THE HOUSEBUILDING INDUSTRY IN METROPOLITAN VANCOUVER

by

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B.A., UNIVERSITY OF BRITISH COLUMBIA, 1966

A THESIS IN COMMERCE

SUBMITTED TO

THE FACULTY OF GRADUATE STUDIES

IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR

THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION

We accept this thesis as conforming to the required standard

THE UNIVERSITY OF BRITISH COLUMBIA

April, 1970

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Date April 17, 1970

ABSTRACT

The major objectives of the study are to determine the nature of the housebuilding industry in Metropolitan Vancouver and to suggest possible reasons for an apparent lack of large-scale builders. The industry in the United States and in other regions of Canada is analyzed on the basis of existing literature and data, and a general industry framework is established. Firms are classified into categories by size, and the existence of large firms is found to be quite general among cities of Vancouver's size.

The nature of the metropolitan area is examined, and placed in the context of other Canadian cities. Populations, general topography, and type of government are discussed, and it is found that Vancouver is a fairly typical Canadian city except for its mountainous setting.

Most of the information on the Vancouver housebuilding industry is based on a series of interviews and on the data generated by a questionnaire answered by the builders themselves. There is a discussion of the Vancouver builders, and the structure of the industry here. This enables a comparison to be made with the industry elsewhere, and some of the differences and possible reasons for them are discussed in considerable detail.

In the final portions of the paper there is a discussion of the most important variables affecting the industry in Vancouver, leading to the conclusions. Suggestions are made for further study.

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ACKNOWLEDGMENT

The author is greatly indebted to Professor R. U. Ratcliff of the Faculty of Commerce and Business Administration, the University of British Columbia. Dr. Ratcliff's guidance, helpful comments, and criticism of the preliminary draft of this thesis contributed immeasurably to the preparation of the final draft.

INTRODUCTION

The purpose of this study is to examine in some detail the housebuilding industry in Metropolitan Vancouver with the aim of presenting on a systematic basis the local industry so that it can be compared to the industries of other cities in Canada and to cities which are the subject of previous studies carried out in the United States. For the purpose of this study, the housebuilding industry is defined as the firms and individuals who are the key decision-makers in the construction of the single family detached dwelling. The study focuses on the housebuilders themselves and their means of land acquisition, materials purchasing, construction techniques and selling. These particular aspects of building are felt to be the critical areas in the industry, and their relations to the builder are considered at some length.

The large-scale builder has been a major producer of new houses in most larger North American cities since the war, but he has not achieved any notable degree of success in Vancouver, which is one of the largest single family dwelling markets in Canada. The study will address itself in particular to the question of why these builders are apparently less successful in the area.

A study of this nature is desirable because of the importance of housing to everyone and the resulting concern of

individuals and government bodies in the type, quality and production of housing. No study of this nature has yet been made for the Vancouver area, and a systematic analysis based on relevant data would be a step toward providing a sound basis for future discussion.

This paper consists of three distinct parts. The first part deals with the existing literature on the subject, and outlines the general situation in the housebuilding industry as determined by previous studies. This section relies heavily on earlier works by Sherman J. Maisel[1] and John P. Herzog.[2] The second part introduces the Vancouver area and summarizes the situation in the rest of Canada as much as possible, then describes the industry in Vancouver, leading to the conclusion. The remaining part is an appendix which contains complete descriptions of data sources and methodology for the survey on which the section on the Vancouver industry is based.

Although they are closely related topics, neither the subject of mobile homes, a special type of single family detached dwelling, nor the place of the single family dwelling in the overall production of housing has been discussed, because of the necessity to limit the scope of study. Any further research should consider these aspects of housing.

PART I

A. LITERATURE SURVEY AND GENERAL INDUSTRY BACKGROUND

Although a number of books and papers have dealt with housing or the construction industry at large, relatively few have focused on the housebuilding industry itself, and fewer still have probed and examined the entrepreneurs and firms who carry out and oversee the actual erection of the houses.

One of the most comprehensive works in the field is Housebuilding in Transition by Sherman J. Maisel, a study of the San Francisco Bay area. Although the data gathered was mainly for the year 1949 and the work itself appeared in 1953, the book gave a clear, accurate picture of the different types of firms and the basic methods of operations, methods which have altered surprisingly little in the last twenty years.

The work serves both as a rigorous study of the housebuilding industry in 1949 and as a solid basis to compare later developments and changes in the industry. An important aspect of Maisel's work was his division of firms into various classifications by characteristics as reflected in size of annual production. The three major categories of firms he outlined were: small firms — those building from one to twenty-four units per year; intermediate firms — those building from twenty-five to ninety-nine units per year; and large-scale

firms — those producing one hundred or more units per year.[3] Each class of firm was then broken down and analyzed, with the differences in techniques, management and financing determined and the direction of the industry as a whole indicated. The results clearly indicated a new trend to large-scale builders, a trend that was to accelerate in the next decade.

Another valuable work was to appear later as a doctoral dissertation by John P. Herzog. This study accepted the general structure of the firms as outlined by Maisel, and concentrated on the nature and development of firms producing one hundred or more houses per year in the decade 1950-1960. Herzog considered not only the San Francisco Bay area but Northern California as well and clearly showed the emergence of the large-scale builders as the dominant force in housebuilding in Northern California during the decade. The results were dramatic, with the large firms increasing their share of production from approximately thirty-two per cent to seventy-four per cent of total new houses started.[4] The dissertation appeared in book form in 1963, and served not only as an in-depth study of the relatively new large-scale housebuilding firm but also as a confirmation of Maisel's earlier work and predictions and a valid point of comparison of the industry in the Bay area after ten years.

While these two works must form the basis for any study of the industry at those times, other works have made their

appearance.

A more general work appeared in 1959, a collection of studies by Burnham Kelly and associates entitled Design & Production of Houses.[5] The book was wide-ranging, concerning itself with new designs, both architectural and land use, new fabrication techniques, research, labor relations and land use controls as well as the current state of the housebuilding industry. While consideration of the industry itself was necessarily somewhat superficial because of the wide scope of the studies, the study does give some points of comparison to relate developments in the United States as a whole to those in California.

Another general collection of studies appeared in 1966 entitled Urban Housing, and edited by Wheaton, Milgram, and Meyerson.[6] They attempted to provide a comprehensive collection of essays and excerpts from works of leading thinkers concerning most major aspects of housing. In a section devoted to the housing industry, four articles present different interpretations of the industry and its development in the post-war period.

In addition to the works mentioned above, there has been the occasional article in publications such as House and Home in the United States and in Canadian Builder in Canada. Aside from occasional journalistic works in magazines and

trade publications, there has been very little published in scholarly journals or additional research papers on the housebuilding function. Numerous publications such as Industrial Relations in the Construction Industry[7] have appeared but usually are concerned with different aspects of construction, barely touching on housebuilding itself.

This study will present a picture of the housebuilding industry and its development elsewhere as reflected in the literature, then compare this picture to the development and present state of the housebuilding industry in the metropolitan Vancouver area, as much as the scope of the study permits. Since the literature available on the subject considers almost exclusively the American industry, it is very difficult to compare the industry in the rest of Canada with that of Vancouver. Wherever it has been possible, whether from government statistics or other sources, to obtain relevant data to base comparisons on, it has been used to try to put Vancouver in its Canadian context. The situation of Vancouver has somewhat more meaning when compared to other Canadian cities, rather than American ones, because of common laws, financial institutions and operations, and a scale general to the country as a whole.

B. THE HOUSEBUILDING INDUSTRY

The first question that arises is whether there really is a recognizable housebuilding industry separate from general construction. Maisel, writing in 1953, felt that

> ... the housebuilding industry does exist as an entity, separable from general contracting at one extreme, and from owner-builders at the other.[8]

He stated further that

> Contrary to previous assumptions that dwellings are not commonly constructed by a special class of producer, ... this research developed the fact that, at least in the Bay area, the overlap between housebuilders and others in the building industry is not great.[9]

In an article published in 1962,[10] James Gillies and Frank Mittelbach discussed this conclusion of Maisel. While noting Maisel's argument as well as the fact that journals such as House and Home and the Journal of Homebuilding dealing almost exclusively with housebuilding had appeared and that the National Association of Homebuilders, a trade association of builders, had flourished, they concluded that

> ... a detailed appraisal of the construction industry in southern California during the period 1955-1959, ... does not support the proposition that there is a housebuilding industry, basically separate from general construction.[11]

This conclusion was based on a sample of fifty construction firms studied in detail and a larger general survey carried out in Los Angeles by the Security - First National Bank of Los Angeles.[12] The results of the general study indicated a

switch by housebuilders into apartment, public, commercial, and industrial construction during a period of contraction in homebuilding following 1955. The detailed study of fifty firms also indicated a strong tendency for housebuilders to move into different areas which utilized similar technology, especially in times of contracting production.

The arguments of Gillies and Mittelbach typify those of a school of thought which maintain that housebuilding forms part of an all-inclusive construction industry and that "... with experience, firms [housebuilders] have shifted their operations to meet new and different demands."[13] In other words, housebuilders tend to evolve into larger firms in areas different from but related to housebuilding.

In the following year John P. Herzog published an adapted version of his doctoral thesis, which was based largely on Maisel's concepts of the building industry. He took the position that

> ... how one looks at the industry will determine, at least in part, what one regards as the causes of its problems. If one views housebuilding as simply one of many alternative short-term operations of firms and individuals engaged in the broader category "construction", such a view is certain to color one's assessment of innovation, managerial initiative, and the like.[14]

Herzog also mentioned that for the purposes of his study, "... it is impossible to describe industrial structure and

organization without outlining the boundaries of the industry.[15]

He feels that it is necessary to answer at least three basic questions to determine whether housebuilding can be separated from construction in general for study; whether there is sufficient stability in volume to maintain firms; the extent of specialization of firms in housebuilding and whether it is possible to identify a group of builders with sufficient continuity in housebuilding work to qualify as a separate industry.[16] He noted that

> ... the overwhelming majority of large-scale firms do practically nothing but build houses, and secondly, there is not a discernible trend away from this practice.[17]

Herzog concluded that there is indeed a housebuilding industry, particularly when the large-scale firms are being considered. He stated that while

> ... there is more than a negligible degree of instability, ... the same can be said about any durable goods industry, and there was nothing in the statistics to indicate that the large-scale builders suffered greatly in housebuilding recessions ... [but] probably fared better (in terms of reductions in output) than did large firms in almost any other durable goods industry. There was no apparent tendency for large-scale housebuilders to turn their attention to other types of construction during recessions, or for that matter, at any other time. ... Furthermore, the statistics on continuity indicate that housebuilders are slow to desert their chosen profession, even after leaving the large-scale class.[18]

In summation, he states that most firms which build

virtually the entire new stock of Northern Californian homes "... are, have been, and will probably continue to be primarily housebuilders."[19]

From the above arguments, one can see that there is a strong case for the existence of a separate housebuilding industry. On the basis of these arguments then, as well as the need to limit and define the type of firm to be studied, this paper accepts the Maisel - Herzog definition of a housebuilding industry distinct from general construction.

Having determined the existence of the industry, one must then determine the nature of the industry in general and the functions of the builders themselves. From the literature it is possible to establish a comprehensive picture of the industry in the United States (particularly California), a picture which generally applies in Canada, as far as is known.

There are basically three types of builders who erect homes: the general contractor, the operative or merchant builder, and the owner-builder. The owner-builder either builds or organizes the building of his own home. It is usually a one-time proposition, and any industry study cannot include them except at the risk of seriously biasing the results.

In the industry itself there is an essential distinction between the kinds of general contractor. The small contractor is still, to many people, the symbol of the housebuilder,

"... the man who builds on a lot which the owner has bought, builds to a design which the owner has selected, accepts payment for his work as it is installed in the house, and risks very little in terms of decision or capital." The other type of builder is the merchant or operative builder, "... who acquires the site, determines the design, puts out his own money as the work progresses, and assumes the risk of losing his entire investment if the house does not sell."[20]

The Custom Builder

The small contractor, or custom builder as he is often known, has been concisely described by Dietz, Day and Kelly.[21] The typical custom builder generally retains the carpentry function or at least a portion of it, because this trade is continuing during the entire job and co-ordinates the other trades, the rest is subcontracted to small operators similar in nature to himself who specialize in different trades. This method is the most flexible in use because it permits the assembling of a wide range of skills to do any particular job that may be necessary. Most small builders have regular subcontractors they work with on a continuing basis.

Typically, he is characterized by a small volume, wide fluctuations in output, minimal overhead and organization, and a considerable dependence on many other small businesses. His volume will range up to twenty-four units a year, often

including some houses built on speculation, each on a different site and intended for an individual owner, who is often intimately involved with the house and makes the work more difficult for the operator.

The builder supplies most of his own working capital through his personal investment. If he needs additional funds he usually borrows from a bank, often on his personal credit and assets. Land is rarely a problem as he buys in small quantitities, usually a single lot, or the customer provides his own land. He is usually quite independent-minded in his relations with architects and he may even draw up his own plans and specifications where possible. His labour is likely to be non-union, especially in areas on the edge of a city where most building occurs.

His overhead is very low in terms of cash expenditures; usually his office is in his home, and his wife or daughter acts as a secretary. Sometimes an outside bookkeeper will be his only expenditure. He is usually paid during the work on the house by construction loans (known as interim financing in Canada) which come down to him from the owner or bank as he completes various steps in construction. Materials and equipment are usually bought from local dealers, who carry the accounts on credit against monthly or periodic billings. The small builder rarely comes into conflict with the local building code, and when he does, usually accepts it without argument.

In the United States, most small builders belong to the National Association of Home Builders (N.A.H.B.),[22] an organization which carries out studies and research for builders and acts as a lobby and information clearing house. The Canadian sister organization, the National House Builders Association (N.H.B.A.) is well established in the East, especially in Ontario, but is relatively new in British Columbia.*

The Operative Builder

The operative builder, known also as development builder and merchant-builder, builds groups of houses at a single time, using similar plans and techniques for all of them. In many cities, the largest source of new houses are those built by operative builders.[23]

Some of these become the large-scale tract builders, who can acquire large areas of raw land, develop it themselves and sell the completed home as well. By building on contiguous lots, the merchant builder can often take advantage of certain economies of scale, depending on his size. Characteristically, he can often get better terms on his supplies by buying in larger quantities, he can get more efficient labor

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* After the original chapter closed in Vancouver City, a new chapter was started a year later in Surrey (a suburb of Vancouver) in 1966. While this new branch is growing rapidly, it is not as stable and influential as those in the cities in Ontario and the United States.

productivity by routinizing some of the jobs and by forming teams for specific functions, reduce waste of materials and use more specialized equipment. By selling a finished product he is spared the necessity of coping with the owner at all stages.

