion in chapter III indicates that the important factors are included.

Some problems were encountered with the phrasing of the items listed. Item (8), price reductions and discounts, was intended to test the hypothesis that "haggling" is an important element in food buying. The Spanish word "regatear" which is most commonly used to mean "haggle" is considered in Cali to have somewhat pejorative connotations, so the words rebajas y descuentos (reductions and discounts) were used instead. While these are principally used in connection with bargaining and dickering they may also refer to any price cuts, whether bargained for or not, and many respondents took this meaning. The chain stores, which hold frequent cut-price promotions, were often mentioned as best in this respect, although they do no dickering. This dual interpretation invalidates any straight-forward analysis of the results, but the readiness of respondents to take the wider meaning would indicate that haggling is indeed less important than is popularly believed. Henley[1] came to the same conclusion watching transactions in the market-place in La Paz, Bolivia.

Item (10), "one can serve oneself", also invokes two concepts. The first is the simple self-service versus personal service dichotomy associated with store format. The second can be illustrated by describing three ways of buying a pound of tomatoes. The buyer has item (10) in the greatest degree when she can select each tomato that makes up

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[1] "Market Processes in La Paz, Bolivia", Research Report No.3, Latin-American Studies Center, Michigan State University, East Lansing, p.46 ff.

the pound, has it in lesser degree when she selects from amongst several pre-packaged pounds of tomatoes, and has it in least degree when she is forced to accept the shopkeeper's selection. On this continuum the supermarket will appear about the middle of the scale, with obliging and disobliging personal-service store operators at the extremes. The results of the survey showed that consumers used both concepts when replying to this question.

Interviewers reported that this section of the questionnaire was the one that respondents found most exhausting and difficult to answer. In many cases (11% of interviews) the respondent just gave "don't know" answers to the entire section, and it is of interest to note that the proportion of such replies amongst respondents of S.E.L. VI was significantly higher than that for the rest of the sample (32%, significant at the 1% level of probability by the chi-square test). Survey questions of this type must be considered susceptible to interviewer bias, and therefore the responses were checked for manifestations of this. In only one case out of twenty were the responses significantly different from the average of the group: this interviewer was a law student. It would seem that if anything the interviewers leaned over backwards to avoid pressuring the respondents to answer and to avoid "leading" by their mannerisms. On the whole, the high proportion of "don't knows" seems a reasonable price to pay for the absence of interviewer bias.

There were various other forms of unusable responses to this section, such as that given by people who said that the place they patronized was "best" for all attributes and who had no opinion about "worst", and those who gave only one or two "best" or "worst" ratings

and all the rest "don't know". Before the data can be used in a formal quantitative analysis of purchasing patterns they will have to be carefully screened for these and other unusable responses. This will involve the exercise of a good deal of subjective judgement.

The effect of using these dubious responses in the analysis reported in Chapter III is to obscure the results rather than to produce spurious results. That is to say, the conclusions drawn err on the conservative side, reducing the apparent importance of those characteristics singled out as the key considerations in selecting retailers. The ranking of importance of characteristics, however, should not be effected.

APPENDIX IV

COMPARISON OF MARKET STALLS AND STORES

APPENDIX IV

Comparison of Market Stalls and Stores

A market stall is a small establishment, using one or two square meters of storage, selling, and display space, and located in very close proximity to other similar stalls. They handle very narrow lines of goods, with moderate to great depth within the lines. The goods are displayed so that the customer can handle and inspect them, and as a rule only one person tends a stall because space is so severely restricted.

A store is much larger than a stall, using five or more square meters of storage, selling, and storage space, and a counter separates the customers on one side from the goods and attendants on the other. There is moderate to great width of lines carried, with little to moderate depth within lines. Space behind the counter is relatively unrestricted, even small stores being able to use three attendants if pressure of business so demands. Stores of similar types are not usually located immediately adjacent to each other, and even where they are a customer still has to walk ten to fifteen meters to get from counter to counter.

Behind these observable differences there are basic operating differences. The stallholder relies on his knowledge of his products and his skill in buying, because these are the only ways of securing

competitive advantage that cannot be immediately copied by his competitors. The storekeeper's strategy is based on offering a total package of goods and service, an important component of which is the prospect of one-stop (or at least few-stops) shopping.

When a housewife is buying food, the greater part of her purchases are of a routinized nature. The stallholders depth of line only introduces the need for extra decisions and his narrowness of line means that she has to deal with an irritatingly large number of retailers. The stallholders' relative skills are of little or no significance to her. Shopping of this type is carried out more effectively in stores. When the housewife is looking for shopping goods the stall is a more effective retailer, but food purchases in this mode will account for only a small proportion of the total, say about 10%.

The transaction efficiency of the store is higher than that of the stall. The stall's greater depth of line will make for prolonged negotiation before purchase is consummated, and there is the stage of paying over the money, making change, etc., with virtually every item purchased. The store's shallowness of line makes for short negotiations and one money-exchanging process can cover many items. In a market, especially in the case of shopping goods, there is a tendency for buyers to make several negotiations with different stallholders before purchasing. This behavior, which should be distinguished from bargaining or haggling, is an intrinsic part of the process of buying in a market, and is greatly facilitated by the close proximity of stalls to each other. It results in a substantial proportion of fruitless negotiations for the stallholder, and further reduces his transactional efficiency, the number of sales he can make in a given time.

In yet another way does the storekeeper have an advantage over the stallholder, in that he can put several people to work behind his counter, thus greatly increasing his rate of sales.

The potential productivity of a storekeeper is therefore higher than that of a stallholder, which means that he has the potential to sell at lower prices than obtain in the markets. He can only realize this potential if the flow of customers is high. This explains why the tiendas and small graneros charge high prices, because by locating themselves away from other stores they automatically cut themselves off from the possibility of generating a high density of shoppers. It also explains why the wholesaler retailers and large graneros, located in the Galeria Central area where the shopper density is very high can compete successfully with the stallholders of the Galeria Central, although the stallholders enjoy the benefits of subsidised rents for their stalls.

The foregoing discussion has been comparing stalls with traditional food stores. The advantages of the store over the stall are even greater if the supermarket format is considered.

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