The small merchant builder typically builds on developed lots, perhaps purchasing several in a subdivision. Often, if the firm is small enough, he will work as a foreman or carpenter, and he is likely to have the firm as a proprietorship or partnership. Since he can build on quite small pieces of land without losing his advantages of scale, he can build on relatively small parcels of land nearer the centre of the city. He may make changes in his house if he finds a buyer before completion, and in this manner he may resemble the custom builder. He has a stronger position with his sub-contractors than the custom builder, but much less than the large builder who may have his own crews. On the other hand, he may operate in a smaller population centre than the large producer and still be efficient.

There are some attributes all builders share, whether large or small, operative or custom builders, caused by the economic setting, the nature of the market demand and the nature of the people involved in the industry.[24] The wide range of subcontractors, both general and specialty, with their

facilities, as well as a general availability of good local supply outlets makes it possible for the builder to operate with a minimal overhead with no need to maintain staff, equipment or inventory. The chief function of the builder has been to improvise organizations, get and evaluate bids, decide on techniques and equipment, and schedule the arrival of material and men at the site to gain maximum productivity. The labour force is both mobile and flexible, with workers quite frequently moving from one employer and position to the next, as circumstances dictate.

The financial, operational and institutional framework all firms work in is geared to the premise that houses are built and assembled at the site by skilled craftsmen, who work under a contractor who has estimated the total costs on the basis of plans drawn up beforehand. This background and these conceptions have a profound effect on the industry itself.

The housebuilding industry is characterized by a large number of small firms, a fact which indicates ease of entry and which affects the industry's flexibility and profit structure.

It has been said that,

> It is difficult to find a field of economic activity which can be entered so easily. Hence, the number of business units is very large, and the rate of business births and deaths very high. Such entry conditions keep homebuilding highly competitive .....[25]

While easy entry means sharp competition, it also creates and encourages fragmentation that lays both management and labour open to charges of inefficiency that are

> ... largely unfair or irrelevant, for the industry has generally been too disordered to enjoy the privileges and responsibilities of long-term capitalization of broad research and development, or of stable labor relations.[26]

The growth of large scale firms from 1945 to the present indicates that in some areas, and in some categories of housebuilding, the structure of the industry may have changed along with some of the framework the firms operate in to permit better capitalization and planning.

A great many of the significant differences among housebuilding firms are highlighted when the firms are classified according to the number of houses completed in a year. Maisel found that

> ... when firms are divided according to the number of completions, there occur significant differences between classes which are more meaningful than the differences existing within a class.[27]

Certain characteristics of the houses built vary notably with the size of firm. At the one extreme, there is the small custom builder who virtually hand-crafts the entire home with each dwelling a different design. At the other extreme is the large-scale "tract" builder, who uses large areas of undeveloped land to build large numbers of near identical homes on a "mass

production" basis.

The Small Builder

The small builder, although declining in importance, in terms of total house production, is still an important part of the housebuilding industry and in many areas is still the main type of builder. Their main features and advantages lie in their simplicity, flexibility, and direct control over their workers and subcontractors with an accompanying benefit of personal contact and relations with everyone involved in the work. Although simple, their operations perform the functions required quite efficiently. While they often cannot be as efficient as larger firms in their production and purchasing, they compensate with a low overhead and low charges for profits. In some cases, the small builder makes a very low return on his investment and, considering the hours he devotes to his work, his risks and the skills necessary to perform his work, often receives quite a low rate of income. Like many other small businessmen, however, he takes a great deal of his satisfaction in the independence of his own business and the pride of being a general contractor. In many cases he must compensate for the inefficiencies caused by small operations by accepting a lower dollar income than he otherwise might. While these small builders usually operate with few exact records and limited cost information, their techniques of control are

adequate because of the familiarity of the builder with each job.

While there is virtually no opportunity to engage in research and development of new methods, these firms are usually fairly ready to adopt new techniques, and perform a vital function in building experimental homes and newly designed homes created by architects.

Maisel noted that only toward the top of the small builder category (volume between ten and twenty-four units) the owners tended to spend their full time in direct supervision, and that most of the firms are custom builders with a few small operative builders erecting homes on a speculation basis.[28] He found that at this low end of the volume scale, the "size" of the firm was often understated by the annual production figure. Many firms only operated for part of the year, or were formed by a tradesman for a particular project and allowed to fall into disuse on completion. In addition, many of the general contractors received income from other building work, and in some cases had real estate or land development income as well.

At around the ten unit per year level, some changes appear in the nature of the builders. In the under ten category, the vast majority of builders are typical contract builders working to plans laid out by others. In the ten to twenty-four group, the large majority were operative builders, and

more time was spent in actual supervision. The relative values of the houses produced by each group was revealing as well. Forty per cent of the houses built by the smallest group were in the medium to high priced range, twenty per cent of the ten to twenty-four unit groups were in this range, and only nine per cent of the largest firms' production fell in this range.

For many of these firms, their small size is a conscious preference of the owners. They do not wish to become a large operation and prefer their small scale.

> They take pride in their craft and like house-building. They enjoy working with tools and materials and are satisfied with their existing size and independence from worry and stress.[29]

Among small firms the organization is usually as simple as possible, usually a proprietorship or partnership, and few intercorporate relationships exist, except for those firms acting as extensions of real estate companies. Overhead, as previously mentioned, is kept low, and after spending six or seven hours on the job supervising and probably doing some carpentry work, the owner will spend the rest of the day and his evening attending to records, negotiating with customers and subcontractors and generally performing other overhead functions. In some of these smaller firms, where the owner only supervises, he usually has an additional income-producing business, or he is building expensive custom homes

which require much more negotiating with architects and subcontractors, and thus include greater compensation for his increased overhead work.

This basically simple overhead structure is an advantage in that only a low charge for overhead may be included in the cost of the house. On the other hand, it often means that the management skills and effort put into these firms are often minimal. Overhead costs include all costs of supervision above the level of working foreman, office expenses, depreciation, selling costs, rent, and the cost of the firm's general working capital (the firm's capitalization). Excluding any charge for rent, since the office is usually in his home, the cost of supervision, the return on capital and the owner's wages as foreman are usually lumped together.

> This so-called net profit had to cover both the necessary return for the risk of the builder's investment and any cash compensation for the many extra hours he and his wife put in on management functions. In reality ... it may not have been even a normal return on capital.
>
> The small builder was getting little or no compensation for the time spent in managerial and overhead functions. He was paid for his actual labor as a carpenter foreman and for the use of his equity, but that was all. All his executive work was a labor of love. The cost for management in small firms was approximately zero.[30]

Other factors, such as depreciation are relatively minor costs, and the conclusion is that the small builder's

return is half the return normally considered minimal for his type of services. Maisel indicates that

> The housebuilding industry is simply too competitive in the lower levels for a normal return to exist. Among small firms increased demand and boom conditions have been reflected primarily in a decrease in the number taking losses and an increase in the number making moderate profits.[31]

In the firms in the ten to twenty-four category, as the owners move toward full-time supervisory and executive work, their return on their overhead and capital increases somewhat, there are fewer proprietorships and more partnerships, corporations and affiliations with real estate agents and other related firms. Their headquarters is still usually in the home, and they probably use only part-time clerical help, although they may have an assistant.

Under these conditions, it is apparent that most small firms have obtained overhead charges and profits close to the very minimum, and that with the small amount of profits available from this type of building they cannot afford to purchase more management skills. There are management techniques which are general to nearly all small firms and for the smallest builders there are certain basic simple activities he performs.

Land is very important to the small builder and he will constantly search for reasonably priced lots both in newly developed and other areas. Often he will try to maintain a small inventory of lots. After he obtains his plans, he then

takes bids from subcontractors. In the case of custom building, he may have to make bids, a procedure that takes nearly three days and includes not only his own cost estimates but those of each subcontractor and suppliers as well. Sometimes this process is shortened when the builder has a "tie-in" with a real estate firm or an architect and generally works on a "one-bid" basis.

Custom houses cost more to build, not because of the extra bidding costs, which are usually absorbed by the builder and subcontractors, but because of the extra risks involved. The builder must commit himself to a fixed price regardless of any delays or unforseen problems and expenses that may arise. If the house is quite different in design and involves a lot of unfamiliar types of work, the general contractor must raise his bid accordingly to cover all possibilities.

Small builders in general have adequate capitalization for their working capital needs. If they try to expand or build on speculation, their financing problems become more critical, especially in the area of interim financing (construction loans). This situation is generally recognized and appears at the production level of ten to twelve units per year.

His purchasing of materials is generally at a local lumber yard, where he often purchases nearly all the components for a house. This entails a long distribution system

with the lumber yards performing all inventory functions. By subcontracting the different jobs in building, the builder can eliminate the waste of having men in specialized trades idle while they wait for their next task. The subcontractor schedules all the work of one particular type for a number of builders, and he provides the specialized craftsmen with continuing work in their trade. Like the small builder, the subcontractor does not get a very large return for his services but rather obtains satisfaction in running his own business. The builder will usually work with the same group of subcontractors, men he has come to know and work with during the years. Although this system of material purchases and subcontracting is not outstandingly efficient, Maisel found that

> This inefficiency is not a result of poor management or of external influences forcing the builder to use channels which he does not desire, but rather, a function of his scale. The small builder solves his problems in the only way open to those of his size ...[32]

When it comes to selling the house there are several approaches a small builder utilizes. In Maisel's study it was found that approximately fifty per cent of the builders put out a "For Sale" sign when they started building. If they failed to sell and the house was nearing completion, they would often advertise, and if that failed, the house was turned over to a real estate agent to be sold. The remaining firms usually had the house under a real estate agent at the beginning, often because of services the agent has performed such

as finding the lot, assisting in financing or providing market guidance. As the firm approaches the twenty-four limit it tends less and less to pay the full brokerage fee and may even have its own salesman.[33]

In summarizing the trends affecting the small builder, Maisel felt there would be more subcontracting, more prefabricated components and an increase in mechanization. He noted that the organization of the production process had improved and would continue to develop, and concluded that

> With today's techniques the small builder is essentially an assembler of wood products and a co-ordinator for the installation of other parts of the house, particularly equipment and finishes.[34]

These observations apply with equal validity to today's housebuilding situation.

There remains the question of why these firms do not expand more in periods of dynamic growth. Many builders feel that they don't wish to expand because of the additional headaches and worries they will acquire, and a feeling that their income is sufficient already. There are certain economic and practical reasons that may limit them as well.[35]

One common problem is that small firms feel they have reached a management plateau, or that they are producing at the limit of their present management and that to increase managerial capacity would necessitate a large jump in output to keep costs competitive. Another factor is the added risk,

where since his capital is usually not large, a few mistakes in estimating contracts or market demand may quickly put him under. One-third of the small builders also cited lack of credit has stopped much of their expansion.[36]

Another factor cited was the shortage of skilled mechanics. A period of boom will often dry up sources of mechanics and often the builder will be unable to get additional reliable men worked into their operation before the opportunity is gone.

While this summary of the small builder has relied to a great extent on Maisel's work which appeared in 1953, there has been very little either in the literature that does exist or in the opinions of people involved in the industry to indicate that his concepts of the nature of the business are out of date. Change in this industry has been very gradual as a rule, and while some of the trends he was noting were in a less advanced state than today, the same trends still appear to be operating.

The Medium Firm

The medium sized firm has been defined as producing between twenty-five and ninety-nine houses per year. In Maisel's opinion,

> This group crystalizes the housebuilding pattern because it is the connective link in the evolution of the industry from the small custom contractors who still stand in the public mind as typifying housebuilders — since they did compose the housebuilding industry of the past — to the big-scale,

> mass production tract operators who are changing the shape of the housebuilding industry and giving form to the future.[37]

Most of these builders were operative, with approximately seventeen per cent building on contract.[38] It was noted that the custom builders were all at the bottom of the volume classification although their annual dollar volume was often near the top of the group. Characteristic of the group (outside the custom builders) is a lack of innovation in design or technique. While the intermediate operative builder has grown too large for details and withdrawn from custom work, he has not yet acquired the staff or the confidence to innovate in design or technique.

While many of these builders work in developments, a number build houses on scattered sites for speculation. Some do scattered groups on small land areas in cities. Some build all on one tract, while others may co-operate with other builders to develop land.

The middle range merchant builder fills the gap in the market for homes between custom and tract types. By retaining some of the advantages of small builders while adopting some techniques of the mass builder, he can satisfy this need. His overhead remains low like the small builders, but

> ...because of his larger size and merchant operation he can get materials at a lower cost by buying wholesale. He can organize his labor force more efficiently.

> He can strike better bargains with his subcontractors. His controls and his possibilities for introduction of new patterns in style and method are limited, but he can offer a satisfactory product, at lower cost, to the consumers who feel that they cannot afford the luxury of custom quality.[39]

In general there are three types of firms in this category.[40] There is the old established firm which has grown steadily in production to reach middle size. In the case of contracting firms they have usually gone as far as they can without changing to operative builders and changing the entire structure of the firm. A second type of firm is that owned by a tradesman who started relatively recently with enough drive and capital to get to this stage. In addition there are firms run by men outside the industry who are frequently in real estate and who wish to invest their money in housebuilding.

> A marked characteristic of the legal structure in this group is associations of the building firm with another firm in a related field, such as a firm conducting a real estate or a land development business.[41]

The medium-size firms financial problems are more akin to those of the large rather than the small firms, because they are primarily operative builders making larger investments and larger risks. He must have sufficient capital to assume the risks of unexpected construction costs or unexpected losses and also be able to obtain funds for the entire construction of the house as well as enough money to hold the completed house until it is sold. He usually is required to arrange the

purchaser's financing, the mortgage or "take-out" money. His equity financing has usually been obtained on a personal basis, very often from the reinvestment of profits, and there is no recourse to public money.

On large numbers of these firms and in many of the larger ones as well, equity funds have been sufficient for their attained output, but the difficulty of obtaining further equity capital has prevented them from expanding more rapidly. Maisel found that the growth of a great number of these firms depended on their ability to achieve a high rate of capital turnover.[42] Unlike the small firms, these firms make a much higher profit on their net worth (23%). The problem of construction financing ranks equally in importance to these firms, but tends to fluctuate according to economic conditions rather than acting directly as a function of firm size. At times they must borrow to supplement their working capital and in bridging gaps in the cash flow, usually obtaining funds from institutions on the firm's assets and work in progress.

In the area of construction financing, the main influence after the war was government action and participation in the finance market, an influence experienced in three ways:

> (1) Construction loans were made less risky when the costs of credit to final purchasers as well as their equity requirements, were greatly reduced, and the government insured lenders against losses if houses could not be sold by the builders. (2) The percentage of value that builders could borrow

> for construction was increased by government participation. (3) Available funds were increased when establishment of insured loans enabled lending institutions from outside the area to participate more freely in the market.[43]

A key feature was the guarantee by the government of the loans in the name of either the builder or the buyer, so that any deflation in the housing market would not affect the lender. This change in the financing situation of the industry was generally the same in Canada under the Federal Housing Act. Many of the medium firms problems have solutions limited by their size — they are not yet developed enough to utilize many of the large-scale solutions with their resulting advantages. In market analysis, they can rarely afford their own study, and must rely on guesswork. In sales operations they cannot mount extensive sales efforts and must rely on undercutting general prices with a standard product. Their designs must be standard, as they can afford little research or innovation. Most important, they are limited in their land planning resources and capabilities, being unable to develop larger areas on their own.

So crucial is the question of land that Maisel states

> The most basic decisions of firms that do merchant building in tracts are those relating to land. The medium-sized firms are the first in the ascending scale of size, for whom land is of cardinal importance.[44]

Only for the contractors and the smallest builders in this group is there sufficient developed land existing to meet

their needs.

Land is a financial strain for any firm, but especially affects small, growing firms with capital shortages. The medium builder is caught in a squeeze where land is usually considered not suitable for security on bank loans, and so money tied up in land is frozen and pushes the firm to a less liquid position. If the builder holds large amounts of land for development, he loses his liquidity, yet if they do not have these blocs of land for planning development, they lose many of the advantages of large-scale building. The fluctuations in land values may help the firm with capital gains, but a sudden drop can leave the firm in severe difficulties.

The medium builder usually buys vacant land in an area already being developed. Unlike many large builders, they cannot afford to develop shopping centres and community facilities but must rely on others to provide them. He will usually work with areas of ten to fifty lots. It is generally felt that land must be bought and the development plans undertaken at least six months before if not a year before construction, because of the required surveys, plans, permits and installations that must be made.

> The matter of keeping ahead of himself in raw land, if it involves investment of his own funds in raw land and land development is the heaviest claim on capital confronting a builder.[45]

This problem can be mitigated if the builder is fortunate enough to obtain an option (agreement for sale) on the land where he pays for the portions as they are used. Very similar is an arrangement where the landowner accepts a large mortgage on the land and takes payments as the houses are sold.

When it comes to selling the houses they are usually placed with a particular broker or land development firm, or alternatively some firms may have an arrangement where a broker gets a fixed fee per house. On occasion a model home may be used to try and sell some of the remaining houses before construction is completed.

The medium firm resembles the small firm in that it often retains control of carpentry while subcontracting the remaining work. The firm's labor force is usually small, and the firm has the advantage that in slack periods it may slow the rate of production to enable it to retain key men. He may get better terms from his subcontractors to the extent that they benefit by his size, as in saving time travelling between jobs, possible bulk purchases, possible tightenings of scheduling production and controls. The chances for repetition and simplification may also cut supervision requirements.[46]

In the matter of controls, while he is able to account for supplies on a more systematic footing and thus develop a useful set of figures for control purposes, these controls

can rarely be made sufficiently detailed to aid him in planning. Most checking and planning remains very casual and hit or miss.

The chief factors inhibiting firm size are thus somewhat different in nature to those restraining the small firm. Since these firms have usually changed their structure to an operative one, and expanded their management, they are not limited by these problems, especially that of maximum management span. Instead, land problems, lack of credit and an unwillingness to assume greater risks, preferring a degree of security in their operations are probably the main restraints here. Many are also pressing the limits of risk permitted by financial institutions. Another factor is that an increase in production of a few units may be impossible, and a large jump in production cannot be undertaken by the firm. This tends to keep firms at one level until they have accumulated enough resources to jump to the next level.

The Large Firm

The large housebuilder has been favoured with the most research and publicity of the three main categories of builder. In North America he appeared as an important factor in house fabrication mainly after the second world war. Their growth in the San Francisco area has already been mentioned, and a similar growth occurred across the United States and in Canada. Maisel attributed the sudden rise to prominence of large firms to

> The metamorphosis of the market [caused by] a tremendous demand kindled by easier financing and the big lacklog from the war, when housing production fell far behind new family formation.[47]

Large firms were especially suited to cater to this market because the least expensive houses, stripped of extras naturally lent themselves to large-scale production. These houses were usually at a minimal level in quality and detail, and frequently built on newly developed land which was the least expensive obtainable.

The fifties saw spectacular growth in large house-building firms as their market share rose from the thirty-two per cent in Maisel's study to seventy-four per cent in 1960, a development which occurred across the United States.[48] Herzog noted that the one house out of four not produced by the large builders in the Bay area included the combined production of medium firms, small firms and owner-builders. The N.A.H.B. estimated in 1959 that sixty-four per cent of new houses were built by large builders in the United States,[49] a figure very close to Herzog's findings at the same time in California. This indicates a general applicability of Herzog and Maisel's finding to the entire American industry.

The large-scale firm was analyzed in detail first by Maisel, and later by Herzog, with a very active decade varying in economic condition separating the two studies. Maisel found several types of firms. There was the older firm that

had built itself up during the years and had later managed to expand into large-scale work. The newer firms naturally displayed a more dynamic growth with the owners willing to take greater risks and operate on lower equities. Characteristically, the larger firms were divided into a number of business entities. The multiplication of entities are used to spread risk, to help with tax problems, as "front firms" for building supply purchases and sometimes to avoid unions and union restrictions. In these multiple corporations the management and the operation itself will act as if the firm were one company. In many of these firms, advance land planning, estimating and the performing of other administrative functions become so great that a somewhat larger full-time professional and clerical staff are required.

Large builders are two types, risk-taking leaders and followers who follow the line of least resistance. In the Bay area, local builders were more free to innovate because they were not bound to the Cape Cod type of house. In addition, the firms were forced to innovate new land use patterns because of the more difficult terrain of the area.

Maisel found that market analysis was generally restricted to the "back-of-an-envelope" type with the occasional specialist or consultant called in and directed toward estimating the number of families within certain income brackets who might be potential buyers of a certain type of home.[50] Herzog noted

a decade later that large firms still made virtually no market surveys, and spent little on advertising or promotion on a per house basis. The use of model homes had perhaps increased slightly and salesmen, as a rule, were in the employ of the housebuilding firm itself.[51]

Most large firms are principally owned by several men who serve as the top executive group. Very often each of these men will specialize in some particular aspect of building, such as design, construction, land development, finance, purchasing or sales.[52] These firms generally have a lack of good junior executives since such positions seldom offer prospects of advancement and decision making is highly centralized, because of the nature of the men who run these companies.[53] This lack of middle management is probably one of the reasons that even the largest builders make extensive use of subcontractors.

Another problem of the large firm is their lack of access to the skilled craftsmen who are available to the small builder. Unlike the small builder, and even many medium firms, the large builder who is using his own large crews for a sizeable portion of production, cannot hold on to their most skilled and satisfactory tradesmen.[54] Unable to keep many of their employees between projects, large firms may slow their rate of production temporarily, use foremen as regular tradesmen or even give paid vacations if required. They can, on the other hand, often utilize mass-production techniques and

utilize effectively low-skill labor. They can break down work and simplify it for new men, so that after two or three months of working together and establishing work standards on a large development, labor costs may fall so that a large firm can save up to twenty-six per cent in labor costs as opposed to the small builder's costs.[55]

In the area of purchasing, Maisel felt that

> The most important progress toward increased economy resulting from increase in scale of operations has taken place in the field of purchasing.[56]

He noted that the large builders had developed new channels and methods of distribution and established new relationships with subcontractors. In addition to being able to absorb material of less consistent quality than a small builder could, he observed that the large operator apparently required far less service. Ten years later, Herzog could state that large-scale firms had moved away from this system and generally no longer purchased their own supplies in volume. After an initial shake-down period dealers passed on volume discounts and savings to the builders and recaptured most of their lost business. The large builders found that problems of inventory, pilferage, breakage, and obsolescence were more than anticipated and were only too happy to let local dealers assume their functions once again.[57] This indicates that at least in California and probably elsewhere, the established marketing

channels for building supplies were unable to exert a monopolistic control on supplies and prices, and therefore would not be a prime factor hindering the development of large-scale firms.

In subcontracting, Maisel predicted a gradual tendency for the large builders to establish their own crews and slowly displace the subcontractor.[58] Yet, he also noted that as builders grow in size his subcontractors also advance, and in some cases the builder helps the contracting firms to hold crews together, improve their controls and techniques, and even to assist promising individuals start their own business. Herzog noted later that

> There does not appear to be any tendency for large-scale builders to integrate vertically and thus do away with subcontracting.[59]

He also noted a trend to have all construction work subcontracted.

In the matter of techniques there have been no dramatic breakthroughs but there have been some modest innovations. In 1959, a general statement on the industry noted that

> ... even the largest firms in the homebuilding field have limited opportunities for mechanization ... . In a system primarily based on wood technology, the human hand with simple tools is more or less unbeatable even on the largest scale.[60]

Herzog noted some quiet developments of the fifties. One-third of the firms used pre-assembled wall sections and roof trusses in 1960, more than double the percentage of firms

using them in 1950. Pre-cut lumber and pre-fabricated cabinets moved from a rarity to the generally accepted procedure and there was also an increase in the use of pre-hung doors. Labor specialization remained constant, and general pre-fabrication remained unpopular.[61]

In the area of production and accounting controls, the majority of large firms use only the most rudimentary methods.[62] Maisel felt that it was an advantage for firms to know costs, outlays and deviations from schedules as soon as possible in order to act if corrections were needed. He felt that a good control system would raise their return on investment and strengthen their capital position by guarding against cash shortage.[63] Herzog found, however, that

> Most builders who shun formal production - control - and - cost accounting systems reason that the biggest part of their actual production costs is already controlled through the use of subcontracts.[64]

Another possibility was a "carry over" effect from the large builder's previous days as a smaller builder with no records.

In the area of financing, the large firm in some ways resembles the smaller firms. The builder usually acquires his equity capital through personal investment, with publicly financed companies being rather exceptional. The company must provide not only its own working capital but raise funds for his customers as well. Herzog found that the large firms relied heavily on local suppliers of money, usually banks and

Savings and Loan companies for construction financing.

The permanent or take-out financing is often necessary to complete a sale. In most cases, institutions will not lend construction money unless there is a commitment for the take-out financing. Herzog found that builders hesitated to proceed with the development of a tract without firm commitments,

> ... since without them it is impossible to estimate costs or the possibilities for selling the properties when they are completed. The market is far from certain with financing, without it the uncertainties are intolerable.[65]

In Canada, financial institutions will not give these commitments for permanent financing.

Herzog also found an overwhelming dominance of the large-scale firm in government sponsored take-out financing. This development occurred mainly after 1955 when, during a tight money policy, large firms with advance commitments fared better and small firms absorbed the deficit in funds.[66] In addition, in the ensuing periods of rising interest rates and the resulting discounting of Federal Housing Administration (F.H.A.) mortgages, the small firms were often unable to absorb the added cost, while larger firms could. Large firms could often make extra profits with their financing because in originating a large volume of loans, the large builder often obtained lower financial charges.[67] It was noted that large-scale builders could resist downswings better because of greater efficiency that enabled them to cut prices while small builders

took the brunt of the decline.[68]

The key factor working against drastic changes in the large builder's output is his longer than average planning horizon. The small builder, specializing in spot development and short-term contracts usually has no commitments beyond the houses currently under construction. The large operator often has advance commitments for financing, staff, and subcontractors for several months in advance. The smaller builder may find his credit dwindling in response to business conditions, while the large builder has contractual commitments to carry him for several months.[69]

In the area of general finance, long-term funds are usually obtained from earnings retention. Usually no further funds can be raised from the owners and few firms can or will float public stock. Many use mortgages on their raw land. The most important source of financing is the construction loan, since only a few of the largest firms with high financial ratings can obtain public money or borrow funds on unsecured notes from banks.[70] Trade credit is also used, and Herzog found that where a two per cent discount was offered for payment within ten days it was seldom taken.

In the area of land acquisition, Kelly feels that one key to a successful land development operation is a large scale organization.[71] He goes on to say that the typical

smaller volume builder finds land in short supply, and for any tract he could purchase, the landowners have already anticipated the development and he will have to pay accordingly. In contrast, the large land developer

> ... is able to buy very large land areas, well in advance of any appreciation in value, and on favorable terms.[72]

He also, because of his size, is the only type of builder who

> ... can afford to carry out a long-term program of land acquisition based on some degree of rational market or community analysis.[73]

In addition, if the large builder, with his special simplified techniques of building runs afoul of zoning laws or building codes, he will

> ... tend to avoid the issue by moving into outlying areas where the controls are weak or non-existent.[74]

Herzog found that ninety per cent of the large builders built only on land they had purchased raw and developed themselves. The key consideration in land purchasing were the expected volume of production and the available capital. Their purchases were based on estimated volume within the next year, and most firms were very reluctant to tie up their funds for more than a year in raw holdings.[75] The availability of raw land is considered to be one of the most crucial variables in large-scale building.[76]

Maisel concluded that

> Only part of the building process is determined by the housebuilders own organization. A significant part of it is shaped by his factors of supply — factors such as materials, labor, subcontractors, financing, and land. The housebuilder's freedom of choice is limited by the availability of production factors he can purchase and the prices he must pay for them.[77]

One example of an important component which is beyond the control of the builder is lumber. Its behaviour is much like that of a farm commodity, with changes in demand causing sharp fluctuations in prices.[78]

Another problem often mentioned is the large-scale builder's problem with a multiplicity of local building codes with each municipality, even in one metropolitan area, having a different code. The local governments are the agencies that issue the licences and permits, authorize the use of the land, and oversee the installation of utilities. In general, there are few real conflicts of interest between builders and local governments, except in the area of approval for new sites, where the builder is interested in new housing at the lowest cost while the government is interested in aesthetics and long-run considerations. The other problems relating to building codes seem to stem largely from the general slowness of municipalities to update their codes and rationalize them.

The area of Maisel's study generally had adopted a standard code, the Uniform Building Code of the Pacific Coast Building Officials Conference. While this situation is more

uniform than in most of the United States, there were still areas which did not use the code, used older, unrevised versions of the code, or had made substantial alterations to the code. It was noted, however, that local building officials usually would allow use of changes which appeared in the new editions even if the municipal code had yet been amended.[79] He found that

> Although some instances of delays and arbitrary rulings were reported, most builders in the area stated that neither was of any consequence in the total cost of the building.[80]

In general, the areas in which the greatest amount of building occurred had adopted the uniform code and kept it updated.[81] In other words, where volume builders were operating and the code was in constant use, it had been updated and simplified. The apparent problem of building codes clearly do not apply in all areas, even when there may appear to be diverse codes and municipalities slow in adopting changes.

There remains the question of determining the optimum size of the building firm. Both Maisel and Herzog reached similar conclusions, conclusions which seem to have been largely borne out by subsequent trends. Maisel noted that

> There is no indication that further important reductions in costs would occur if large firms continue to increase in size, unless further growth brought a complete change in the house-building process.[82]

He felt that most direct costs had approached their minimum

level in existing firms, except for costs of materials which might drop slightly lower. He concluded that the optimum output was two or three houses per day, and that the cost curve levelled off here with only a very slight further decline, while indirect costs would begin to turn up.[83] He indicated that in land costs, a very crucial item to the large builder,

> ... far from bringing about any saving, increased scale would cause costs to rise; for it becomes progressively harder to find good, unused land in tracts of the size required for large-scale operation. Even now, the largest firms usually build in several separate areas in an attempt to overcome this problem.[84]

Other factors that increase costs were also mentioned.[85] The larger management and firm size would increase the firm's inertia, and hinder it in making necessary rapid adjustments to market changes. There is the problem as well that firms have developed their expertise in a local market, and moving to a new market causes difficulties and high costs for a firm in choosing new sites, negotiating for land, getting approvals, and fitting the houses to local tastes. To obtain this new data is costly and risky. Another is that of recruiting and training new labor, and the local prejudices and customs that may have to be overcome in this area. In addition, further expansion would have more risk for their capital situation, and as a result of taxes may not greatly increase the builder's personal income.[86] However, the problem that Maisel felt was

decisive in keeping the industry from going national was the merchandising problem. He observed that

> In general contracting, where the marketing problem does not arise, experience shows that firms can spread over the whole nation without significant losses of efficiency. It is the merchandising problem for houses that causes the main cost increases.[87]

Among the builders themselves, the consensus was that unless some personal force was driving toward increased size, expansion was unnecessary after a volume of one hundred or more was attained. After this point, the capital position of the firm could be allowed to improve, and often, other related investment opportunities were found, such as property ownership which might have a better after-tax gain.[88] Herzog also placed the optimum output for the San Francisco area builder at two or three per day for an annual output of around 750 units.[89]

While the largest firms that developed in the Northern California area were in the 700 to 800 unit range, larger firms developed elsewhere. In the early fifties Levitt and Sons became widely known on the eastern seaboard and started 7,000 homes in 1953 in Levittown, Pennsylvania. The largest builder in 1957 was Centex Construction Company which built 17,500 units in five states.[90] These builders developed large tracts of at least 250 to 400 units, and often provided all the other community facilities as well. There seemed to be, however, inherent

weaknesses in these huge housebuilding firms that either caused their collapse or forced them to change the nature of their operations, so much so that by 1963 the editors of House and Home, a publication concerned with housebuilding, could say that the

> Most vivid of the changes [in the industry] is the virtual disappearance of the giant builder of, say, 2,000 homes a year on a single site ...[91]

They noted the reduction of Levitt and Sons production from the high of 7,000 units in 1953 to a total of 1,500 units in 1962 at three separate sites, and a similar reduction in the output of some of the other really large builders of the fifties. An exception was Webb and Knapp, a firm run by Zeckendorf which produced 3,800 units in 1962, but went bankrupt several years later.

Another large builder was heralded by the magazine as the leading edge of a "new wave" of builders in a feature article in 1961.[92] The article dealt in favorable terms with the Lusk Corporation, which at that time produced 500 units per year, and whose owner felt he had developed new techniques. One idea was to "buy raw land far in advance of construction needs ..."[93] to protect the firm against land price increases caused by the firms success. He bought up areas as large as 4,000 acres and held them for future use. He also subcontracted out all work and developed "team" management techniques. In 1966 the firm went bankrupt, in

large part caused by miscalculations in the land inventory and liquidity requirements. It was concluded he had relied too much on land speculation profits and had increased output beyond the limit of his capital resources.[94]

It was noted in 1963 and later that there seemed to be an increased movement of well-capitalized, large industrial firms moving into both the large housebuilding market and land development.[95] This trend has never really materialized in a way very satisfactory to these firms, and the picture of the large-scale builder as established by Maisel and Herzog, with an output of from 700 to 800 units per year is probably the most highly developed and the optimal firm in the American industry today. In 1965, Philip S. Bordon noted that there were still no giants in the industry, with the largest firm probably producing no more than one-tenth of one per cent of the total market, and that rather than resembling most major manufacturing industries he felt that

> The general pattern of the industry ... more closely resembles that of service industries such as restaurants or laundries.[96]

He went on to note that public housebuilding firms had generally not been successful in expanding their operations to areas any great distance apart, partly because of managerial problems caused by the one-man nature of most firms and by the variety of local problems and differences in the new market that tend to nullify much of a builder's experience.[97]

In Canada there has been a similar development in the housebuilding industry. Large firms have emerged, generally in the 200 to 300 units per year class in nearly every city of any size in Canada. Ottawa has several large builders, Montreal and Toronto have them, as do Hamilton and Winnipeg. In Calgary and Edmonton it is estimated that four or five firms produce about seventy-five per cent of all single family dwellings.[98] Most of the information available on Canadian housebuilding activities which is relevant to this topic is contained in the following section.

PART II

A. AREA STUDIED

The builders in this study are all operating in the metropolitan Vancouver area, although in some cases their head offices were located elsewhere. Metropolitan Vancouver is one of the nineteen urban areas in Canada designated by the Dominion Bureau of Statistics and the Central Mortgage and Housing Corporation (C.M.H.C.) as a census metropolitan area which

> has a minimum population of 100,000 and is composed of a central or core city with a minimum population of 50,000 and all incorporated cities, towns, villages and rural municipalities ... where at least 70 per cent of the labour force is engaged in non-agricultural occupations, within the defined metropolitan area.[99]

The Vancouver Metropolitan Census district consists of the following areas: Burnaby, Coquitlam, Delta, New Westminster, North Vancouver City, North Vancouver District, Port Coquitlam, Port Moody, Richmond, Surrey, the University Endowment Area, Vancouver City, and a small unorganized area. Each municipality or city has its own building permit office.

The area is divided in the north by Vancouver Harbour which completely separates North and West Vancouver from the city itself. South of Vancouver City, the area is largely composed of the flat delta land at the mouth of the Fraser River. In the delta there are several branches of the river forming islands and separating many of the municipalities from

one another. The Fraser Valley is a triangle shaped area of relatively flat land in otherwise mountainous terrain. The metropolitan area is bounded on the north by the mountains of the Coast range, with elevations of 3,000 to 5,000 feet in the Metropolitan area itself. To the west lies the Gulf of Georgia with its shipping lanes, and to the south lies the international boundary with the United States. The natural area of urban expansion lies to the east of Vancouver, in the Fraser Valley, an ever narrowing strip of low land which stops 100 miles from the Coast. The area to the east of Vancouver's urban areas consists of small towns and farms. The entire area of the valley is only 900 square miles. Since the valley lands are virtually the only ones occupied, the population density for the valley is extremely high, higher than that of Holland. In other words, although Vancouver is located in the midst of a huge area of undeveloped land, in an underpopulated province, the geography of its location places very definite constraints on its geographical expansion. Because of the shape of the valley, it is usually not realized that its total area would form a circle only 34 miles across.

The difference in the nature of the terrain when combined with the divisive effects of the harbour and river branches and the general distances involved tend to encourage builders to specialize in building in one or two areas, but the builders can and often do overcome these divisive forces and build in any area where business is developing.

The climate of the city is generally temperate with quite heavy rainfall and few extremes in temperature. In many winters there is no snowfall, and in the summer the temperature seldom rises above 80 degrees. The prevailing wind is westerly, and the general rule is that the closer the mountains are, the greater the rainfall, with the result that annual precipitation may vary from 30 inches to 120 inches per annum within the metropolitan area. The rainfall tends to be greatest in the winter months, but can occur for quite long periods at any time of the year. The mildness of the climate permits Vancouver to indulge in the "west-coast" type of architecture common in the Pacific Northwest and California. Not having to cope with intense winter cold, the buildings can be of lighter construction, more dispersed design and with greater use of glass. While the designers of Vancouver houses must pay more heed to rainfall and heating considerations than those in California, the relative similarities in general climate and terrain as well as the general cultural affinities have kept the designs somewhat similar.

Another effect of the mild climate is that builders can usually operate year-round if they wish. If they are willing to work in the rain at the relatively low winter temperature, they find relatively few obstacles in their way when compared to the rest of Canada. Without the intense winter cold they have less trouble with materials and are not

required to heat the operation. Nevertheless, there is usually a lowering of activity in Vancouver during the winter because of the added problems, most notably the greater amount of rain, which does hinder the erection of the frame and foundation work.

With the wide range in types of terrain, there is a need for the builder and designer of houses to pay special attention to the siting of the house and quite often there must be concessions made in the design of the house to accommodate it to the lot. The three general types of terrain the builder must contend with are the marshy Fraser River delta lands, often just slightly above the water table; the hilly areas, usually forested with thin, rocky topsoil which adjoin the delta lands; and finally the rocky lower hillsides of the local mountains with their frequent rock outcroppings and varying slopes. In the areas adjoining the mountains, care must be taken to leave some forest cover or else rapid water runoffs will result in severe erosion and flooding near streams. In these areas in particular, individual attention must be paid to the siting of each house to get a suitable situation on the lots, which often, because of their slope, must be somewhat larger than is required on flatter land. It is generally more expensive to install roads and services as well, and in most cases generally higher priced homes are built there.

The total population of the Metropolitan area is

currently estimated at somewhat over 900,000. The area has been one of quite rapid growth, increasing from 665,000 in 1956 to 892,000 in 1966, an increase in that decade of 34 per cent as compared to a population growth of just under 25 per cent in Canada as a whole. The median family income is approximately one-sixth above the national average, and comparable to family income in Toronto.

Although there are certain regional differences among the various areas of Canada, Vancouver is not divorced from the general trends of Canadian life. It resembles in general standard of living, wages, level of economic activity and culture that area of southern Ontario where most of the nation's business is conducted. With the same general type of population and growth, there is a valid basis for the comparison of urban activities in the two areas. It should be borne in mind, however, that Vancouver is the only large Canadian city surrounded by rugged, mountainous terrain and that the other cities have been located in agricultural regions whose extent was far greater and whose impact on the growth of the city was more important than the agriculture of the Fraser Valley on Vancouver.

Vancouver is the third largest city in Canada, and has a population of just under one million. Montreal and Toronto each have a population of about two and a half million, and the next largest cities are in the half a million or less range.

(See Table I, Population of Cities). Although Vancouver is significantly smaller than Montreal and Toronto, it is a large market for new houses, and its annual production of new single family houses is usually at the same general volume as that of Montreal and Toronto. (See Table II, Single Family Dwelling Starts).

Most large Canadian cities, including much of Vancouver, are situated on flat land or low hills, usually on a river or lake. As far as the structure of urban government is concerned, Vancouver, with twelve municipal governments, is neither well off nor unusually overburdened by a multiplicity of separate cities, towns and municipalities compared to the cities for which information has been gathered for this study. Montreal, with a very large number of political entities (about 70) is perhaps the most divided urban area, while Toronto has incorporated nearly the entire metropolitan area under one government, and simplified the old municipal structure. Ottawa has been generally a well-controlled city, with a small number of suburban entities growing up on both sides of the river as the city has grown. Similarly, Hamilton has a group of suburbs growing around it, but in a fairly ordered manner. In the case of Calgary and Edmonton, the city has almost always expanded its boundaries far ahead of the growth of the city, and there is basically only one government for the entire area.

TABLE I

POPULATION OF SELECTED CANADIAN CITIES

City	Population (1966)
Calgary	330,575
Edmonton	401,299
Hamilton	449,116
Montreal	2,436,817
Ottawa	494,535
Toronto	2,158,496
Vancouver	892,286

Source: Dominion Bureau of Statistics A(6), Pages 92-610

TABLE II

STARTS OF SINGLE DETACHED FAMILY DWELLINGS

IN SELECTED CITIES, 1959-68

Period	Calgary	Edmonton	Hamilton	Montreal	Ottawa	Toronto	Vancouver	Canada
1968	2,447	2,610	1,927	4,218	2,396	5,555	5,146	75,339
1967	2,215	1,908	2,358	4,406	1,667	6,789	5,980	72,534
1966	2,112	2,123	2,162	6,707	1,670	7,246	4,325	70,642
1965	2,335	2,776	2,056	6,371	1,691	7,101	3,923	75,441
1964	2,237	2,607	2,023	6,723	1,809	8,014	4,129	77,079
1963	1,990	2,890	2,015	7,216	2,028	7,947	3,788	77,158

Source: Canadian Housing Statistics 1968.

These six other Canadian cities were selected for comparison to Vancouver with several objectives in mind. All of them, with the exception of Vancouver, are known to have large-scale builders operating in them, with an output of 250 units or more per year. While exact figures are difficult to obtain, there are indications that a very large percentage of new houses in these smaller cities are erected by a small number of larger builders.[100]

In the area of municipal building codes, Vancouver does not appear to be appreciably worse off than many of the other cities in Canada. The acceptance by the municipalities surrounding Vancouver of the National Building Code has been somewhat better than average.[101] While there is no uniform building code governing the metropolitan area, since not all areas have updated the code, even if they have adopted it, there is apparently a tacit acceptance of the code whereby something permitted by the latest code will usually be accepted by the municipality if a builder wishes it. Other metropolitan areas in Canada generally adhere to the national code even less, with the exception of Calgary and Edmonton, where the entire city operates under the newest code. While it has often been stated that numerous building codes in one area will hinder the large builder, this does not seem to be a crucial factor. While such code situations almost certainly may raise the cost of housing somewhat, the large builder seems to be able to overcome them.

In Montreal, which probably has the widest variety of codes, one of the largest builders in Canada has been building an average of 500 homes a year for ten years.[102] It might be noted that the actual volume of housebuilding in Montreal has been near the same level as Vancouver.

The general lack of large-scale builders in the Vancouver area has been observed by the industry at large, which noted that

> A number of major housebuilding firms have tried project building in volume in the Vancouver area — as we know it in other major urban areas in Canada — but very few have been successful and the trend has almost always returned to the small volume builder ... .[103]

There is a general acceptance that

> It has always been a fact of the homebuilding scene in British Columbia that there is a preponderance of small volume builders ... to an extent that is not known anywhere else in Canada.[104]

In order to consider the question of why the housebuilding industry in Vancouver differs from the rest of Canada in the scale of its builders, one must first obtain a clear picture of the local situation and the builders themselves. That is the purpose of the next section of this paper which is largely based on data obtained from a survey carried out for the purpose by the writer. It may be assumed, however, that certain factors apply equally in most of the

larger cities in Canada.

The general economic climate may be assumed to be the same for all the cities under consideration, with the possible exception of Montreal, as all the remaining cities are located in Ontario or the West.

In general, prices and wages, especially in unionized industries, are relatively high in Vancouver. Vancouver has consistently had the highest wage rate of the cities sampled, both for general labour as well as the key building trades of carpenters and electricians. In nearly all cases, the wages in Vancouver are substantially higher than elsewhere. (See Table III, Wage Rates, Pages 60 and 61) In spite of this fact, the cost of building new single family dwellings has been generally the same in Vancouver as elsewhere, with costs becoming noticeably higher in Vancouver only since 1966. (See Table IV, Cost Per Square Foot, Page 62) When comparing consumer price indexes, one could also conclude that prices in general have moved closer together in Canada as a whole and Vancouver, since the cost of living index has moved relatively slowly in Vancouver. (See Table V, Cost of Living Index, Page 63).

In comparing Vancouver to the San Francisco Bay area on these points, it is important to note that while San Francisco is also an area with somewhat higher wages and prices than usual, the housebuilding industry is almost completely unionized

TABLE III

WAGE RATES FOR SELECTED JOBS
IN SELECTED CITIES IN CANADA 1957-68

Period		Calgary	Edmonton	Hamilton	Montreal	Ottawa	Toronto	Vancouver
1967	General Labour*	2.17	2.10	2.28	2.06	2.03	2.20	2.58
	Carpenter	2.98	2.87	3.10	2.79	2.99	2.90	3.25
	Electrician	3.32	3.29	3.33	3.01	3.41	3.14	3.46
1966	General Labour	2.06	1.98	2.17	1.89	1.92	2.03	2.39
	Carpenter	2.59	2.65	2.93	2.56	2.78	2.66	3.06
	Electrician	2.81	3.05	3.17	2.72	3.22	2.95	3.32
1965	General Labour	1.85	1.81	2.06	1.73	1.74	1.94	2.24
	Carpenter	2.48	2.50	2.68	2.37	2.63	2.47	2.88
	Electrician	2.75	2.83	2.91	2.55	3.05	2.78	3.05
1964	General Labour	1.86	1.75	1.95	1.67	1.58	1.80	2.13
	Carpenter	2.45	2.33	2.54	2.26	2.38	2.40	2.72
	Electrician	2.71	2.66	2.77	2.42	2.76	2.63	2.92
1963	General Labour	1.84	1.68	1.89	1.64	1.58	1.78	2.03
	Carpenter	2.40	2.32	2.51	2.19	2.42	2.33	2.60
	Electrician	2.67	2.63	2.75	2.36	2.81	2.53	2.74
1962	General Labour	1.78	1.58	1.88	1.57	1.53	1.71	1.97
	Carpenter	2.38	2.25	2.46	2.16	2.33	2.27	2.52
	Electrician	2.61	2.52	2.67	2.30	2.75	2.47	2.65

Source: Wage Rates, Salaries and Hours of Labour, Economics and Research Branch, Canada Department of Labour, Ottawa, Canada.

*All industry average includes manufacturing, non-manufacturing, transportation, trade, public administration, services.

TABLE III - Continued

WAGE RATES (AVERAGE EARNED) FOR SELECTED JOBS
IN SELECTED CITIES IN CANADA 1957-68

Period		Calgary	Edmonton	Hamilton	Montreal	Ottawa	Toronto	Vancouver
1961	General Labour	1.69	1.59	1.79	1.52	1.48	1.66	1.94
	Carpenter	2.30	2.22	2.36	2.10	2.23	2.23	2.44
	Electrician	2.54	2.50	2.58	2.21	2.58	2.38	2.62
1960	General Labour	1.67	1.53	1.73	1.46	1.38	1.59	1.90
	Carpenter	2.20	2.04	2.37	2.02	1.99	2.16	2.41
	Electrician	2.47	2.28	2.55	2.13	2.38	2.28	2.51
1959	General Labour	1.56	1.60	1.70	1.44	1.25	1.57	1.80
	Carpenter	2.20	2.04	2.24	1.95	1.99	1.99	2.40
	Electrician	2.41	2.34	2.44	2.15	2.25	2.22	2.43
1958	General Labour	1.58	1.50	1.68	1.43	1.14	1.57	1.77
	Carpenter	2.13	2.04	2.14	1.86	1.93	1.97	2.24
	Electrician	2.31	2.31	2.34	2.06	2.07	2.17	2.27
1954	General Labour	1.40	1.25	1.42	1.29	1.05	1.30	1.52
	Carpenter*	1.95	1.95	2.10	1.80	1.75	2.25	2.22
	Electrician*	2.05	2.25	2.25	1.90	1.95	2.43	2.38

*Based on construction industry only.

TABLE IV

COST OF SINGLE FAMILY DWELLINGS PER SQUARE FOOT IN CANADA

(FINANCED UNDER N.H.A.)

Period	Calgary	Edmonton	Hamilton	Montreal	Ottawa	Toronto	Vancouver	Canada
1968	$13.23	$12.87	$13.55	$12.82	$13.98	$13.38	$14.51	$13.68
1967	12.42	12.84	13.10	12.11	12.94	12.48	13.55	13.04
1966	11.99	12.07	12.31	11.70	12.35	11.86	12.36	12.56
1965	11.13	11.13	11.36	10.89	11.68	10.77	11.66	11.62
1964	10.77	10.85	10.76	10.46	11.45	9.90	10.72	11.01
1963	10.69	10.72	10.28	10.30	11.18	9.46	10.37	10.68
1962	10.61	10.62	10.17	10.14	11.00	9.37	10.33	10.56
1961	10.57	10.53	10.39	10.13	11.10	9.85	10.56	10.61
1960	10.40	10.49	10.58	10.39	11.11	9.74	10.87	10.65
1959	10.51	10.86	10.72	10.92	11.29	9.85	10.00	10.78

Source: Canadian Housing Statistics 1968.

TABLE V

CONSUMER PRICE INDEX FOR VANCOUVER AND CANADA (DECEMBER EACH YEAR)

PERIOD	CANADA:				VANCOUVER:			
	All Items	Food	Housing	Transportation	All Items	Food	Housing	Transportation
1968	158.0	154.4	161.2	162.7	151.2	149.4	151.4	159.0
1967	151.8	148.6	153.8	159.6	146.7	144.7	146.9	156.5
1966	145.9	144.7	147.2	152.6	139.9	139.9	138.4	152.7
1965	140.8	139.6	142.4	148.8	136.4	136.7	135.3	149.8
1964	136.8	133.2	139.6	142.6	133.7	131.6	136.1	140.6
1963	134.2	131.4	137.0	140.6	131.9	130.5	134.7	139.0
1962	131.9	127.8	135.7	140.2	130.6	137.6	134.8	138.4
	1961 changed components of index							
1961	129.8	124.5	133.8	141.1	130.1	125.1	136.1	139.2
1960	129.6	125.3	133.2	141.4	130.7	126.1	134.8	138.4
1959	127.9	122.4	142.7	--	129.6	124.4	138.5	--
1954	116.6	112.6	128.2	--	118.3	111.6	126.1	--
1949	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Canada: Prices and Price Indexes, Dominion Bureau of Statistics

there,[105] while it is almost completely non-union in Vancouver. This factor, however, should not be given too much weight when considering the Vancouver industry, because the construction industry in general is strongly unionized and the house-builders must compete with the industry in general to a certain extent to obtain skilled workers. One should also note a comment made on the construction industry as a whole, which stated that the

> ... large group of firms [in the industry] greatly weakens employer unity in any negotiations. It is recognized that in the case of any disagreement these firms are likely to come to terms with the unions independently of other employers.[106]

The general financial framework the builders operate in is generally the same, with federally chartered banks, and the federally run Central Mortgage and Housing Corporation operating in all areas. The municipal structures, already discussed, are generally similar in nature and operation, possibly with the exception of Montreal. The laws are generally the same outside Quebec, although the land tenure system is slightly different in the West from that of Ontario. The federal government's fiscal policies, it may be assumed, affect all the regions under discussion more or less equally, and in general there have been basically similar demand and product trends. The freedom of entry and exit is also probably quite constant for all cities, and although in actual fact it may not be the case, it is also assumed that the wholesale distribution system,

the general price structure, and competition among firms are generally similar in the cities and will respond in similar ways to market developments.

As far as it is possible to determine, then, the Canadian housebuilding industry has followed the general trends of the American industry. While it has never produced a Levitt, it has produced large builders which operate on a scale commensurate with the size of their city, and in a manner similar to other large builders. It remains to be seen, then, what differentiates the situation in Vancouver from that of the other cities.

B. THE VANCOUVER HOUSEBUILDING INDUSTRY

Vancouver has a housebuilding industry that is generally analogous to the industries of the other areas already described. The industry here is generally quite separated from the commercial construction industry. No housebuilders belong to the Amalgamated Construction Association of B. C., a trade association concerned with medium and heavy construction. Housebuilders, if they belong to any association, belong to the local chapter of the National House Builder's Association where they exchange information and keep in contact with each other. Another factor separating the two areas of construction is that while the commercial builders are almost completely unionized, there is virtually no unionization among housebuilding firms. Another factor indicating a separation is the general lack of housebuilding firms with activities in non-housebuilding areas. Of the firms in the study sample, only two firms indicated they carried on significant activity in an area not linked with housebuilding, while only five firms were housebuilding with the aim of accumulating capital to move into commercial construction and these were almost all small firms.

The milieu in which Vancouver builders operate is generally the same as in any city, that is, a large number of build-

ing firms, subcontracting firms and specialized supply outlets exist which make it possible to assemble a wide range of men and materials as the particular construction project dictates. The builder's function is basically to organize and co-ordinate the operation, evaluate bids, and make decisions on methods. Some of the findings of the survey applied equally to builders of all sizes and generally follow the basic pattern of industries elsewhere.

There appeared to be a tendency which was not found to be as prominent in other cities studied, and that was a general policy of firms to take advantage of ten-day discounts when they were offered by suppliers. In general builders were very prompt in paying their bills, usually within thirty days for suppliers and within thirty days if not immediately for subcontractors. (See Table VI, Page 68) In general the larger firms were equally as prompt as smaller ones. A common problem builders shared was the fluctuating price of lumber which forms the major material input of nearly all houses in Vancouver. This product, which tends to fluctuate in price in a manner similar to that of an agricultural product, is a considerable item in the costs to a builder, and makes it that much more difficult to plan ahead for any long period.

In the area of prefabrication, there are no really decisive correlations between firm size and prefabrication techniques. In general, it appears that there is widespread

TABLE VI

PERCENTAGES OF FIRMS PAYING BILLS

WITHIN GIVEN TIME SPANS

Time for Payments = 100%	Type of Obligation	
	Suppliers	Sub-Contractors
1 - 30 days	91.8	94.0
31 - 60 days	7.1	6.1
61 or more days	1.0	0.0
Total	100.0	100.0
Number of Firms in Sample	(98)	(98)

use of complete window assemblies (usually aluminum), considerable use of pre-built roof trusses and pre-assembled cabinets. Pre-cut lumber appeared to have a very limited use as did pre-hung doors. Only two firms in the entire survey employed any modular construction techniques, and these were small scale firms. With the data available there was little possibility of determining any possible correlations between firm size and prefabrication techniques. The only notable trend that appeared was the greater use of "packages" (which usually consist of prefabricated wall sections and frames) by the larger firms. (See Table VII)

TABLE VII

USE OF "PACKAGES" BY SIZE OF FIRM*

Size of Firm (Starts/Year)	Number Tested	Positive	
		Number	Percentage
1 - 24	88	2	2.3%
25 - 99	11	2	18.2%
100 and more	5	3	60.0%

* The method of carrying out the questioning on prefabrication techniques did not yield very satisfactory results. If the builder subcontracted the work, he was not questioned on prefabrication techniques because it was felt the answers might be unreliable. In addition, it was discovered part way through the survey that many builders did not consider some types of prefabrication as prefabrication at all. The general result was that most of the figures were far too low to give an accurate picture of the extent of prefabrication, with the exception of the above prefabrication technique.

A problem among firms of all sizes, but especially among larger firms is that of financing land purchases and inventory. It is assumed that the builder attempts to avoid paying cash, except for some of the smaller builders who must own the land before financial institutions will lend them money, or who do not wish to assume the added risk. Different means of financing the land included agreements for sale, mortgages, and "builder's terms" or a type of mortgage consisting of an initial payment and one or two payments of the balance anywhere from four to six months later. The results indicated that it may actually be easier to finance land purchases here than elsewhere. As might be expected, the larger firm had greater opportunities for financing land purchases, and this was borne out by the data. The majority of the intermediate and large firms obtained such financing, and although a sizeable number of the small builders did as well, they obtained land financing less often. (See Table VIII, Page 71) On the other hand, if a builder was using construction financing in the building of his houses, it was usually necessary for him to invest an amount equivalent to the value of the lot and construction costs to the floor level before any finance money would be released. The data relating to this question, and in particular to financing and loans was very sketchy, due in large measure to a lack of consistency in the figures given by the builders, a problem which could only be solved by detailed discussion or a close analysis of each builder's

financial statements. Such close examination of individual firms was not feasible for this particular study. This system of financing appears similar to those found elsewhere.

TABLE VIII

FIRMS WHO COULD OBTAIN FINANCING FOR LAND PURCHASES (INCLUDING AGREEMENT FOR SALE, MORTGAGES, TERMS)

Size of Firm (Starts/Year)	Number Tested	Positive	
		Number	Percentage
1 - 9	66	32	31.8
10 - 24	22	10	45.4
25 - 99	9	6	66.7
100 or more	2	2	100.0
25 - 99*	11	8	72.7
100 or more*	4	3	75.0

* Includes the large firms not in the survey sample.

As in most areas, there are three general categories of builders, the owner-builder, the contract builder, and the operative builder. The findings of the survey indicates that the proportion of housing produced by owner builders is roughly comparable to the level of activity found by Maisel in the Bay area.[107] Of the builders drawn in the sample, approximately twenty per cent were people building or organizing

the construction of their own home, and these were not included in the study. (See Table IX)

TABLE IX

THE DISTRIBUTION OF RESPONSES FROM RANDOM SAMPLE

Type of Response	Per Cent
No further contact	9.4
Refusal or failure of firm to respond	8.6
Owner-occupier supervising or building	20.0
Tied in to firm previously interviewed	1.0
House Building firms responding	61.0
Total	100.0
Number of Firms in Sample	(105)

Generally speaking, among the commercial operators, approximately 70 per cent of the smallest builders retained carpentry functions such as framing and finishing, intermediate builders tended more to subcontract everything and some of the larger builders retained their own framing crews while subcontracting the rest of the work. The small firms in general performed more major functions than the larger firms (See Table X, Page 73) although a substantial amount of work was subcontracted in all cases, especially in the "trades", plumbing, electricity, and so on. Most builders apparently generated their working capital from their own resources, and

many small operators expressed concern about overextending themselves financially.

TABLE X

THE PERFORMANCE OF TASKS BY THE FIRM'S OWN EMPLOYEES (NOT SUBCONTRACTED)

Size of Firm (Starts/Year)	Number Tested	(A) Retained Carpentry and/or Finishing	(B) Performed Two or More Functions With Own Men (May Include Non-carpentry Functions
1 - 9	66	69.7%	54.5%
10-24	22	54.5%	50.0%
25 - 99	9	11.1%	11.1%
100 or more	3	66.7%	33.3%
25 - 99*	11	9.1%	9.1%
100 or more*	5	60.0%	40.0%

* Includes the large firms not in the survey sample.

The Small Builder

The small contract builder generally bought small numbers of individual lots, rarely more than two or three at a time, or the customers provided their own lot. Assembling land was no problem for this group as they could build economically in any location, and did not rely on economies of scale.

Some builders drew up their own plans and drawings, and would work with the owner throughout the building process. He generally uses interim financing to pay for the work completed on the house, which is usually obtained from a bank or trust company, or may come from the owner of the house. In the area of overhead expenses, costs are kept very low, with his office located usually in his home, and his wife or part-time help doing the secretarial work. He generally does not question the building codes or civic officials seriously as he does not wish to antagonize them.

The small speculative builder is somewhat similar in nature to the contract builder, usually working out of his home, and financing himself in a similar manner. He generally builds a fairly standard type of house which he will sell at any stage of construction. He usually builds on developed lots, often acquiring several lots at a time in a new subdivision. It is usually this builder, in the under twenty-five houses per year group, who work most closely with real estate firms, development firms and trust companies in a subordinate position, although there is a greater incidence of intercorporate ties among the large firms interviewed. (See Table XI, Page 75).

Among the small firms the relatively short average age (See Table XII, Page 76) indicates the high turnover of firms caused by the ease of entry and exit into the business,

TABLE XI

FIRMS "TIED-IN" WITH OTHERS BY SIZE

Firm Size Starts/Year	Number Tested	Positive	
		Number	Percentage
1 - 9	66	12	18.2
10 - 24	22	10	40.8
25 - 99	9	8	89.0
100 or more	3	2	66.7
25 - 99*	11	9	81.8
100 or more*	5	4	80.0

* Includes the large firms not in the survey samples.

TABLE XII

AVERAGE AGE OF FIRMS BY SIZE

Size of Firm (Starts/Year)	Average Age Of Firm (In Years)	Number of Firms in Category
1 - 9	5.61	66
10 - 24	7.00	22
25 - 99	9.78	9
100 plus	8.91	3
25 - 99*	9.19	11
100 plus*	13.15	5

* Includes the large firms not in the survey sample.

and the extremely short time many small firms had been operating was clear in the survey data. The small firms often worked with the same crews, suppliers and subcontractors. While their small scale did not permit them to take advantage of some of the economies open to larger builders in the area, their main advantage appeared to be in their low overhead costs. In addition to using their home as an office, these small builders questioned indicated they worked very long hours, performing most of their executive and organizing functions in the evening after supervising at the site during the day. The builders did not seem to include this time in their cost calculations, and did not expect much monetary reward for it. While many builders felt they could make almost as much money working for someone else, many stated that they found their work more interesting and liked the independence. This payment in psychological satisfaction was indicated in Maisel's earlier study as well.

One difference indicated by the study is the relatively larger numbers of houses built on speculation by this group in Vancouver. (See Table XIII, Page 78) As it was noted earlier in the study, Maisel found that in the Bay area, this size of firm was almost exclusively doing contract work.

The firms in the ten to twenty-four category displayed some different characteristics. Rather than building custom or custom-type homes on individual lots, they would work more

TABLE XIII

PERCENTAGE OF FIRMS BUILDING LAST HOUSE ON CONTRACT BY SIZE *

Size of Firm (Starts/Year)	Number Tested	Positive	
		Number	Percentage
1 - 9	66	21	31.8
10 - 24	22	7	31.8
25 - 99	9	6	66.6
100 or more	3	2	66.6
25 - 99 **	11	6	54.5
100 or more**	5	2	40.0

* For the larger firms this was usually a situation where the customer ordered his house but the floor plans and the basic houses were the same, with only options and minor design points differing. Four out of five of the largest firms worked in this manner. They usually had the property and basic plans for each house and tried to have a customer when they started work.

** Includes the large firms not in the survey sample.

in subdivisions, often building a home with general appeal. The builder would usually be found doing less physical work on the site, and would be a little more ready to experiment with different techniques. The survey results indicated that in general these builders tended to build somewhat less expensive homes than the smaller contract builders. (See Table XIV)

TABLE XIV

PRICE OF LAST HOME SOLD BY SIZE OF FIRM

Size of Firm (Starts/Year)	Price of Home (August - September 1969)	Number of Firms in Category
1 - 9	$34,800	63
10 - 24	30,300	21
25 - 99	30,100	9
100 or more	30,500	2
25 - 99 *	28,600	13
100 or more *	26,600	4

* Includes the large firms not in the survey sample.

It was found in the study that a greater proportion of this category of firms had decided they had reached their optimum size (See Table XV, Page 80), an indication that a considerable number of these firms' owners did not wish to expand

their operation, and were drawing a satisfactory income from the business. Some of the builders had consciously restricted their production in order to produce a quality type of home and to keep their operation on a more personal level.

TABLE XV

PERCENTAGE OF FIRMS WHOSE OWNERS FEEL IT IS AT "OPTIMUM" SIZE, BY SIZE OF FIRM

Size of Firm (Starts/Year)	Firms Tested	Positive	
		Number	Percentage
1 - 9	66	12	18.2
10 - 24	27	7	31.8
25 - 99	9	1	11.1
100 plus	4	0	0.0

In this category there is also a greater tendency for firms to establish links with real estate firms and other firms in related businesses, a characteristic of larger firms. (See Table XI, Page 75). As far as their general overhead structure works, however, these firms are about the same as those firms in the smallest category. In the area of interim financing, it is in firms of this size category that difficulties in obtaining sufficient construction loans start

increasing, a problem of all larger housebuilding operations. (See Table XVI).

TABLE XVI

PERCENTAGE OF FIRMS REPORTING DIFFICULTY IN OBTAINING THE DESIRED NUMBER OF BUILDING LOANS

Size of Firm (Starts/Year)	Number Tested	Positive	
		Number	Percentage
1 - 9	66	30	27.2
10 - 24	22	18	45.4
25 - 99	9	4	44.4
100 plus	2	1	50.0
25 - 99 *	11	5	45.4
100 plus *	4	3	75.0

* Includes the large firms not in the survey sample.

In other cities studied, when the small builder is erecting a house, he will often put a "for sale" sign in the window, and unless he already has an exclusive selling agreement with a real estate agent, he will sell the house at any point during construction. In Vancouver, however, while the builder may sometimes put his own "for sale" sign on a house, (See Table XVII, Page 82) in general the greatest number of

houses are sold through real estate agents. This may reflect a somewhat greater activity of real estate firms as land developers, or it may indicate a general preference of builders to avoid the problems of selling the house, especially in a subdivision, and for the added services the agent may provide.

TABLE XVII

PERCENTAGE OF LAST HOUSES BUILT SOLD BY BUILDER BY SIZE OF FIRM

Size of Firm (Starts/Year)	Number Tested	Positive	
		Number	Percentage
1 - 9	66	25	37.9
10 - 24	22	7	31.8
25 - 99	9	3	33.3
100 plus	3	0	0.0
25 - 99 *	11	3	27.3
100 plus *	5	0	0.0

* Includes the large firms not in the survey sample.

The small builders, when questioned about factors limiting their growth, mentioned a number of matters other than that of 'optimum size' which was previously discussed. A number of builders indicated that they felt there was a

plateau around the twelve houses per year level, and that to build beyond that point required an expansion of management and money to such a point that the next "optimum" volume was around twenty-four units per year. Many builders felt that this was too large a jump in volume for them to make unless they were very well capitalized. Other builders felt they wouldn't be able to get and hold sufficient skilled workers and subcontractors to expand at a very rapid rate, and a number mentioned the impossibility of obtaining reliable financing. The problem of small firms and their take-out financing is different in Canada than in the United States, because there is no way to get advance commitments here. It is possible for a banker to promise a builder a mortgage on a house, and then fail to supply it when the house is near completion, leaving the builder with a house very difficult to sell. The situation is somewhat better for larger firms who are more likely to be dealing with the Central Mortgage and Housing Corporation. The corporation will allot mortgages on a year to year quota basis, so a large builder with more consistent volume will have a better idea of the long-term financing he can obtain.

In general, then, one may conclude that, except for small differences caused by minor variations in the setting, the small builder in Vancouver is typical of small builders in other North American cities, and as far as the data

gathered for the study makes comparison possible, there are no major differences in the findings here and those of earlier studies elsewhere.

The Medium-Sized Builder (25 - 99)

The medium-sized builder also appears similar in nature to those found elsewhere. In most cases they appear to be operative builders, and all the larger builders built houses only on speculation. This builder is more powerful in relation to his subcontractors and a number of them employed "mass production" techniques and occasionally employed more extensive prefabrication techniques. Some of the firms were older ones which had steadily built up to their present volume. The firms which still did a large amount of custom work were concentrated at the lower volume end of the group. Nearly all of these firms were tied in with others in related fields such as real estate agencies or land developers. These builders, especially the larger ones, usually had an office, often at the site of one of their projects, and hired some full-time staff, which still may have been only a secretary or a salesman. It was several of these firms that produced the lowest priced houses and the group as a whole produced relatively inexpensive homes. (See Table XIV, Page 79)

Land was much more of a problem for this size builder. They require a considerable number of lots in the same area

in order to realize their potential advantages in fabrication and management techniques. The larger firms in this group reported particular difficulty in assembling large enough areas of land and keeping up a steady supply of lots. Over half of this group developed their own land and virtually all of the larger builders did. (See Tables XVIII and XVIII(a)).

TABLE XVIII

PERCENTAGE OF FIRMS DEVELOPING THEIR OWN LAND
(PERFORMING THREE OR MORE TASKS)

Size of Firm (Starts/Year)	Number Tested	Positive	
		Number	Percentage
1 - 9	66	5	7.6
10 - 24	22	4	18.2
25 - 99	9	5	55.5
100 or more	2	1	50.0
25 - 99 *	11	7	63.6
100 or more *	4	3	75.0

* Includes non-sample large firms.

TABLE XVIII (a)

PERCENTAGE OF FIRMS PURCHASING LAST LAND
FROM REAL ESTATE AGENT

Size of Firm (Starts/Year)	Percentage - Positive
1 - 9	51.5%
10 - 24	59.0
25 - 99	55.5
100 plus	33.3
25 - 99 *	45.4
100 plus *	20.0

* Includes non-sample large firms.

Tables XVIII and XVIII (a) indicate a discrepancy between firms developing their own land and purchasing land from real estate agents. The agents must be selling undeveloped land and not holding it for oligopolistic purposes. Similarly, the larger — and presumably better financed — firms show a tendency to buy their land privately, a further indication that real estate firms do not control the land supply.

Several of these firms mentioned that lack of availability of a steady stream of land was the chief factor holding them at their present size. There were several firms in this group who appeared to be very well capitalized and had the managerial capability to expand, but had not. They felt that they could easily produce double their current volume in any one year, but this would involve "gearing up" to the new level of, for example, 150 houses per year. They felt that it was impossible to acquire this annual number of suitable lots on a continuing basis and, therefore, in one or two years would have to cut back again and the gains made by larger volume building would be cancelled by the expense and disruption of expanding and contracting. There is also the possibility that the assembly of the land itself in this volume is simply too expensive. In the Fraser Valley, the average farm size is one-quarter to one-twentieth of the size of farms surrounding other Canadian Metropolitan areas. (See Table XIX, Page 88) This unusually small farm size indicates generally small-sized landholdings. Since the intermediate and large builder must work on a sizeable plot of land in order to realize their economies of scale, they will have much greater difficulty. Instead of negotiating with one farmer, a number of owners must be dealt with, and they will probably not all agree to sell at the same time. The result will be more expenses involved in arranging for purchase of the land, a longer time period for assembly, with added

capital costs, and an unsteady supply of land.

TABLE XIX

AVERAGE FARM SIZE IN AREAS ADJACENT
TO METROPOLITAN CENSUS AREAS

City	Average Farm Size (Acres)
Calgary	668
Edmonton	300
Hamilton	110.5
Montreal	121
Ottawa	199
Toronto	139
Vancouver - Entire Fraser Valley	37.0
- Eastern Fraser Valley	38.2

Aside from the somewhat greater difficulties in assembling land in the Vancouver area which affects the largest firms in this group, they represent a normal picture of medium-sized firms. A number of them had their own salesman or, less common, some arrangement with a real estate agent. Some used model homes for sales purposes or even sold their homes by merely setting up an office on the site, printing a brochure, and running a few advertisements in the newspaper. These firms generally performed very few of the actual construction

functions, relying instead on subcontractors for nearly everything, with only one firm doing any major work such as framing. Several of these builders felt they could take advantage of a better organization of labor, and in some cases they could use more prefabrication. There were indications that these builders were better able to keep track of their costs, not only because of their higher level of overall management, but also because of the generally simpler, more basic product.

Some of these firms felt that they were at an optimum size, or that if they were to expand, they had to expand considerably to make it worthwhile, and that their resources were not adequate. It should be noted, however, that these intermediate firms are very often already minature large-scale firms. They are usually run on an operative basis, and have a more definite management structure with a greater span than the smaller firms. From the sample results (See Table XX, Page 90) nearly ten per cent of the firms operating in the Vancouver area fall under this category. In general, the firms in this category appear to be basically similar in nature to the same size firms operating elsewhere which have been previously described.

Not all of the intermediate firms operating in Vancouver can have owners who feel at an optimum size, or are afraid of the increased credit risk. Some of these firms are staffed by highly competent men pressing to continue the firm's expansion,

TABLE XX

DISTRIBUTION OF FIRMS SURVEYED BY SIZE

Size of Firm (Starts/Year)	Percentage of Firms
1 - 9	66%
10 - 24	22
24 - 99	9
100 or more	3
Total	100

Of the firms 100 and over, the largest firm (250) was not based in the lower mainland and only building 57 houses in the Metropolitan area in a developed subdivision on an experimental basis. Of the remaining firms, one's volume was 128 and the remainder were all 100, thus these firms were all just barely within the category.

Top volumes, including all large firms located, were 250, 128, 100, 100, 100, 85, 75, 70, 40 ... .

and make the next step up to the large-scale builder. It remains to be seen what the situation of the large-scale builder is in Vancouver.

The Large Builder

This is the point at which comparison between Vancouver's housebuilders and other metropolitan builders breaks down. The simple fact is that Vancouver has almost no indigenous large-scale builders and even the ones that exist are barely more than slightly enlarged medium firms, manufacturers of "packages", or branches of firms located elsewhere. In the Metro Vancouver area, no firm has exceeded a volume of 100 houses per year, and only one builder based in Vancouver has produced more than 100 homes and then only when his total Fraser Valley output is considered. There have been large-scale firms operating in the area, but their main operations have been located outside the Fraser Valley.

An attempt was made in the survey to locate all large-scale firms (those building 100 houses or more per year) in the metropolitan area. Only five firms were found operating at that level. The largest firm was a general residential construction firm based in another city, producing approximately 250 units per year. They were building fifty-seven units in Vancouver as a pilot project. The management of the firm felt that in their case the problems of terrain prevented them from building a true tract type of house on which they

could gain economies of scale. As a result, they were very undecided about their future in the area. The remaining firms' volumes all approximated one hundred units per year. Of the indigenous Vancouver firms, only one had an output of more than one hundred units a year. This firm, based in Vancouver, operated in the entire Fraser Valley and its volume was 128 units per year. Of the other large firms, one was a building supply firm that sold house "packages" and would undertake to erect them if the buyer supplied the lot. Another firm was a branch of a large eastern firm which also sold a number of "packages", but had not attained the volume it had planned. The remaining large firm had only been in operation for nine months and appeared to be linked to a large real estate firm, although there was no positive confirmation of this.

One may conclude that these firms, just barely in the "large" category, are merely fragments of a large-scale industry, representing the very maximum size Vancouver firms have been able to obtain. Some of these operations supported by large firms elsewhere, are often a scaled-down version of earlier plans. It may then be concluded that the housebuilding industry in Vancouver is typified by the small operative builder in the under twenty-five units per year category. If one were to consider the industry in general as a spectrum of firms ranging in volume from one to one thousand houses per year output, then

Vancouver can be considered to be simply missing the upper part of the spectrum. The characteristics of the firms surveyed fit into the general patterns determined by earlier writers in other studies, such as those outlined in the first part of this paper, the only difference here being the lack of truly large-scale firms.

It has previously been noted that large-scale firms have operated successfully in other Canadian cities for a number of years, and the question inevitably arises as to what the reason is for their virtual absence here. Many reasons have been cited as preventing large-scale builders from getting a firm position in the industry here, while in other North American cities they have achieved a dominant role in the production of new houses. Among the reasons most often cited are the "stranglehold" real estate firms hold by their preemption of undeveloped land and their function as land developers, the impossibility of obtaining future commitments of mortgage financing, the high costs of the area (including materials, labor and land), a low profit in large-scale building here, a failure by local supply firms and institutions to recognize housebuilders as a regular type of business, difficult terrain of many types, the expense and difficulty of obtaining N.H.A. financing and passing all the inspections, and the possible resistance of the market to tract-type housing. In addition, there were certain problems encountered by large-scale builders

who have attempted to operate in the Vancouver area and failed, such as the unfamiliar types of terrain, a very difficult type of hardpan, the higher rainfall which often lasts many days and hinders operations, a shortage of suitably experienced labor for them when they first start operating, and a poor market analysis. A complaint of the largest builders operating here was the problem of acquiring suitable volumes of land at a price feasible for tract housing and assuring a fairly steady flow of land, problems which were related and had often caused firms to curtail their activities here. Many of these causes may be interrelated, or merely symptomatic of the general situation, rather than causes. The following discussion considers a number of the problems cited and tries to put them into the general context, while considering some of the experiences of larger firms in the area.

A number of builders indicated that they would not expand because there was not enough money in large-scale housebuilding to make it worth-while. The implication of this is that some variable (or variables) in the production of large tracts of housing in Vancouver creates additional expense to such a degree that the economies of scale achieved are cancelled out by rising costs at a much lower level of production than elsewhere. The question is which variable, if any, can be isolated as the most probable cause of the increased expense.

One suggestion has been that there is a lack of acceptance by the Vancouver market of tract-type housing, and examples are often cited of consumer resistance, most notably a large firm that built a number of houses in 1964 and finally left with its project half completed amid a large amount of adverse publicity. This firm, which had operated successfully in Eastern Canada and the United States, obtained a large area of undeveloped land quite near Vancouver itself, and proceeded to build a number of its most successful models sold in the Toronto area. Although the houses met National Housing Act standards and the local building code requirements, the development was attacked by the public and the media alike for shabby quality and monotonous styling. After a number of setbacks, the firm sold the remaining lots to private builders and left the area, citing adverse publicity and difficulties in obtaining sufficient skilled labor as the reasons for their problems.

It has been said that the unusual geography of the city, coupled with flexible frame construction and the general wealth of the area has spoiled the consumer of housing in Vancouver so that he demands a custom home. Since this has not proved the case in other cities in Canada and the United States, since many people moving here from other cities are probably willing to accept tract housing, and since cheap, monotonous housing was accepted here immediately following

the Second World War, there is little reason to believe that there is an indigenous resistance to this type of housing.

In the case of this particular company, the bad publicity was partly a result of misjudging the general public's acceptance of housing tracts, a public wary because there were so few tract-type developments in the area. Another possible factor was a lack of market research into the tastes and preferences of the area, preferences which demand small variations in the house and decide whether it is "poorly built" or acceptable to the consumer. This was a case where the builder lost his advantages of experience and better management by moving to a new area and not being prepared for its idiosyncrasies. Another problem was a shortage of suitable labor, and this may also have been poor judgment on the part of management, but more likely is a common problem for a firm of this nature.

Other problems that are alleged to hinder out-of-town large-scale builders is the considerable amount of rainfall, and unfamiliar types of terrain and hardpan. It would appear that the rainfall is not a severe problem, as local builders have adapted to it. It could be a factor that might increase an unprepared builder's costs, but it does not seem to be an insurmountable problem. Similarly, the unfamiliar types of terrain only mean that the incoming builder must adequately

research the area. In some instances builders have purchased very hilly areas of land that proved too costly to develop for tract housing. This merely points out the need to be careful when selecting a site and the limitations of certain types of land when it comes to large-scale building.

Financing problems were also mentioned by builders as holding them at their present size. While the financial institutions across Canada are the same, it does appear that large firms have some advantage when obtaining finance under the National Housing Act. This advantage may occur in a tight money period when previous clients receive preference on mortgages in proportion to their previous years volume of N.H.A. mortgages. This procedure would tend to favor the large-scale firms with their steadier production and longer planning horizon. Herzog noted a similar phenomenon with large-scale firms and F.H.A. financing in the United States. (See Page 29) A complaint of smaller builders concerned the extra expense of N.H.A. financing caused by delays while waiting for inspection and the problems of satisfying this second inspector. These problems would be much less severe for the large builder, who is building a standard product in a concentrated area. These factors then indicate an advantage large firms may often have in being able to use N.H.A. financing, an advantage important because it appears that this may be a form of guaranteed financing where a builder may buy his land in

advance and start planning with a reasonable expectation of the minimum level of financing he will be able to obtain. While the small builder, then, will not have this take-out financing stability, it is likely that this is merely a symptom rather than a cause of a lack of large builders in an area. This linking of C.M.H.C. activity to large builders is somewhat borne out by C.M.H.C. data which shows extensive mortgage activity by their agency at various times in every other city indicated, but generally very little activity in Vancouver. (See Tables XXI and XXII, Pages 99 and 100).

Another problem cited is the high cost of inputs in the area. The cost of labor and materials are generally quite high in the area, and Vancouver has often been one of the most expensive cities to build houses in. (See Table IV, N.H.A. Cost Per Square Foot Bungalow, Page 62). While some builders felt that sudden changes in material prices such as lumber, were disruptive and hindered their planning and cost estimating, none indicated this as a reason for lack of large builders. In situations where suppliers of materials tried to maintain prices and not pass along volume discounts to large builders, Herzog concluded that after an initial shake-down, suppliers usually became quite competitive. Any problems in a supposedly rigid wholesale distribution pattern are also usually symptomatic of the situation at large, rather than being a factor inhibiting the growth of large firms. Similarly, when

TABLE XXI

SINGLE FAMILY DETACHED DWELLING STARTS

FINANCED UNDER N.H.A. IN SELECTED CITIES

Period	Calgary	Edmonton	Hamilton	Montreal	Ottawa	Toronto	Vancouver	Canada
1968	1,935	1,662	438	2,690	960	479	376	27,264
1967	1,550	1,479	1,222	3,168	1,032	1,467	1,462	28,518
1966	1,654	1,647	1,174	5,131	1,089	2,399	1,373	28,423
1965	1,853	2,268	1,141	4,376	859	1,990	791	32,271
1964	1,857	2,093	1,126	4,845	1,138	3,800	968	33,525
1963	1,604	2,559	1,345	5,129	1,441	4,724	764	38,946

Source: Canadian Housing Statistics 1968

TABLE XXII

SINGLE FAMILY DWELLING STARTS FINANCED UNDER N.H.A.
AS A PERCENTAGE OF TOTAL IN SELECTED CITIES

Period	Calgary	Edmonton	Hamilton	Montreal	Ottawa	Toronto	Vancouver	Canada
1968	79.0	63.7	22.8	63.7	40.1	8.6	7.3	36.2
1967	61.3	77.5	51.8	72.0	62.2	21.6	24.4	39.3
1966	78.3	77.5	54.2	76.4	65.2	33.4	31.8	40.2
1965	79.5	82.0	55.6	68.5	50.8	28.0	20.2	42.7
1964	83.0	80.2	55.5	72.0	62.9	45.2	23.4	43.4
1963	80.5	88.5	67.0	71.0	71.2	59.4	20.1	50.4

Source: Canadian Housing Statistics 1968.

one considers the high prices of commodities and labour, one need only consider similar high-price areas which have supported a large-scale building industry such as California or Southern Ontario.

The expense of land is a different type of problem. A number of builders felt land prices were too high in the area for large-scale buildings, especially when compared to land prices in some American cities. The fact remains that unlike other areas which enable a builder to move farther out when land prices rise, there are very finite limitations on the amount of suitable land available for this type of building in the Vancouver area, a limitation that keeps builders from moving farther out. The suitable land is in the shape of an elongated triangle, with the urban centre on one side of the base, a situation tending to push builders into the constantly narrowing valley to the east in search of raw land. Thus, large-scale builders are competing for land that very rapidly becomes quite distant from the city itself and which is already fairly built up and has relatively small-sized land holdings. This situation imposes limits not usually found elsewhere on the available suitable land.

Builders and the general public have often blamed real estate development companies and in particular what are termed "land speculators" for buying up much of the raw land and

exerting a stranglehold on land development and the builders, often by demanding exclusive rights of sale and by financing the builder as well. This does not appear to be the case. Given the difficulty of assembling reasonably large blocks of land in the area, because of the restricted supply and the necessity of persuading a number of owners to sell, land assembly is a difficult procedure which the real estate firms are better equipped and more able to handle than most builders. These firms often have the capital available for this type of undertaking, have greater continuity of operation and in particular have a market orientation and contacts both for the purchase of land and its resale. The real estate firms doing development work appear to be providing a service which gives the minimum level of overall development and consistency for a neighbourhood which customers demand, a service most builders are unable to provide because of the general land situation and their capital position. In actual fact, the intermediate firms with a good capital position do develop their own land, often purchasing it in the raw state from real estate firms that may have assembled it. (See Table XVIII (a) Page 86) The importance of real estate firms then probably reflects that this is the most efficient method of land assembly in this area.

One can readily see both the importance of large areas of low-priced, undeveloped land to the large volume builder, and the heavy impact if this land is not available. It was

earlier noted that large builders relied on being able to buy land that has not risen greatly in value because of the approaching urbanization and develop a complete community. This is clearly impossible here. The large builder also moved further out to avoid troublesome city councils and restrictive zoning and building code practices, advantages denied to the local builders in Vancouver. The most important aspect of this land-short situation, however, has already been mentioned, and that is the fact that large firms are not able to maintain a steady stream of lots for their use at prices sufficiently reasonable to build tract houses and sell them at tract prices. This erratic quality in their land supply destroys one of their greatest advantages and what they must have to succeed, a long-range planning horizon. Without a long range planning horizon they are almost as vulnerable to sudden economic changes as small firms, and one of their major advantages is lost.

PART III

CONCLUSIONS

In the production of tract housing, it is apparent that diversity of product is sacrificed for a lower cost per unit, and this is their major selling point. It is obvious that particular problems could increase expenses for the large-scale firm, problems which might not affect the smaller builders at all. It has been estimated that by taking advantage of wider technological possibilities and reorganizing and rationalizing their labour force, intermediate firms may save approximately twelve per cent and large firms may save about twenty-five per cent of labour cost. Even when the other savings of scale are added to this, it is obvious that even a few areas of difficulty can quickly eliminate the large builder's advantage. Although problems such as obtaining crews, difficult soil conditions, rough terrain, and many others could be more of a problem to the large builder than the small, the key variable here certainly appears to be that of land supply. It has been generally noted that ensuring a steady supply of land is almost no problem for the smallest builders, and steadily increases as the builder's volume grows. Therefore, any situation which significantly increases the difficulty, and hence the cost, of assembling suitable volumes of land is certain to lower the maximum economic size of a building firm. The result is that in some cities with the right combination of land availability, market size and demand,

and entrepreneurial talent, the maximum size is about 750, in other areas it is about 250, while in Vancouver, largely because it is a land-poor area, the maximum size is around 100 units per year.

SUGGESTIONS FOR FURTHER STUDY

In relation to this particular study, further research could be done relating to farm sizes in the area around Vancouver in comparison to other cities, a breakdown considering the existence of larger farms and their owners, whether occupiers or investors waiting for suitable time to develop or sell. A confirmation of small land holders would indicate the expense of assembling raw land.

Similarly, a study of the building firms themselves and the costs involved in assembling land here could be instructive. This would permit the establishment of cost curves for the firms' land acquisitions at different volumes, and help find the optimum firm size for the area.

Study on the effect of N.H.A. financing would also be instructive to determine whether large firms in Canada do have a sizeable advantage in obtaining their funds, and what effect this has on the growth of firms. An important point would be whether N.H.A. financing hinders the growth of small firms into large ones at the present time, particularly in Vancouver.

A final comment is in reference to the fact that this study would have more relevance if there were other studies on other Canadian cities for the purpose of comparison. The

almost complete lack of information on other cities could be considerably remedied, and should be if there is to be informed discussion on government policies.

APPENDIX: A

METHODOLOGY OF STUDY

The general aim of this study has been to determine the general profile of the housebuilding industry in Vancouver, in order to compare it to the industry elsewhere, put it in a general context, and determine on a systematic basis its differences, if any, to other similar areas. In order to establish a picture of the Vancouver industry based firmly in fact, it was necessary to run an independent survey. This was necessitated by the lack of relevant data on the subject that can be obtained for this area.

A great amount of information has been accumulated about housing by various government agencies, but most of it could not be used. In many cases the figures applied to the entire nation or province or all types of dwellings, including apartments, would be combined. In some instances, the data would apply only to the activity of the agency rather than to the entire industry, and did not reflect the industry as a whole, a problem that occurred with most of the C.M.H.C. data.

Wherever possible, available data has been incorporated into the study. The Dominion Bureau of Statistics provided basic information such as populations, consumer price indexes,

and information on agriculture surrounding the cities. The Department of Labour provided statistics on wage rates. One of the main governmental agencies used was the Central Mortgage and Housing Corporation, which provided data on house and duplex starts, cost of single family dwellings in Canadian centres, a construction cost index, land cost estimates, housing starts under the Federal Housing Act (F.H.A.), and total dwelling starts. Many of these figures were important in determining the general background of the industry and relating Vancouver to the other centres. These sources appear later in the appendix.

Their data, while helpful, offered no information on the activities of the individual builders, and very little on Vancouver in particular. It was necessary, by means of a questionnaire and personal interviews with the firms to obtain the necessary information.

Until this study, no one could state with any degree of precision what the nature or size of the operations of housebuilders was in Vancouver. The number of firms, the location of their activity and their size of operation were unknown. The survey in this study was undertaken to provide statistically reliable information on certain aspects of the industry that were considered essential to establish the basic outline of the industry.

An initial survey of building permits, contracting licences and trade lists yielded a population of approximately 650 firms, or entities erecting houses, with no guarantee that these were all the builders active in the metropolitan area. The actual population used was compiled from the building permits issued by the municipalities involved for the months of May and June, 1969. Building permits are required by all municipalities for all improvements made to property in their jurisdiction. Every new building to be erected must appear on these permits, and they are used by the Central Mortgage and Housing Corporation as a basis for new housing starts. In this manner each firm or entity appeared in the population only once unless they appeared under more than one name. The population for the two month period was 524 entities, which included individuals building their own home as well as builders. It was decided, because of limitations in time and funds, to obtain a sample of one hundred firms, and interview as well any known larger firms. It was important to eliminate homebuilders-occupiers from the industry study as they would tend to bias the results and obscure any conclusions. There is always the danger when choosing a point in time to study an industry, that the period will not be a truly representative one. It was felt that the two month sample at a normally

busy time of year would yield a representative cross-section of the industry, and as far as can be seen, the population was representative. In spite of increasing, record high interest rates and a federal government tight money policy, housebuilding activity remained at a high level in 1969, just slightly below that of 1968. During the period relating to the study, activity was comparable to that in 1968. One may then assume that there were no major factors altering the nature of the industry during the study period and that as far as the economic background is concerned this represents a typical situation for housebuilders in Vancouver.

A small pilot study served to check the validity and practicality of the questionnaire and contact procedures, and then the working samples were drawn. From the original population which was arranged in alphabetical order, a first sample of twenty per cent was drawn, which totalled 105 entities. A letter was sent to each builder outlining briefly the nature of the study and introducing the interviewer. Where possible, a telephone call was made to the individual within a week, and if in fact it was a commercial housebuilder he was asked if he would agree to the interview, either on the telephone or in person. The telephone interviews were not significantly impaired in quality compared to personal interviews as there was no visual information to be conveyed. The questionnaire was never left at the builder's office to be

filled in or mailed to him unless he gave no alternative. The personal interview technique was highly effective, yielding the very low refusal rate of 8.6 per cent in the first sample drawn, and a low "no further contact" rate of 9.5 per cent in an industry where many firms are constantly moving and disappearing. A second sample was drawn by the same method, and the same procedure was followed until one hundred interviews were obtained with commercial builders. At that point, the remaining known larger firms were interviewed by the same procedure.

The survey was designed to obtain basic information concerning the size and nature of the firms, their financing, acquisition of resources, relations with other firms, basic operating methods and selling procedures. In the resource area, availability of land was considered, including the scale of land purchases and the sources open to the builder. The initiation of projects was considered and operations were classified as contract or speculative. In the area of finance, terms of land purchases, construction loans and use of trade credit were included. In addition, an open question ended the questionnaire which enabled the builder to explain his ideas on the industry in general, and why his firm was operating at its present size. The questionnaire itself consisted of twenty-two questions, with some containing several points within them. For a reproduction of the introductory letter and the question-

naire see Pages 116 to 119. The greater part of the section on Vancouver's Housebuilding Industry is based on the data generated by this questionnaire.

In addition to the points considered in the questionnaire, consideration has been given to the relative price levels in the industry and in Canada, farm sizes adjacent to various metropolitan areas and general levels of activity in the period during which the sample was taken and the interviewing carried out, a period extending from the beginning of May to the end of September. In general, those builders contacted were very co-operative and candid, and almost without exception answered all the questions to the best of their knowledge.

After the questionnaire results were gathered, the population was graded according to size, and later into subgroups. Firms were graded according to size because it was the most feasible method, and has generally been used in similar studies and in the industry itself. Other possible methods of classification were by the value of production, value of assets, number of employees or type of management. Maisel found that

> The degree of correlation among these various methods is so high that choosing any one will give results varying only slightly from any of the others.[108]

The complete data was recorded in a form which could be used for preparing tables suitable for inclusion in the study.

While it was possible to use the total sample for distributions, there was a problem in the sub-groups when considering sample size for meaningful population distributions. In these cases, the judgment of the observer is relied on, and while this is somewhat less desirable than a rigorous statistical analysis, Maisel stated that in his own study and experience

> ... An observer familiar with the field and armed with supplementary information may draw inferences from sparse data which prove as valid as those based on more extensive surveys, particularly if nonnormal distributions prevail.[109]

APPENDIX: B

INTRODUCTORY LETTER

We are currently engaged in a study of the housebuilding industry in metropolitan Vancouver. Our aim is to obtain an accurate picture of the distinctive characteristics and problems of the industry here in Vancouver.

Recent events, notably the "housing crisis" have brought a great deal of attention to your industry, and much of the discussion has been based on an inaccurate picture of the situation. One reason is a lack of basic facts and knowledge of the housebuilding industry. A practical study which sheds light on the vital operations of the housebuilder and developer will obviously benefit both the builders and the public.

This study is being carried out under the supervision of a number of the Faculty of Commerce at the University of British Columbia as part of the requirements for a Master's Degree in Business Administration.

We are contacting selected members of firms active in your industry and wish to interview a member of your firm. The interview will consist of a few brief questions about construction techniques, land assembly, financing and firm size. The interview may be conducted over the telephone, or by personal interview at your convenience.

Naturally, all information obtained will be kept strictly confidential.

When the study is completed, the results will be available to all participating firms. The report will reveal nothing about individual firms or persons.

Would you be willing to participate? A study useful to the housebuilding industry depends on the co-operation of the selected firms. We will contact you by telephone in the next few days and look forward to your co-operation. We will be pleased to give you further information on the study should you request it.

Sincerely yours,

E. V. Price

APPENDIX: C

QUESTIONNAIRE

HOUSEBUILDER INTERVIEW

University of British Columbia
Faculty of Commerce
Masters Program

Date _____

Interviewer _____

NOTE: Last Project means the last house completed and sold and the larger development (if any) of which it formed a part.

001 How many housing starts did your firm make in the last year (July 1, 1968 - July 1, 1969)? _____

002 Is this an estimate? Yes _____ No _____

003 When did you begin building under your present set-up?

_____

004 What was the size of the largest piece of land purched or assembled by your firm for housebuilding (one lot equals land for one house)?

ANS. _____LOTS

005 What was the total size of the land assembled for your last housebuilding project (Please see the definition above in Note)? ANS. _____ LOTS

006 Would you have purchased more land for this project if it had been available at a similar price?

Yes _____ No _____

007 From what source did you obtain this land (e.g. real estate agent, customers own, etc.)? ANS._____

_____

008 Did your firm develop the land for your last project? in what ways?

_____ Grading and leveling site
_____ Surveying the plot site(s)
_____ Constructing basic roads
_____ Paving Roads
_____ Installing curbs
_____ Installing sidewalks
_____ Installing street lighting
_____ Installing sewers (if any)

009 What types of work did your firm do in the actual construction of the house in your last project? Please list functions.

_____ Supervising & Co-ordinating
_____ Framing and Rough Construction
_____ Cleaning up
Others _____

010 What pre-fab techniques did your firm use in your last housebuilding project?

		YES	NO
a)	Pre-cut lumber	( )	( )
b)	Pre-assembled frams, wall sections, etc.	( )	( )
c)	Off-site fabrication by your firm	( )	( )
	Please specify _____		
d)	Pre-fabricated module (bathrooms, etc.)	( )	( )
e)	Pre-assembled cabints	( )	( )
f)	Pre-hung doors	( )	( )
g)	Complete window assemblies	( )	( )
h)	Other, please specify_____		

011 Did you build your last house on speculation or to order?

1) Speculation _____
2) Order _____

012 How did you sell your last house (for example: through a real estate firm, newspaper ad, etc.)? ANS._____

_____

013 What was the sale price (on completion) of your last house? $_____

014 In what municipality was this house located?

ANS. _____

015 Do you have any regular tie-in to other firms in your business?

Example relationships:

1) Owner has financial interest in other firm.
2) Works exclusively with other firm.
3) Other firm has financial interest in builder.
4) Other, please specify _____

_____

Types of firms: Specify relationship

1) Land Development firm: _____
2) Real Estate Firm: _____
3) Other: please specify nature of firm and nature of special relationship: _____

FINANCING:

016 For your last land purchase were you able to arrange a mortgage with the owner or some type of agreement for sale? ANS. _____

017 Have you been able to get as many building loans as you wanted this year? Yes _____ No _____

018 On your last house, how large a construction loan could you get? ANS.$_____

019 How much money did you have to put out on construction in your last house before the construction loan started coming? ANS. $_____

020 What terms do you get from your major suppliers?
ANS _____

Lumber _____
Cement _____
Other _____

021 On your last house, what terms did you get from your sub-contractors?
ANS. _____

Roofers _____
Electricians _____
Painters _____
Plasterers _____

Plumbers _____
Heating Contractor _____
Framing _____
Other _____
_____

022 Why didn't you build more houses last year?

_____

_____

_____

FOOTNOTES

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[31]Ibid., p. 37

[32]Ibid., p. 60-61

[33]Ibid., p. 45-46

[34]Ibid., p. 49-50

[35]Ibid., p. 64

[36]Ibid., p. 64

[37]Ibid., p. 67

[38]Ibid., p. 68

[39]Ibid., p. 69

[40]Ibid., p. 70-71

[41]Ibid., p. 71

[42]Ibid., p. 75

[43]Ibid., p. 77

[44]Ibid., p. 79

[45]Ibid., p. 80

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[48]Herzog, p. 20

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[50]Maisel, p. 111

[51]Herzog, p. 74

[52]Kelly, "Current Patterns of Fabrication", p. 149.

[53]Herzog, p. 63

[54]Maisel, p. 114

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[57]Herzog, p. 68

[58]Maisel, p. 122

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[106]G.W. Bertram and S. J. Maisel, Industrial Relations in the Construction Industry, Institute of Industrial Relations, University of California, Berkeley, 1955.

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